Framework for Achieving Effective Housing Ownership among Teachers in Bauchi State, Nigeria

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Abstract. This paper aims to develop a framework for achieving effective Housing Ownership (HO) for Primary School Teachers (PST) in Bauchi Local Government, Nigeria. This paper adopted a quantitative research approach. Self-administered structured questionnaires were used to collect information from 357 PST in Bauchi Local Government Area, Bauchi, Nigeria, and a five-point Likert scale was employed to assess the responses more quickly. Partial least squares-structural equation modelling was used to analyse the data collected using SmartPLS 2 software. This study revealed that there should be a transparent process for qualifying for a housing loan by laying down less stringent processes that are easy to understand for Low-Income Earners (LIEs). The HF institutions should also give room for more collateral options, such as a guarantee from the employer. It also revealed that there should be synergy between the finance institutions such as commercial banks, mortgage banks, private developers, and the LIEs from the inception of the finance design stage to accommodate the PST's requirements for housing ownership. The prime consumer of these research findings are the financial institutions; this will make them bulk up in terms of their performance and effectiveness toward housing finance accessibility and affordability to the LIEs such as the PST in the study area. This research used the technology organisation environment theory, a multi-perspective theory, to evaluate the concepts of institutional, finance, and beneficiaries' context concerning housing finance in Bauchi by conceptualising institutional context as effectiveness and performance, finance context as affordability and accessibility, and beneficiaries' context as ownership.

Keywords: Performance; Accessibility; Effectiveness; Institutional context; Finance context; Beneficiaries' context; Primary School Teachers; Nigeria.

INTRODUCTION

Housing as a human and socio-economic product benefits the economy of every country authors [1]. For this reason, developed countries like the United Kingdom, America, Germany, and some Asian countries like Japan, Korea, and Singapore have authors of well-organised and effective housing ownership (HO) systems [2]. Researchers in developing countries should choose and adapt strategies from developed countries to improve the effectiveness of HO [3]. Thus, housing is foremost in human presence as it is a position among the three basic needs of man. Its provision has dependably been of extraordinary need to man. As a unit of the environment, housing significantly affects the well-being, effective-

ness, social conduct, fulfilment, and general welfare of the community. It reflects a society's cultural, social, and economic values and is outstanding amongst other recorded confirmations of the progress of a nation [4].

Finance is a significant impediment to the viable generation or securing of effective HO, especially among Nigeria's low-income earners (LIEs) authors [5]. However, finance is required to initiate and maintain a housing project regularly. In Nigeria, 60% of the new houses built yearly are financed through personal income and savings, sometimes with local cooperative societies' help authors [7]. The attention on finance has been prominent because housing requires enormous capital costs, which are even beyond the capacity of the LIEs [8]. According to authors [8, 9], one of the fundamental reasons housing finance has been under low consideration is the extensive capital required to purchase or lease a house. The author [10] supports those who contend that the initiatives of Ghana, Zambia, and South Africa do not work for the LIEs.

In Ghana, for example, the conventional mortgage lender is constrained in its obligation to serve LIEs as they require little advances for unrewarding incremental housing [11]. The Zambian housing finance (HF) centres around the moderately "obvious targets" of offering HF to high-income earners and consequently prohibits the LIEs who form most of the populace. The formal banking sector in South Africa, as in other developing nations, still discovers it is hazardous to act in the market for LIEs despite the deliberate government endeavours to address housing ineffectiveness authors [12]. The author [13] stated that the supply of HO to the LIEs in the United States is lower than demand due to restrictions by local government in the provision of housing, mainly from 'zoning regulations, which make it ineffective.

However, the Nigerian National Housing Policy characterises the LIEs as all employees and self-employed persons whose yearly income is

₦ 100,000:00 and below (i.e., the equivalent salary grade level of 01-06 within the civil service). About 57% of the Nigerian population falls below the poverty line, with an average of US$1 per day [14]. Housing is vital to human existence as it ranks among the top three needs of man. Its provision has always been of great importance to man's needs. In the last ten decades, Nigeria has been experiencing very rapid urbanisation, main-

ly due to rapid urban growth, population growth, and rural-urban migration driven by rapid socio-economic changes and development. However, this growth has not been matched with the simultaneous provision of adequate housing development authors [15].

The housing deficit in Nigeria has gone from bad to worse, with a deficit of 7 million in 1991, which has grown to about 17 million recently authors [16, 17]. World Bank reports that Nigeria needs 700,000 housing units annually for 20 years to accommodate the growing population. Thus, the significant rise in population, number, and size of Nigerian cities has led to the acute shortage of dwelling units, resulting in overcrowding, high rents, poor urban living conditions, low infrastructural provisions, deteriorating environment, poverty and increased insecurity in urban centres authors [18]. This is mainly a result of rapid urban growth, population growth, and rural-urban migration driven by rapid socio-economic changes and development. However, this growth has yet to be matched with the simultaneous provision of adequate housing development authors [19].

Most urban residents, particularly the LIEs, who constitute about 50% of Nigeria's 140 million people, are forced to live in conditions affront human dignity authors [20]. A considerable number of scholars have studied HO accessibility, affordability, and sustainable LIE housing in Nigeria see authors [21-27]; none combined HO, effectiveness, performance, accessibility, and affordability to address the issue of HO of the LIEs like the Primary School Teachers (PST) who are the least paid compared to other academic staff at different educational levels in Nigeria. Against this background, this study contributed to existing knowledge by evaluating the concepts based on the theories of Technology Organization Environment (TOE) by authors [28]. Hence, this study evaluates the effects of HF institutional and financial context on beneficiaries' context to LIEs in Bauchi and also develops a framework for achieving effective HO for PST in Bauchi Local Government, Nigeria.

Literature Review

Access to funding to establish adequate housing for the LIEs is one of the main challenges identified by authors in developing countries [29]. The authors [30] indicate that the HF sector is growing very strongly in many nations; however, ac-

cess to HF for the LIEs remains an issue, which might be the after-effect of financial regulations that do not have a steady framework to help HF for LIEs. Effective demand for HO is derived from each household's willingness to pay for housing. The level of household income, its distribution, and the prices of available housing and other goods and services are essential influences on decisions about how much to spend on housing, and so is the demographic pattern that determines the growth of demand over time; the distribution of income affects the affordability of housing for different income earners [31].

Non-financial factors, such as tastes and inclinations, can be imperative in numerous social and political situations. In this manner, the makers of housing have a proceeding with the issue of adjusting supply against the request, for if the last fall in respect to the previous, at that point, the cost is probably going to drop, and the degree of drop would mirror the flexibility of interest for housing. The circumstance in this nation has been ineffective HO by LIEs because of the subjects' falling per capita salary and high joblessness level [31]. It is no longer a benefit but a right to access effective home ownership. To be fully involved in the public sector and to use other fundamental rights, one must have access to typical housing. Subsequently, several international human rights charters value the right to housing. As the right to housing is now recognised as an integral part of financial, social, and legal instruments, reducing housing rights is considered a violation of such rights authors [32].

Financing of Housing. HF is a vast subject that can differ crosswise over central lands, districts, and nations, especially in the regions it covers [33]. For instance, what is comprehended by the expression "HF" in a created nation might differ from what is understood by the term in a developing country. The International Union for HF, as a multinational systems administration association, has no official position on the best meaning of HF authors [34].

Moreover, the idea of HF and housing finance frameworks (HFF) has been advancing for some time. Definitions from the mid-1980s characterise HF as a private fund for housing loans. The reason for an HFF is to give the assets that home purchasers need to buy their homes [35]; this is a primary target, and the methods to achieve it are limited. Despite this essential effortlessness, in various nations, to a great extent because of government activity, extremely complicated HFFs have been produced. Nonetheless, the fundamental element of any framework, the ability to channel investors' funds to those purchasing their homes, must remain authors [36].

However, in later years, various other significantly more extensive definitions have shown up: "Put basically, HF is the thing that considers the creation and utilisation of housing. It alludes to the cash we use to manufacture and keep up the country's housing stock. Be that as it may, it also alludes to the cash we have to pay for it, such as rent, contract credits, and reimbursements" by authors [37]. There is an acknowledgement of other applicable types of HF (aside from private home loan funds, for example, designer back, rental fund, or microfinance connected to housing. Microfinance for housing is usually utilised for home change or dynamic housing purposes. Advances are typically conceded without vowing properties. Although the overall impact of microfinance on housing remains limited, the practice might indicate a crucial source of financial support for individuals living in the informal setting authors [38].

The utilisation of either housing advances or home loan frameworks to secure homes by Nigerians is premium in light of the level of pay, and the relatively small size of the home loan showcase contrasts with the span of the monetary market. Given the relatively long haul structure of home loan financing, the housing and home loan back market should speak to a sizeable extent of the residential budgetary market. The authors [39] contrasting various nations gathered close by improvement strata demonstrate that more grounded legitimate rights for the two borrowers and loan specialists, macroeconomic conditions, and a more profound credit data framework are solid factors that can help develop the home loan showcase in any nation. The more accessible the data is and the simpler it is to uphold insurance rights (capacity to have), the greater the market tends to be in all nations authors [40].

The author [41] concedes that the market needs to be created and that PMI activities are packaged. Reimbursement issues happen where macroeconomic changes influence the pay of mortgagors who wind. Another critical problem of mortgage and HF in Nigeria remains the Land Use Decree 1978, which made the land acquisition of title on land impossible. Other problems

are inflation, land acquisitions and documentation, insufficient capital base for the PMIs, financial constraints in the market, high cost of building materials, and inadequate infrastructures are others.

Technology organisational environmental framework. The authors [42] state that the TOE framework is a multi-perspective framework developed by authors [43, 44], who identified the TOE framework as an organisation-level theory. It represents one segment of the innovation process, i.e., how the firm context influences the adoption and implementation of innovations. Based on this framework, the technology innovation adoption process is influenced by three aspects of an enterprise's context: technological context, which represents the internal and external techniques related to the organisation; both methods that are already in use at the firm, as well as those that are available in the marketplace but not currently in use [44]. These techniques may include either equipment or practice. Organisational context is related to the firm's resources and characteristics, e.g., size and managerial structure. Environmental context, which refers to the arena where a firm conducts its business, can be related to surrounding elements such as industry and competitors.

HF context. To effectively use housing financing, one needs to understand the three primary HF contexts, which are institutional, financial, and beneficiary contexts, as described in the authors' TOE framework [28].

1) Institutional context. Institutional analysts assert that the institutional environment can strongly influence the development of formal structures in an organisation, often more profoundly than market pressures. Innovative structures that improve technical efficiency in early-adopting organisations are legitimised in the environment. Ultimately, these innovations reach a level of legitimisation where failure to adopt them is seen as "irrational and negligent" (or they become legal mandates). At this point, new and existing organisations will adopt the structural form even if the form does not improve efficiency authors [45].

The authors [46] argue that these "institutional myths" are often merely accepted ceremoniously for the organisation to gain or maintain legitimacy in the institutional environment. Organisations adopt the vocabularies of structure prevalent in their environment, such as specific job titles, procedures, and organisational roles. The adoption and prominent display of these institutionally acceptable "trappings of legitimacy" help preserve an aura of organisational action based on good faith. Legitimacy in the institutional environment helps ensure organisational survival. However, these formal structures of legitimacy can reduce efficiency and hinder the organisation's competitive position in its technical environment. Organisations often decouple their technical core from these legitimising structures to minimise this adverse effect. Organisations will minimise or ceremonialize evaluation and neglect program implementation to maintain external (and internal) confidence in formal structures while reducing their efficiency impact.

The authors [47] reported that the net effect of institutional pressures is to increase the homogeneity of organisational structures in an institutional environment. Firms will adopt similar structures as a result of three types of pressures. Coercive pressures come from legal mandates or influence from organisations they depend on. Mimetic pressures to copy successful forms arise during high uncertainty. Finally, normative pressures to homogeneity come from the similar attitudes and approaches of professional groups and associations brought into the firm through hiring practices. Institutional isomorphism increases when firms depend highly on the institutional environment, exist under high uncertainty or ambiguous goals, and rely extensively on professionals. The authors [48] examined the growth of three administrative services in California public schools (school health, psychology, and curriculum) from the standpoint of institutional concept. He found that when there is a high level of consensus and cooperation within the institutional environment, the diffusion of innovative structures is steady and long-lasting.

However, adopting innovative structures is slow and tentative when the institutional environment is contentious and unfocused. The authors [49] evaluated the adoption rate of civil service organisations in the USA from 1880 to 1935. Their results strongly support the institutional concept outlined above. They found that organisations quickly adopt new structures when coercive pressures are high (under state mandate). Under low coercive pressures, the rate of adoption is much slower. However, increased adoption builds legitimacy in the institutional environment, accelerating the adoption rate of the new structural form. Furthermore, they also con-

firmed the hypothesis that although early organisations adopt the new form to improve efficiency, later organisations adopt the structural form to maintain legitimacy. Quantitative models predicted civil service adoption based on city characteristics (in early periods) but failed to predict adoption in later periods.

a) Financial Institutions Performance. The authors [50] identified profitability as an essential measure of a firm's performance. Still, it would help if you did not consider it a single measure and should support it with other measures, such as efficiency. Authors [51] define performance in terms of efficiency, with efficiency being the ratio of outputs to inputs, where a higher ratio indicates better performance. The performance of the banks can be correctly identified in terms of bank efficiency authors [52]. Measuring efficiency in banking institutions also helps benchmark individual banks' relative efficiency against the best practice bank. The authors [53] reported that performance is the right combination of efficiency and effectiveness in both profit and nonprofit organisations.

In contrast, the authors [54] confirmed that performance is the proportion of output to input. Performance assessment is how an organisation has managed and used resources. Also, performance measurement and effectiveness are identical concepts.

The authors [55] relate bank performance to productivity, where productivity was decomposed into efficiency and effectiveness. Improving the performance of an organisational unit relies on both efficiency and effectiveness. The authors [56] stated that the performance evaluation of banks is associated with how effectively banks use their assets, shareholders' equities and liabilities, revenues, and expenses. The above discussion helps us to derive the concept of performance and its importance in banking. The term "performance" can be elucidated in multiple ways. Some previous studies refer to banking performance in terms of profitability and measure it by return on assets (ROA); some studies explore financial performance by considering the aspects of profitability and efficiency, where profitability is measured by ROA only and efficiency by profit per employee. Some other studies describe performance based on the CAMELS framework; on the contrary, modern studies argue that performance is not merely profitability and efficiency but should also be measured in

terms of efficiency and effectiveness. Some studies also use the terms efficiency and performance interchangeably. In many studies, the performance measurement approach of banking shifts from the traditional approach to the modern approach, which evaluates the bank's performance comprehensively, considering the aspects of efficiency and effectiveness. Efficiency shows us the quantity of output produced by banks within the available resources, and effectiveness signifies the quality of the production generated by banks. Thus, efficiency and effectiveness are critical for banking performance authors [57].

b) Financial Institutions Effectiveness. The authors [29, 58] suggested that formal HF institutions are rarely willing to assist with purchasing land, especially where the tenure is insecure, help with improvements to the rental housing stock, or support nonconventional household arrangements such as sharing multiple family compounds. The author [59] pointed out that HF institutions' declining effectiveness and economic and fiscal crises have made governments more aware of the need to promote savings, reduce subsidies, mobilise domestic resources, and motivate the involvement of private financial institutions. Effectiveness is the degree to which an organisation achieves its goals. The authors [60] thought that the measures of effectiveness assess the performance of an organisation or business unit concerning stated goals and also serve as a significant element in the planning and control procedure. The authors [61] attributed that effectiveness is the extent to which the outputs of service providers meet the set objectives. Efficiency is the success of an organisation using its resources to produce outputs.

2) Financial context. It is never again unusual to realise that some Nigerians, especially the LIEs living in the urban areas, are homeless. The reason is that the cost of building or renting accommodation is beyond an average Nigerian's reach. Thus, the Nigerian housing sector's challenge is affordability and accessibility. Several housing construction and delivery systems are targeted mainly at the population's middle- and high-income groups that can either pay cash or access HF from the banks. Organisations provide housing financing through mortgages. However, they distribute these mortgages to income earners through the National Housing Trust Fund. However, only very few proportions of the income earners can access these mortgages because the HF system's performance in loan disbursement

has been dismal and discouraging by authors [29, 62].

a) Finance accessibility. The relevance of this view to HO accessibility is in ensuring that housing provision is not focused on some "chosen" segments of society. Still, all community members can choose their accommodation according to the authors' means or affordability level [6]. Social equity concerns the social view of housing. It relates to a situation in which all citizens have access to housing without limitations regarding one's socio-economic background or status in society. Most contemporary problems affecting access to housing have been reinforced by societal negative attitudes toward vulnerable groups among the LIEs authors [29, 64].

b) Finance affordability. The authors [65] reported that housing affordability in recent years has become a common way of summarising the nature of the housing difficulty in many nations; this is in contrast to the "slum problem," the "LIEs housing problem," the "housing shortage," or the "housing need" definitions of previous decades. In most formulations of the term, a household is said to have a housing affordability problem when it pays more than a certain percentage of its income to obtain adequate and appropriate housing. Authors [29, 66] posited that people can view a household's capability to purchase a house in at least three different ways. We distinguish the concepts of purchase affordability, repayment affordability, and income affordability. Purchase affordability considers whether a household can borrow enough funds to purchase a house. Repayment affordability considers the burden imposed on a household by repaying the mortgage. Income affordability measures the ratio of house prices to income. Housing affordability is not simply a matter of housing costs and income levels but people's ability to obtain and stay in it. Even though there is excess housing demand either for the owner or for rent by households in Nigeria, their purchasing power is limited by their respective income. Although most people's incomes, especially PST in Nigeria, can hardly purchase public and private developers' housing supply, public developers give out these houses through mortgages. The authors [29, 67] observed that private developers contribute to a large proportion of the entire housing stock in the country. The author [68] also observed that policymakers are unaware of the magnitude of housing problems for LIEs when looking at increases in house rent and the rising cost of building materials. Authors [29, 69] noted that the decreasing housing stock has contributed to the rise in high rent. Housing is a critical component in all nations' social and economic fabric.

3) Beneficiary context. The beneficiary context was adopted by expressing HF services in terms of HO. A beneficiary perspective may also offer much-needed momentum in moving HF services from concept to implementation, eventually influencing the LIEs [7].

a) Housing Ownership. People have possessed many things, such as property, land, objects, and relationships, from the dawn of time, and such ownership is a cornerstone structuring many modern societies today. People experience unique feelings toward their ownership targets and develop strong attitudes toward the relationships they build with the owned items. These possessive feelings toward objects appear highly psychological authors [70]. The psychological (i.e., emotional and cognitive) bond with an ownership object represents Psychological Ownership (PO); the PO theory explains the feelings of connection or the psychological state of ownership in the business context. First, the sense of ownership is manifested in the meaning and emotion associated with my or mine and ours. Second, PO represents a relationship between an individual and an object (both material and immaterial). Third, an individual perceives the object (i.e., a firm) to have a close connection with the self. Finally, the state of PO is complex and consists of both affective and cognitive components. Psychological ownership is a state in which individuals feel as though the target of ownership or a piece of that target is theirs (it is mine). It is a condition of which one is aware through intellectual perception. It reflects an individual's awareness, thoughts, and beliefs regarding the ownership target. The cognitive state, however, is coupled with an emotional or affective sensation [71]. Researchers have demonstrated that people can feel ownership even toward non-physical entities such as works of art, ideas, thoughts, words, relationships, and people [72]. These complex feelings of ownership are pleasure-producing and object-specific. The company–customer relationship stems largely from perceived control, customer participation, company–customer identification, and sense of belonging authors [7, 73].

Table 1 – Matrix on Relevant Conceptual Frameworks

Authors	Concept	Finding	Gap	Remarks
[74]	Structure of financial sector; Awareness of funding opportunities; Collateral requirements; and small business support services.	Relationship between the structure of the financial sector and access to finance; Relationship between awareness of funding and access to finance;	The study did not categorise the variables in their relative institutional, financial, and beneficiary contexts.	This study considers institutional, financial, and beneficiary contexts.
[75]	Housing characteristics, residential satisfaction; residence comparison and housing allocation scheme	Relationship between public housing allocation institutions and residential satisfaction	The framework should have looked at financial affordability and access to finance.	This study considered other variables like affordability, accessibility, performance, effectiveness, and ownership.
[76]	Customer perception, sense of belonging, relationship intention, willingness to pay	The results generally support the proposed mediating role of PO conceptualisations.	The framework does not categorise the constructs into various contexts, such as institutional, financial, and beneficiary contexts.	The study examined ownership, perception, and willingness to pay.
[77]	Housing policies, housing amenities, affordability, and facility management.	Housing adequacy significantly affects housing tenure choice, affordability, and facility management.	The framework must categorise the constructs/variables into institutional, financial, and beneficiary contexts.	The research considered public facilities, housing policies, affordability, and facility management.
[78]	Introducing new housing policies, availability of HF, affordability, availability, and accessibility	It identifies the gap in the planning for affordable housing and highlights the significance of accessibility.	The framework divided the variables into demand-side and supply-side constructs but did not indicate the institutional, financial, or beneficiary contexts.	The study considered affordability, availability, and accessibility, while this study combines all the variables of HF.

METHOD

To gather data for this study, 357 PST from the Bauchi Local Government Education Authority were given questionnaires, with about 5,474 Teachers in 2019. A five-point Likert scale was employed for the variable items to ease assessing the responses [7]. Going by the performance descriptors in authors [79], the descriptors used for accessibility were rated 5, likely rated 4, uncertain rated 3, unlikely rated two, and very unlikely rated 1. Descriptors used for affordability were very high rated 5, high rated 4, uncertain rated 3, low rated two, and very low rated 1. For performance, the descriptors used were most available rated 5, available rated 4, uncertain rated 3, not available rated 2, and mostly not available rat-

ed 1. Those used for effectiveness were very high rated 5, high rated 4, uncertain rated 3, low rated 2, and very low rated 1. The researchers chose Bauchi Local Government because it has the highest number of PST (Levels 1–6) in the study area, accounting for about 29.1% of the total PST population in the state, 18,985, according to [80]. PST was chosen because they are less fortunate in terms of salaries, and according to [81], they are at the very bottom of the salary scale for teachers and the low-income group in Nigeria. The average salary for Nigerian teachers in primary schools is ₦ 15,000/month ($ 41.72). To evaluate the effects of housing finance institutional context and financial context on beneficiaries' context to LIEs in the study area, as well as

the mediation impact of finance accessibility and affordability, partial least squares-structural equation modelling (PLS-SEM) was used. Authors [82-84] recommended the assessment of convergent validity and discriminant validity of the outer (measurement) model before the evaluation of the inner (structural) model.

RESULTS AND DISCUSSION

Five hundred questionnaires were administered, as authors [85] recommended against a sample size of 5000 respondents. The researchers retrieved 389 (77.8%) questionnaires and discarded 22 due to incomplete responses, missing data, and univariate and multivariate outliers. The SPSS software filled in the missing data; therefore, 367 (73.4 %) responses were used for final analysis (Table 2).

Table 2 – Questionnaire Administration

Respondents	Number	%
Administered	500	-
Collected	389	77.8
Not returned	111	22.2
Used for analysis	367	73.4

The demographic characteristics of the participants include their age, gender, level of education, years of service, length of service, and monthly income. Table 2 shows the results of the frequency and percentage analysis.

As presented in Table 3, The findings revealed that while women comprised only 37.3% of the sample, men comprised the bulk of responders (62.7%); this suggests that most male respondents dominated the teaching profession in the study area.

Table 3 also reveals that, as indicated by 50.9%, most people were 35 years of age and under; only 3.3% were 66 or older. When asked about their level of education, the respondents gave information that showed that 52% held an NCE or national diploma, compared to 28.9% holding a bachelor's degree or HND and 8% holding a master's degree. 52.3% of respondents have been in the teaching profession for ten years or less, more than the 11.2% who have been in the field for twenty-six years or more.

Additionally, most respondents, representing 49.6%, earn more than ₦ 40,000 per month than ₦ 11,000, with 3.0% earning less than that amount in the research area [7].

Table 3 – Respondents profile

Variables	Options	Frequency	%
Gender	Male	230	62.7
	Female	137	37.3
Age	Under 26 years	82	22.3
	26-35 years	105	28.6
	36-45 years	72	19.6
	46-55 years	44	12.0
	56-65 years	52	14.2
	66 years and above	12	3.3
Level of education	School Living Certificate	11	3.0
	Secondary School/Cert.	28	7.6
	National Diploma / NCE	191	52.0
	Bachelor's degree/HND	106	28.9
	Master's Degree and above	31	8.4
Length of service	Under six years	106	28.9
	6-10 years	86	23.4
	11-15 years	51	13.9
	16-20 years	39	10.6
	21-25 years	44	12.0
	26 years and above	41	11.2
Monthly income	Under ₦ 11,000	11	3.0
	₦ 11,000–20,000	23	6.3
	₦ 21,000–30,000	89	24.3
	₦ 31,000–40,000	62	16.9
	Over ₦ 40,000	182	49.6
	Total	367	100.0

Exploratory factor analysis results. The researchers performed exploratory factor analysis (EFA) to examine the factors' unidimensionality before conducting further studies to answer the research questions. The accessibility constructs result of the factor analysis in Table 4 shows that the value for the Kaiser–Meyer–Olkin (KMO) measures of Sampling Adequacy is 847.

This is more than 0.5 and significant at 0.001, as the literature requires [86]. The value for Bartlett's test of sphericity is 887.734. This means Bartlett's test of sphericity is large and significant ($p < 0.05$), which means that the variables are related. The total variance explained by the construct is 27.420, indicating good results. The factor loadings for each item, AC1 (0.680), AC2 (0.637), AC3 (0.658), AC4 (0.507), AC5 (0.588), AC7 (0.530), AC9 (0.618), AC10 (0.583), AC14 (0.531) and AC15 (0.508), are all more than 0.5 as suggested by authors [84], except AC8, AC11,

AC12 and AC13, which were removed because of low factor loadings.

Table 4 – EFA for Accessibility Construct

Items	Factor Loadings	Kaiser Meyer-Olkin (KMO)	Bartlett's Test of Sphericity	Total Variance Explained
AC1	.680			
AC2	.637			
AC3	.658			
AC4	.507			
AC5	.588			
AC7	.530			
AC8	-	.847	887.734	27.420
AC9	.618			
AC10	.583			
AC11	-			
AC12	-			
AC13	-			
AC14	.531			
AC15	.508			

Notes: * AC – Accessibility

The affordability constructs result of the factor analysis in Table 5 shows that the values for the Kaiser-Meyer-Olkin (KMO) measures of Sampling Adequacy is 877.

Table 5 – EFA for Affordability Construct

Items	Factor Loadings	Kaiser Meyer-Olkin (KMO)	Bartlett's Test of Sphericity	Total Variance Explained
AFF1	.676			
AFF2	.722			
AFF3	.616			
AFF4	.754			
AFF5	.631			
AFF6	.665			
AFF7	.569			
AFF8	-	.877	1155.835	29.485
AFF9	-			
AFF10	-			
AFF11	-			
AFF12	-			
AFF13	-			
AFF14	-			
AFF15	.547			

Notes: *AFF - Affordability

As required, this is more than 0.5 and significant at 0.001 authors [86]. The value for the Bartlett

test of sphericity is 1155.835. This means Bartlett's test of sphericity is substantial (p<.05), which means that the variables are related.

The total variance explained by the construct is 29.485, indicating good results. The factor loadings for each item; AFF1 (.676), AFF2 (.722), AFF3 (.616), AFF4 (.754), AFF5 (.631) AFF6(.665) AFF7(.569) AFF15(.547) are all more than 0.5 as suggested by authors [84] Hair et al., (2010), Except AFF8, AFF9, AFF10, AFF11, AFF12, AFF13 and AFF14, which were removed because of low factor loadings.

The performance construct's result of the factor analysis in Table 6 shows that the values for the Kaiser-Meyer-Olkin (KMO) measures of Sampling Adequacy is 887.

Table 6 – EFA for Performance Construct

Items	Factor Loadings	Kaiser Meyer-Olkin (KMO)	Bartlett's Test of Sphericity	Total Variance Explained
PER1	.598			
PER2	.588			
PER3	.598			
PER4	.655			
PER5	.631			
PER6	-			
PER7	.535			
PER8	.534			
PER9	-			
PER10	.501	.887	1574.169	29.317
PER11	.581			
PER12	.552			
PER13	.555			
PER14	.502			
PER15	.562			
PER16	.509			
PER17	.536			
PER18	.505			

Notes: * PER – Performance

This is more than 0.5 and significant at 0.001, as required by the literature authors [86]. The value for the Bartlett test of sphericity is 1574.169. This means Bartlett's test of sphericity is large and significant (p<.05), which means that the variables are related. The total variance explained by the construct is 29.317, indicating good results. The factor loadings for each item; PER1(.598), PER2 (.588), PER3 (.598), PER4 (.655), PER5 (.631), PER7(.535), PER8(.534), PER10(.501), PER11(.581), PER12(.552),

PER13(.555), PER14(.502), PER15(.562), PER16 (.509), PER17 (.536) and PER18 (.505) are all more than 0.5 as suggested by authors [84], except PER6 and PER9, which were removed because of low factor loadings.

The effectiveness construct's result of the factor analysis in Table 7 shows that the value for the Kaiser-Meyer-Olkin (KMO) measures of Sampling Adequacy is 795. As required, this is more than 0.5 and significant at 0.001 authors [86]. The value for the Bartlett test of sphericity is 1127.579. This means Bartlett's test of sphericity is substantial (p<.05), which means that the variables are related. The total variance explained by the construct is 22.875, indicating good results. The factor loadings for each item; EFF2 (.629), EFF3 (.628), EFF4 (.665), EFF5 (.616), EFF6 (.504), EFF7 (.550) and EFF8 (.576) are all more than 0.5 as suggested by authors [84], Except EFF1, EFF9, EFF10, EFF11, EFF12, EFF13, EFF14, EFF15, EFF16 and EFF17, which were removed because of low factor loadings.

Table 7 – EFA for Effectiveness Construct

Items	Factor Loadings	Kaiser Meyer-Olkin (KMO)	Bartlett's Test of Sphericity	Total Variance Explained
EFF1	-			
EFF2	.629			
EFF3	.628			
EFF4	.665			
EFF5	.616			
EFF6	.504			
EFF7	.550			
EFF8	.576			
EFF9	-	.795	1127.579	22.875
EFF10	-			
EFF11	-			
EFF12	-			
EFF13	-			
EFF14	-			
EFF15	-			
EFF16	-			
EFF17	-			

Notes: * EFF – Effectiveness

The ownership construct's result of the factor analysis in Table 8 shows that the values for the Kaiser-Meyer-Olkin (KMO) measures of Sampling Adequacy is 813. As required, this is more than 0.5 and significant at 0.001 authors [86]. The value for the Bartlett test of sphericity is 2186.536.

This means Bartlett's test of sphericity is substantial (p<.05), which means that the variables are related. The total variance explained by the construct is 27.708, indicating good results. The factor loadings for each item; OWN1(.571), OWN2 (.586), OWN3 (.649), OWN5 (.598), OWN8 (.514), OWN9 (.608), OWN12 (.525), OWN15 (.516), OWN17 (.580), OWN18 (.523), OWN20 (.531) and OWN24 (.500) are all more than 0.5 as suggested by authors [84], Except OWN4, OWN6, OWN7, OWN10, OWN11, OWN13, OWN14, OWN16, OWN19, OWN21, OWN22, OWN23, OWN25 and OWN26, which were removed because of low factor loadings.

Table 8 – EFA for Ownership Construct

Items	Factor Loadings	Kaiser Meyer-Olkin (KMO)	Bartlett's Test of Sphericity	Total Variance Explained
OWN1	.571			
OWN2	.586			
OWN3	.649			
OWN4	-			
OWN5	.598			
OWN6	-			
OWN7	-			
OWN8	.514			
OWN9	.608			
OWN10	-			
OWN11	-			
OWN12	.525			
OWN13	-			
OWN14	-	.813	2186.536	27.708
OWN15	.516			
OWN16	-			
OWN17	.580			
OWN18	.523			
OWN19	-			
OWN20	.531			
OWN21	-			
OWN22	-			
OWN23	-			
OWN24	.500			
OWN25	-			
OWN26	-			

Notes: *OWN – Ownership

Table 9 shows the discriminant validity using the Fornell and Larcker criterion with the square root of AVE inserted diagonally in shaded bolded italics.

Table 9 – Discriminant Validity using Fornell and Larcker

	Accessibility	Affordability	Effectiveness	Ownership	Performance
Accessibility	**0.735**				
Affordability	0.343	**0.740**			
Effectiveness	0.441	0.383	**0.714**		
Ownership	0.273	0.484	0.434	**0.713**	
Performance	0.546	0.367	0.519	0.414	**0.713**

Other horizontal and vertical figures indicated the correlation among the research constructs. Accessibility's measurement model has a square root of AVE, 0.735, above its highest correlation of 0.546 with other constructs. The square roots of AVEs of Affordability, Effectiveness, Ownership, and Performance are 0.740, 0.714, 0.713, and 0.713, respectively, all above their respective highest correlations with other constructs of 0.484, 0.519, 0.484, and 0.546. Therefore, discriminant validity is achieved based on the Fornell and Larcker criterion.

Table 10 shows that the indicator loadings on their construct are much higher than the cross-loadings on other constructs.

Table 10 – Discriminant Validity using Cross-Loading Criterion

	Accessibility	Affordability	Effectiveness	Ownership	Performance
AC1	**0.807**	0.303	0.334	0.218	0.397
AC2	**0.752**	0.276	0.318	0.303	0.434
AC3	**0.732**	0.212	0.331	0.142	0.402
AC5	**0.638**	0.209	0.317	0.111	0.368
AFF1	0.355	**0.814**	0.401	0.467	0.375
AFF2	0.188	**0.786**	0.285	0.376	0.220
AFF3	0.299	**0.685**	0.301	0.325	0.316
AFF4	0.219	**0.728**	0.159	0.281	0.201
AFF6	0.144	**0.676**	0.177	0.276	0.176
EFF2	0.314	0.322	**0.748**	0.351	0.370
EFF3	0.375	0.334	**0.765**	0.355	0.382
EFF4	0.369	0.270	**0.781**	0.308	0.405
EFF5	0.313	0.207	**0.697**	0.265	0.360
EFF8	0.164	0.206	**0.558**	0.257	0.347

	Accessibility	Affordability	Effectiveness	Ownership	Performance
OWN1	0.232	0.423	0.268	**0.778**	0.290
OWN2	0.183	0.316	0.386	**0.759**	0.324
OWN3	0.234	0.377	0.387	**0.794**	0.384
OWN4	0.128	0.379	0.186	**0.590**	0.194
OWN5	0.183	0.211	0.301	**0.617**	0.256
PER1	0.450	0.238	0.370	0.322	**0.752**
PER2	0.348	0.368	0.344	0.342	**0.719**
PER3	0.377	0.215	0.383	0.243	**0.726**
PER4	0.401	0.193	0.355	0.261	**0.670**
PER5	0.371	0.277	0.404	0.294	**0.695**

The loadings of items on their constructs are in italics, bolded, and colored. The result shows that the load of all the items on their constructs is higher than the cross-loadings on other constructs; this confirms the discriminant validity of the outer models using the cross-loadings criterion.
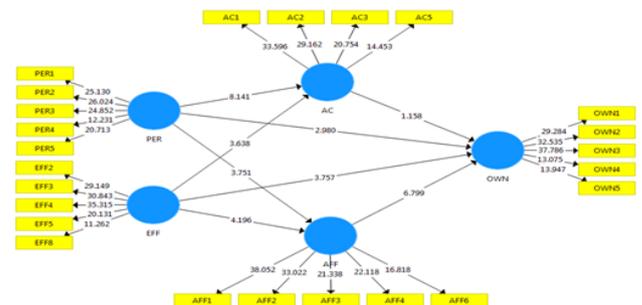
Figure 1 is the model's t-statistics.

Figure 1 – Research Structural Model T-Statistics

They are showing their significance levels. The details of the figure are contained in Table 11.

Table 11 presents the direct path coefficients and the indirect specific effects, also called mediation, all in a single model. Accessibility to finance (AC) was found not to have a significant causal impact on low-income owners' housing ownership (OWN). This is indicated by a path coefficient of -0.054 with t-statistics and p-values of 1.158 and 0.308, respectively, below and above the minimum and maximum recommended thresholds of 1.96 and 0.05. However, Affordability of finance (AFF) (β=0.343; t=6.799; p=0.000), effectiveness of financial institutions (EFF) (β=0.222; t=3.757; p=0.000), and performance of the institutions

(PER) (β=0.202; t=2.980; p=0.002) have a significant positive causal effect on low-income earners housing ownership context (OWN).

The result indicated that affordability of finance has the most decisive influence on housing ownership, followed by the effectiveness and performance of financial institutions. Similarly, institutional contexts have a direct causal effect on the economic context.

Effectiveness (β=0.216; t=3.638; p=0.000) and performance (β=0.434; t=8.141; p=0.000) significantly affect accessibility. Similarly, effectiveness (β=0.263; t=4.196; p=0.000) and performance (β=0.230; t=3.849; p=0.002) significantly affect affordability. Therefore, all the direct paths have significant causal effects on their endogenous constructs except the path leading to Accessibility to Ownership.

Table 11 – Structural Model Path Coefficients

Paths	Beta Value	Std Error	T Statistics	P Values	Decision
Accessibility → Ownership	-0.054	0.053	1.158	0.308	Not Supported
Affordability → Ownership	0.343	0.053	6.779	0.000	Supported
Effectiveness → Ownership	0.222	0.060	3.757	0.000	Supported
Performance → Ownership	0.202	0.066	2.980	0.002	Supported
Effectiveness → Accessibility	0.216	0.057	3.638	0.000	Supported
Performance → Accessibility	0.434	0.051	8.141	0.000	Supported
Effectiveness → Affordability	0.263	0.059	4.196	0.000	Supported
Performance → Affordability	0.230	0.060	3.751	0.000	Supported
Indirect Specific Effects					
Effectiveness → Accessibility → Ownership	-0.012	0.012	0.986	0.325	Not Supported
Performance → Accessibility → Ownership	-0.023	0.023	0.993	0.321	Not Supported
Effectiveness → Affordability → Ownership	0.090	0.025	3.659	0.000	Supported
Performance → Affordability → Ownership	0.079	0.025	3.110	0.002	Supported

The indirect, specific effects are evaluated. The indirect significant effect of Effectiveness through Accessibility on Ownership is insignificant (β=0.-0.012; t=0.986; p=0.325). The indirect impact of Performance on Ownership through Accessibility is also negligible (β=-0.023; t=0.993; p=0.321). This shows that the institutional context does not indirectly affect the beneficiary context through finance accessibility. In other words, finance accessibility does not mediate the relationship between institutional and beneficiary contexts. However, finance affordability mediates the relationship between the institutional and beneficiary contexts. This is indicated by indirect specific path coefficients (Effectiveness β=0.090; t=3.659; p=0.000; Performance β=0.079; t=3.110; p=0.002). Thus, housing finance institutions' performance and effectiveness indirectly affect low-income earners' housing ownership through finance affordability.

The proposed framework (Figure 2) suggests that HF institutions should emphasise reducing the approval time for issuing housing loans to beneficiaries as much as possible.
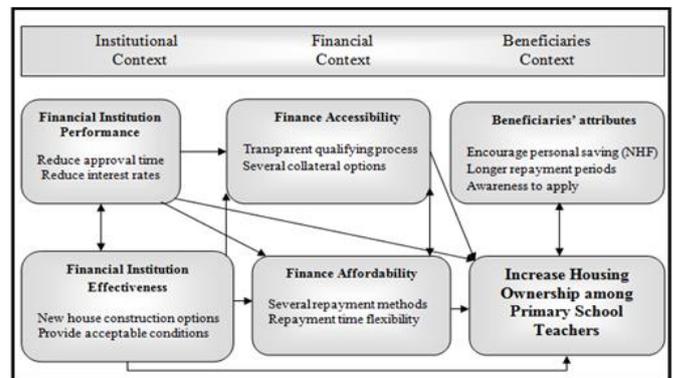

Figure 2 – Research Framework

This has discouraged several would-be beneficiaries from applying for housing loans from the HF institutions due to the delay in approving their loan. The HF institutions should also emphasise reducing the interest rates (to a digit figure) to encourage the LIEs to seek housing loans. There should also be a transparent process for qualifying for the housing loan by laying down less stringent processes that are easy to comprehend to make the LIEs understand. The HF institutions should also give room for more collateral options, such as a guarantee from the employer.

The framework also proposed that LIEs should be encouraged to deposit their savings with established housing institutions like the NHF. They can make deposits whenever money is available, not just monthly. The HF institutions should also extend the repayment period to enable the beneficiaries to pay quickly without much stress. The HF institutions should allow for several repayment methods by allowing them to make bulk payments whenever they can get money.

The HF institutions should allow flexibility in repayment time without necessarily waiting for the standard deduction time at the end of the month. They should emphasise new housing construction loans and acceptable loan conditions regarding the requirements of the PST. There is also a need for more coordinated administrative structural workshops and seminars to create awareness among the LIEs about applying for housing loans. If the above variables are strictly followed, HO will increase among PST.

CONCLUSIONS

Hence, this study evaluates the effects of HF institutional and financial context on beneficiaries' context to LIEs in Bauchi and also develops a framework for achieving effective HO for PST in Bauchi Local Government, Nigeria. The HF institutions should also emphasise reducing the interest rates (to a digit figure) to encourage the LIEs to seek housing loans. There should also be a transparent process for qualifying for the housing loan by laying down less stringent processes that are easy to comprehend to make the LIEs understand. The HF institutions should also give room for more collateral options, such as a guarantee from the employer. The HF institutions should allow flexibility in the repayment time without necessarily waiting for the average time of deduction at the end of the month. The HF institutions should emphasise new housing construction loans and acceptable conditions of loans about the requirements of the PST. There is also a need for more coordinated administrative structural workshops and seminars to create awareness among the LIEs about applying for housing loans. There should be synergy between the finance institutions such as commercial banks, mortgage banks, private developers, and low-income earners from the inception of the finance design stage to accommodate the PST's requirements for housing finance ownership. Strictly following the above variables will lead to a sustainable increase in HO among PST in Bauchi State.

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