

ABSTRACT

Housing is an integral element of a nation economy. Thus, focus on finance for housing projects has been more prominent due to huge financial resources that is required for provision of decent houses which is practically not at the disposal of low income earners in Nigeria. The aim of this study is to evaluate the effect of housing financing models on the delivery of housing project with a view to enhance availability and affordability of houses for low and middle income class. Literature review has revealed that Niger State Government, at all levels, accorded high priority to the provision of low-cost housing. Thus the government has adopted PPP as a procurement method for affordable housing development and it has not been fully realized. Quantitative approach through questionnaire survey was used to collect data from Developers, Government representative, Financial Institution, Primary mortgage institution and Professional in the build environment such as Architect, Quantity Surveyor and Builders. This study employed the use of random sampling technique in the selection of the study respondents. A total of 200 questionnaires were administered and 150 were retrieved, this number was considered adequate for analyses. The data collected were subjected to descriptive statistical analysis using mean score and data reduction techniques on SPSS. From the results of quantitative analysis, mean and ranking were used to arrive at a decision which affirm the use of Mortgage payment subsidy model (mean score of 4.40), down payment grant financing model (mean score of 4.03), Secondary market mortgage finance model (mean score of 3.84), Housing cooperative model (mean score of 3.53) and Unbundle mortgage finance model (mean score of 3.52) as viable alternative to financing model currently in use to finance affordable housing project by Niger State government. This study identified most severe factors influencing the models such as; stringent condition with (Eigenvalue of 7.461), funding with (Eigenvalue of 1.342), research and development with (Eigenvalue of 1.290), government programme and policies with (Eigenvalue of 1.152) and project to be financed with (Eigenvalue of 1.017). It also identified the most severe challenges associated with the models such as; capital base, access to finance, poor government policies inflation, building materials, land use act, property registration and infrastructural challenges. The study developed a frame work to show the effective financing models and the factors and challenges associated with selected models. It was concluded that all the selected factors and challenges should be considered when choosing a model. The study therefore recommends that, Government, housing providers and Developers should adopt the framework for effective and successful delivery of housing project in Niger State.

CHAPTER ONE

1.0

INTRODUCTION

1.1 Background to the Study

One of the vital components of the national economy is housing and its relationship with various parts of the economy binds people's needs, their demands and social activities (Abdullahi, 2015). This makes housing a significant force in the attainment of sustainable development and it is a driving force toward poverty alleviation in the economy. No significant development can be achieved in the absence of efficient and effective housing sector both in urban and rural settlement. It has been reported that in order to have a suitable and sustainable housing system, an effective/ functional housing sector must be in place in order to achieve the envisioned housing system that is affordable and sustainable (Abdullahi, 2015).

It is a general recognition that housing is one of the very important necessities to man and a vital national economic asset. It on the basis of sufficient housing that community stability and social inclusiveness can be achieved either at local level or national level (Omirin, 2007). Other researchers (Sanusi, 2010) noted that a significant association exists between the state of housing and people's physical and mental wellbeing. But in the case of Nigeria and many developing countries of the world, housing has remained a difficult challenge confronting man and the national economic progress. This is why Lanrewaju and Oluronke (2014) noted that the one of the reasons why efforts made by previous stakeholders (this include governments and experts in built environment) to provide required techniques to solve housing problems have not been successful.

In 1976, Niger State started to make provision for public housing for members of staff of the civil service. This includes the construction of government quarters which was supervised by the designated Ministry of the government of Niger State. It was based on this need for the provision of housing that the Niger State Housing Corporation (NSHC) was created in the year 1979. Within 31 years (1976 to 2007) not more than 3,000 housing units were built by the state government. In an attempt to overcome this ever present challenge confronting the government of Niger state, the government adopted the system of involving the private sector under the umbrella of the Public Private Partnership (PPP) in the year 2007 and this was to be an alternative means of achieving adequate housing delivery in the state. This was in response to the Human Settlement Conference on Human Settlement of June, 1996 and this key emphasis was efficient/ affordable housing by means of PPPN (NSESSH, 2007). One of the eleven goals of the UN's Sustainable Development for the year 2030 increase access to adequate, safe and affordable housing the class of people that have been termed "the world's poorest people" who live in slums.

Despite Nigeria's record of increasing urbanization coupled with being the biggest economy in Africa has experience inadequate housing to match her ever rising population due to rising number of rural-urban migration and population growth that is rising exponentially (Ahmad, 2009). This has resulted in the creation of a large number of slums and squatter settlements in urban areas. Another pressing challenge is finance because most of the desired housing systems needs can be actualized with huge amount of fund while the lowest income earners do not have the capacity to make it come to reality in need of huge resource for implementation (Sanusi, 2010). This is why it is a common statement in Nigeria that housing needs is far more than its supply and this has resulted to the fact that majority of Nigerians

do not have access to comfortable accommodation. Another known fact is that the capacity of most mortgage industries have not been properly utilized because it has confronted some shortcomings like poor citizens' hindrances to access mortgage finance in (Omirin, 2007).

The work of Warnock (2008) assessed the impact of housing market especially in providing housing finance in 12 countries like Indonesia, China and Malaysia. His findings showed that effective legal system, convenient and stable macroeconomic environment and availability of the knowledge of credit system has positively influenced mortgage finance. On the contrary, Omole (2010) further noted that unfavourable legal, regulatory and macroeconomic system adversely influence long term availability of fund for housing. Based on this, several researchers have made attempts to study the challenges confronting housing financing models in Nigeria and one of such studies is the work of Omirin (2007) who examined the access to mortgage finance by people of low income and the rapidly increasing cost of construction of houses in Nigeria. Some of these studies have influenced a shift in focus from mortgage-backed security of credit worthiness to selling (advertising) of financial instruments. The implication of this is selling of mortgage instruments which are centered on seeking sources of profit instead of focusing only on housing itself. This instead of alleviating the crisis of housing has aggravated the existing risks of financial crunch as a result of its spillover effects (Omirin, 2007). It is against this background that this research tends to examine financing models employed in development of housing in Niger State, with a view to evaluate the effect of housing financing models on the delivery of housing project to enhance availability and affordability of houses for low and middle income class.

1.2 Statement of the Research Problem

The ever rising rural-urban migration has increased the demand for housing and this demand has become greater than it supplies which as a consequence has given rise to slums, overcrowding, dilapidation of structures, flooding, presence stinking stagnant waters, poor sanitary conditions, exorbitant prices of building materials which is one of the causes of increasing cost of owning a house in Niger State. Another noted reason why many people lose interest in borrowing fund to develop housing in Niger State is high interest rate (Udoko *et.al.*, 2017). It has also been noted that single digit interest specified by the National Housing Fund (NHF) has made many financial institutions unwilling to disburse loans for the development of housing due to the fact that it reduces their profit margin (Udoko *et.al.*, 2017). Some of the parameter that makes someone eligible to access mortgage finance according to Omole (2010) does not favour low-income populace of Nigeria and some of these include:

- i. 20-30% contribution in terms of equity
- ii. Setting of the maximum tenure between ten to fifteen years
- iii. Unrealistic interest rate set at as much as 22%.

By careful observation according to Omole (2010), the nature of housing finance requires continues saving by means of personal finance and this makes it almost impossible to be actualized by low income earners because it is capital intensive. This has placed the government of Niger in as state of difficulty in the choice of appropriate financial model to be adopted in order to achieve efficient housing delivery and base on this, the state has adopted the PPP approach where Developers involve themselves in designing, and building and then transfer the completed housing units to the government of Niger State. The Developer will source for the money and financing the construction of the houses while the Government will provide the land and infrastructures. After the completion of the project the Government will pay 30% of the total construction cost and the remain 70% will be pay

through monthly deduction from the beneficiaries of the houses but the Developers failed due to lack of funding, technical knowledge of PPP and financial models adopted. Some housing estate that where completed was done by State Government (Niger State Evolving Strategy for Sustainable Housing NSESSH, 2007).

1.3 Research Questions

Based on the stated problems, the following research questions will be answered:

- i. What models in the financing of housing are efficient in order to deliver housing project that as both affordable and sustainable?
- ii. What are the factors influencing the choice of housing financing on successful delivery of housing project?
- iii. What are the challenges associated with the identified financing models?
- iv. What are the financing models for sustainable housing development in Niger State?

1.4 Aim and Objectives

1.4.1 Aim

The study aim is to evaluate the effect of housing financing models on the delivery of housing project with a view to enhancing availability and affordability of housing for low and middle income class.

1.4.2 Objective

- v. To identify and ascertain the efficient housing financing models suitable to deliver a housing project that can be afforded and sustained.

- vi. To identify and establish the factors influencing what kind of housing financing model chosen to effectively deliver affordable and sustained housing project.
- vii. To identify and establish the challenges associated with the financing models.
- viii. To design a framework to implement a financing model for sustainable housing development in Niger State

1.5 Scope of the Study

This study focuses on housing projects executed between (2007 to 2019) in Niger State. The Ministry, Parastatals and Developers involved in housing projects in Niger State are also considered.

1.6 Delimitation of the Study

This study is limited to housing projects in Niger State urban centres; Minna, Bida, Suleja and Kontogora. These are the places where housing projects are presently executed in Niger State

1.7 Justification of the Study

The study is necessary in order to scale up the scope of housing delivery for civil servants within the range of low and medium income level in Niger State and this will enhance their chances of owning houses based on owner-occupier condition (Niger State Gateway to Land and Housing, 2007). This study analyzed suitable models needed to provide housing for people of low income. There are various kinds of strategies employed in Nigeria to improve the system of housing provision and this was aimed at providing affordable and sustainable housing for people of low income but majority of these strategies have not been effective. This may be associated with dearth of funds to finance housing units for low-income earners and their inability to access housing finance (Sanusi, 2010). This study shall

be found useful when formulating policy for housing in Niger State by identifying the main challenges in housing finance. It shall also be useful in the provision of background information stakeholders in housing sector in Nigeria and Niger State in particular especially for adequate understanding of the kinds and features of loans in housing finance available in the market (Abdullahi, 2015). Hence the interface model (which is relational in nature) will enable users to contribute in the financing of housing project. This in essence help to reduce the pressure the government is facing fiscal allocation in the national budget when it comes to constructing houses that are affordable (Akadiri, 2011). There is no way that the provision of affordable housing can be ignored in Niger state if the government wants to meet up with its task to the citizens of the state and the fast rising population of Nigeria has also necessitated the need for the provision of adequate housing strategies to meet the demands of housing in Nigeria. Hence the need for effective house strategy is important in order to address housing challenges in urban areas of Niger state (Adesoji, 2011).

It is expected that the findings of this study would inform the state governments and the developers on the best financing model that will provide adequate funding for the provision of sustainable housing to the state civil servants. The findings will also be relevant to stakeholder in the field of housing and shall show that housing funds is not only available based on the role of demand and supply but are also controlled by other factors like government policies, socio-economic characteristic of the state and other financial factors (Adesoji, 2011). It shall also be useful to individual when making decisions regarding housing finance especially in the examination of various means that can be employed to fund housing development in Niger state and Nigeria at large.

. 1.8 The Study Area

Niger State was created on 3 February, 1976 from the defunct North - Western state. However, the state came into being on 1st April, 1976. At the inception of the state, it was made up of only eight political divisions called Local Government Area (L.G.As). Presently the state is made up of Twenty-five L.G.As which includes two L.G.As (Agwara and Borgu) merged to Niger State from Kwara state sometimes in 1991. Since the creation of the state in 1976, it handles the financial management of its own. The parastatals under the state and local government financial management are entirely the state responsibility. The state does have her annual budget estimate, that is the account expected to be spent for a particular year and subdivided, that is allocated to various ministries, to enable them carry out their responsibility in the state (Abdullahi, 2015). Niger State currently covers a land area of about 76,469,903 square kilometers out of which 85% is arable. The 2006 population census final result put the population of the state at 3,950,249. Farming is the major occupation of the inhabitants of Niger State of about 85% of the active labour force are engaged in farming with the remaining 15% engaging in other vocations (Abdullahi, 2015).

The major ethnic groups in the state are Nupe, Gwari and Hausa. The state also has numerous settlers from other parts of the nation. The state (also has numerous) settlers bordered to the north by Zamfara state, North West by Kebbi state, South by Kogi, South west by Kwara North - east by Kaduna state, and South - east by Federal Capital Territory. The state also has a common boundary with the Republic of Benin. Niger state falls within latitude 8° to 11°30' N and longitude 03°30' E to 07°40' E (Abdullahi, 2015). About 13 different types of mineral resources e.g. Gold, Iron Kaolin, Tale, marbles e.t.c are available in the state. Niger state is blessed with three (3) major Hydro-Electric power stations of the nation {Kainji,

Jebba and Shiroro), hence Niger State is being referred to as the power state. The state has 8 State owned tertiary institutions, eleven (11) Federal Government Education with about 2,275 kilometers length of roads across the state. Niger State must cherish asset in it fertile land which is suitable for the cultivation of most Nigerians staple food crops and cash crops (Abdullahi, 2015).

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Sustainable Housing Development

There exists a relationship between sustainable housing and sustainable growth especially when it comes to the development of urban areas around the world. The concept of sustainable housing has to do with developing and applying policies and programmes in the delivery of safe, secured, sustained and affordable housing units to each person in the society. Sustainable housing development (SHD) involves the concepts of social, environment and economic factors that are sustainable in order to provide housing to everybody with little or no impact on the lives and environment of generation to come (Ayedun and Aluwatobi, 2011). The concept of sustainable housing development cuts across various disciplines like Urban and Regional Planning, construction management (Ibem,2010) sustainable building materials and waste valorization (Bashir *et al.*, 2013; Nyakumu, 2015a), green buildings and smart grids (Otegbulu and Adewunmi, 2009) as well as sustainable energy technologies It can further be noted that SHD also includes every method, system and stakeholders that are involved when planning, constructing and managing cities (Oyedepo, 2012a).

2.2 Current Status of Sustainable Housing Development in Nigeria

Based on the increasing population of Nigeria which is in excess of 170 million people, it has become imperative to seek sustainable solutions to several socioeconomic problems confronting national development. Some of these socioeconomic challenges include corruption, widespread poverty and inadequate infrastructure (Oyedepo,2012b). One of the common areas where these challenges are easily observed is poor housing and the effects are seen in poor health, water and sanitary conditions of the people. It is common observations in Nigeria that people live in slums. Slum in this context according to (Oyedepo, 2012b). is an environment (settlements) whose dwellers categorized as living with insufficient housing

and according to (Rowley and Ong, 2012) it is characterized with poor access to basic services. Slums can also be described as a group of household showing poor access to durable buildings, safe drinking water, efficient sanitary system and an over populated space for living (Nyakumu, 2015b). It has also been reported that at global level, there is a direct relationship between absence of sustainable housing systems and rising number of slums. It is also based on this that the UN Habitat noted that the number of slums are rising in geometric order and having about two billion people which is equivalent to 25% of the population of the world living in shanty towns (Florida ,2014).

2.3 Housing Financing Models for Sustainable Development

There are a number of models in literature that be useful to facilitate the availability of fund to the providers of housing in order to increase the number of houses that affordable to people. These include:

2.3.1 Housing loan/bond aggregators

One of the suggested ways to attract private sector into investing in affordable housing is means of Housing Loan or bond aggregators model. By bond aggregators model, organizations/ individuals involved in the provision of affordable housing sum up their debt financing requirement and this helps them to have access to fund an organized wholesale market at convenient prices and also having extended tenure and this is often better than when they apply individually (Adewuyi and Odesola, 2016). For housing bond aggregator to be established, specialist finance intermediaries are often required. These intermediaries liaise with those involved in the provision affordable housing so as to ascertain how much debt

they intend to raise. They also source for the funds as a whole in wholesaler markets through the issue of bonds to potential investors. Funds generated can then be given as loans to the appropriate organization (in this context, housing providers) and interest payments can be scheduled (Rowley and Ong, 2012).

2.3.2 Housing trusts

Another model that has been proposed to surmount the present challenges confronting affordable housing is the Housing Trusts. It addresses challenges of scale and geographic diversity in terms of the needed assets in order to attract investment at a higher scale so that affordable housing can be provided. Housing trust creates an avenue for states and territories to make anew stock of public housing in order to strengthen the entire affordable housing units. Another usefulness of housing trust is that it creates an avenue for the development of sites that are at that point unutilized by public (Rowley and Ong, 2012).

2.3.3 Housing co-operatives

Housing Co-operative is a kind of association that are formed in order to provide housing products for the benefit of its members and this association is owned and managed by members of the association. Most of the housing cooperatives are set up in such a way every member participates financially for their common goals to be achieved and in most cases, it is not centered on making of profit (Rowley and Ong, 2012). One of the common features of housing co-operative is blending availability of affordable housing with members' financial participation and in other cases, shared equity.

2.3.4 Impact investing models including social impact bonds

In Impact Investment models (IIM), new means a sought to address expenditure by the government with regards to social services. This is a newly introduced form of fund for investment whose purpose is to address difficult social problems by bringing together private investors to support new improvements related to sustainable delivery of social services which can minimize government expenditures. It creates an avenue to put together capital and skills from both private and public sector and can also include nonprofit organization in order to deliver better services to the community. Some of the characteristics features of IIM are holistic measurement, having value for money, making sure that services result in social outcomes and sharing of risk and returns appropriately (Rowley and Ong 2012). In IIM, investors are allowed to seek avenues that can earn them not only social returns but also financial benefits by means of several models like social impact bonds, impact investment funds and social enterprises.

2.3.5 Down payment grant

A number of designs are associated with down payment grant and these may include grants and loans. If it has to do with loans, repayment of the capital is required so that it can be reused for other borrowers in need of loans (Assaf, *et al.*, 2010). These kinds of loans are amortizing and are designed in form of “silent” junior liens ready for refinancing. These loans, being small, are normally monitored through several years and mostly lose value as a result of inflation. It can also be noted that it costs so much to manage these loans when compared to the loan itself. It can further be noted that subsidies presented as junior liens hinders owners from having access to more loans. Instead of loans, special aid programmes come in form of down payment grants characterized with administrative efficiency but are restricted to one-time benefit (Ergungor, 2010).

2.3.6 Mortgage payment subsidies

Another kind of housing finance model is the mortgage payment subsidies which is characterized by lessened interest rate and reduced periodic charges that individuals or organization pay when they take loans for housing projects. Only housing developers with insufficient starting capital are allowed to have access to mortgage payment subsidies in form of housing loans (Calomiris *et al.*, 1994; Hui *et al.*, 2009; Ergungor , 2010). This can also include proven individuals who could not have access to private finance except this kind of assistance Collins (2013). This fund is usually raised as mortgage revenue bonds and investors take advantage of this by buying them for the financing of housing at interest rate lower than market interest.

2.3.7 Mortgage interest deduction

One of the ways that low-income earners have access to purchase housing properties is by means of mortgage interest deduction. It is a kind of subsidy than helps people to own houses whereby public programme give grants to the government of province, NGOs and private property developers so that houses can be developed for low income households to purchase. These kinds of programmes directly affect credit markets by the supply of affordable housing units for low income earners in the society (Collins, 2013).

2.3.8 Credit enhancement

This kind of financing model does not offer finance directly for the purpose of low-cost housing, instead it helps to break some barriers in the course of seeking loan/ fund for the

delivery of low-cost housing. Included in this are more guarantees, collateral and insurance in order to enhance access to fund for the financing of a home. This makes someone or the entity to be more credit worthy in such a way some identified risk are reduced or eliminated (Jaffee and Quigley, 2009). Some typical examples of these kinds of credit enhancement are loan guarantees and mortgage insurance. When these enhancements are in place, borrowing cost is reduced and in some perspectives, it appears as subsidies to someone buying (Jaffee and Quigley, 2009).

2.3.9 Bundled mortgage finance system

In bundled mortgage finance system, one player can play many roles in the process of the delivery of affordable housing. In this mortgage process, one actor can act as the originator of loan, provision of lending services, manages risk and similar roles as applicable in mortgage financing. Playing the sole investor role, his deposit is his main source of fund in mortgage finance system. He establishes close and lasting relationship with his clients` and with this he has opportunity to be involved in other transaction with regards to financial products. This model of mortgage financing however is considered by liquidity and interest rates risks, as borrowers often expect long-term funding, but depository funds are traditionally short-term. The single-entity lender in this system makes effectiveness and expertise, which are valid in any credit system, very difficult to achieve (CBN, 2011).

2.3.10 Unbundled mortgage finance system

Unlike the bundled type of mortgage financing, different players perform various functions in executing the mortgage process. In this case, loan seekers pass through mortgage bankers

in order to seek for funds made available by investors and depositors and secondary market. Each and every loan requested is made to pass through the due process of risk management, underwriting, packaging and marketing. In this process, cost is minimized and market discipline is enhanced. One shortcoming associated with this is bureaucratic delay and the consequence is increased cost (CBN, 2011).

2.3.11 Depository based mortgage finance

This kind of mortgage financing involves the involvement of deposit money banks in the mortgage lending. The first time this kind of mortgage financing became conspicuous in Nigeria was in 2005 when there was recapitalization depository institution. This made banks that have extra liquidity to give consideration to start mortgage desk in many of her branches nationwide. Some even expanded their scope of operation to include mortgage banking in their investment portfolio. Many of these FIs were then confronting with mismatch in tenure and interest offered to loan seekers, which contrary to the case of depository institutions where loan are offered at shorter duration, mortgage loans are conventionally in long-termed that can be as long as 30 years to reach maturity (CBN, 2011).

2.3.12 Secondary market based mortgage finance system

Secondary market-based mortgage finance system is considered to be most suitable finance system when it has to do with long-termed liquidity needs in housing market. It is so coordinated in a way that includes initiation of loan, warehousing, securitization and sales to investors. Funds obtained as a result of mortgage sales are redirected to the system so that more mortgages can be created; by this more housing stock are made available in the economy. This system starts as the borrower decides to seek mortgage loan of which he goes to the mortgage institution (referred to as the primary market). This institution (primary

market) determines if the loan is affordable and this depends on what the borrower discloses. This is based on the standard set by the primary market and the affordability of the borrowers is determined, loan can then be approved (Iyaiya, *et al.*, 2012).

2.3.13 PPP models

If value for money is to be guaranteed, the comparative pros and cons of each Public Private Partnership scheme must be assessed Obozuwa (2011). The approach of the Public Private Partnership appears in various forms. Abdullahi (2015) identified five of them which include:

- i. service contracts,
- ii. leasing,
- iii. joint ventures,
- iv. enterprises and
- v. privatization.

In the view of Eziyi (2010), scheme for housing delivery by means of public private partnership involves site and services and turnkey schemes. Site and services in this context means the apportioning of plots whereas turnkey involves the entire housing delivery scheme by government agencies.

2.4 Factors Influencing The choice of Housing Financing Models

2.4.1 Appropriate collaterals

Findings showed that land with title, shares, fixed deposits, having properties in cities and government bonds are collaterals often considered in the approval of loans by Financial

Institutions (Ojo 2005; Ojo and Ighalo, 2008; Kuma, 2015). The issue of land title is a strong force in the determination of whose housing loan request is approved by FIs in Nigeria. It is on the ground that Onyike (2009a) have maintained that non-availability of collaterals in a principal hindrance to loan affordability. Hence, a household can only have access to loan if and only if he/ she has a collateral. Several cases exist where legal obstacles hinder residential properties owners to use them as collateral for loan requests (Onuoha, 2011; Kuma, 2015). It can also be mentioned that it is costly, time taking, tasking and challenging in processing the procurement of registered title land under the dispensation of the land use Act of 1978.

2.4.2 Access and affordability criteria

There is always reluctance among prospective housing development loan seekers from housing finance institutions. This is because the strict conditions surrounding access to these loans. Securing loan to develop housing in Nigeria depends on the income level of loan seekers, how secured is the income of borrowers especially when it has to do with stability of employment and his/ her business ((Ojo, 2005). Other conditions include how payment shall be made, fixed annuity, equity contribution and the cost of housing projects to be undertaken by the borrowers (Onyike, 2009a; Onyike, 2007). If somebody's income is not sufficient to meet his/ her immediate needs like food, it is difficult for him/ her to cope with the strict lending conditions stipulated by the financial institutions and the lowest income earners do not even apply for loans for housing development in Nigeria (Ahmad, 2009; Onuoha, 2011).

2.4.3 Repayment scheme and criteria

Some factors affect the willingness of potential home owners to seek loans for housing projects and one of such factors is criteria for repayment of loans. When applicants do not consent to specified period of repayment of loans, such applications are usually rejected. When the tendency to secure loans for housing finance is dependent on duration of repayment and the chance is higher with shorter period of repayment as reported by Ojo (2005) and Onuoha (2011).

2.4 4. Formal rules of access

Loan applications have been rejected or suspended by Financial Institutions (FIs) because of formal rules access (Onuoha, 2011). Ojo (2007) further noted that some FIs also add more conditions to rules of access before loans are approved and some of these are:

- i. Duration for which applicants have operated account with the Financial Institution
- ii. Approved building plan
- iii. Proof to show that the property has been insured
- iv. Evidence of tax clearance certificate and
- v. Bank service charge.

These conditions have prevented genuine applicants access to obtain loans build their personal houses because of the short duration of time they have operated account with the given Financial Institution (Ojo, 2007; Onuoha, 2011). Their reason is that they have more confidence in customers who have operated account with them over a long period of time. With regards to building plans cum tax clearance, prospective borrowers are required to present and deposit the approved plan of the building in question as well as evidence of 3-5 years of clearance as a prerequisite for housing loan approval (Ojo, 2005).

2.4.5 Type of loan provided

The nature and kind of loan the FIs provides determine whether potential housing loan applicants can apply or not. Majority of FIs provide short, medium and long term loans to develop real estate but in most cases, home owners prefer to take advantage of conditions surrounding long term housing finance loans to accomplish the objectives (Okey, *et al.*, 2019).

2.4.6 Type of project financed

Potential housing loan seekers often give consideration to the kind of project that FIs finance before applications are made with regards to housing loans. It is a complex task to develop and construct houses and this is in need of skills, resources and serious financial commitment. For this reason, some FIs scarcely approve loans for all classes of housing projects. Findings according to Okey *et al.* (2019) have also shown that prospective loan seekers may desire loans for other kinds of projects apart from housing development and these include:

- i. Seeking loan for outright purchase;
- ii. Refurbishing or repairing of houses and
- iii. Improvement purposes.

The chance of accessing loans by potential loan seekers depends on the kind of projects financed by a given FI.

2.4.7 Location factors

Reports have shown that site and site related factors in one of the factors cannot be neglected when it comes to accessing housing finance. The location of a given property, road access to place of employment, readiness of utilities and means of transportation and even adherence

to the territorial land use act have the tendency to influence the chance of obtaining housing loans by prospective borrowers (Okey, *et al.*, 2019). Many financial institutions often show reluctance in financing projects in locations that they consider not to add economic the owners of properties. In the view of Ojo (2005), this is the reason why bank are reluctant to finance loan request in locations not within the urban setting. Their reason may not be far from the difference in the values of two identical properties; one located in urban area and the other in rural settlement.

2.5 Challenges of Accessing Housing Finance in Nigeria

The problem of affordability is a common challenge facing housing sector in Nigeria. It is usually the high income group of the population that are always targeted in the delivery of housing and this is because it is believed that this group has the capacity to either pay cash or access mortgage loans from financial institutions. When the total size of low-income earners is considered, the developers and financiers can enjoy growth opportunity associated with their sheer size if there is enough innovation (Simon, 2009). The indices associated with affordability when it has to do with mortgage instrument pose as a hindrance to people of low income in Nigeria. Some of these parameters according to Roland (2010) include:

- i. Twenty to thirty percent contribution in terms of equity.
- ii. Highest tenures between ten and fifteen years and
- iii. High interest rate in the order of 22%

It is based on this that one can usefully explore the development of non-mortgage housing finance products, like the housing microfinance. Other challenges confronting the growth of housing markets in Nigeria include:

2.5.1 Macroeconomic challenges

Nigeria is characterized with double digits' inflation. But a stable economy in which decision can be taken without anxiety is preferred by people who invest, borrow or lend. It is important to keep other macroeconomic parameters stable if there must be improvement and vibrancy in mortgage market (Fin mark Trust, 2009).

2.5.2 Policy and Regulatory Challenges

This is another challenge confronting the growth of housing market. This appear in various forms and include:

Land Use Act: The Act since 1978 has been considered to be the reason why land have not been made available for housing in Nigeria and this can be linked to the lengthen period of bureaucracy involved in obtaining certificate of occupancy from the government. Apart from this, this Act does not guarantee security in terms of title and this is expensive. It is also a common knowledge that it is difficult to access landed properties that are already titled and registered.

Taxes, stamp duties and fees: Nigeria is characterized with high burdened tax when developing housing. The collection of Value Added Tax (VAT) at the different stage of building process is contributing up to 30% in the total sum of fund expended in the development of housing. This does not include the fees paid for title and stamp duties. Collectively, it puts the price of the housing units beyond the reach of people of low income in Nigeria (Fin mark Trust, 2009).

Property registration: it is costly and slow when properties are being registered in Nigeria. Despite this slowness is property registration, reports have shown that between 2008 and 2010, there is a remarkable improvement on time spent to obtain governor's consent from

274 days to 80 respectively where time spent to obtain governor's consent. Findings according to Eni and Danson (2009) showed that there was further improvement in duration of time for the consent of state governor to be processed.

2.5.3 Financial sector challenges

Poor capital base: a large proportion of primary lenders are confronted with inadequate capital base and this weakens their ability to meet the demand of the market.

Funding challenges: One of the features of Nigerian market is high interest rate and this reflects the nature of loan tenures; mainly short term of which is three monthly at most. This causes fund challenge in housing market as a consequence, housing affordability. It is based on this that a gap exist between what is costs to construct a house and what end users can afford for housing (Fin mark Trust ,2009).

Unavailability of secondary market: one of the challenges confronting housing financial sector is the absence of effective secondary market that is associated with capital markets and an organized investor. Consequently, Primary Mortgage Institutions are heavily burdened with carrying the load of mortgage loans to point of maturity. Up till date, mortgage loans still remain unpaid in the records of Primary Mortgage Institutions even with the best available tenures of loan. This, according to (Fin mark Trust, 2009), is the reason why Primary Mortgage institutions are limited in ability to create more loans.

2.5.4 Housing sector challenges

Nigerian housing sector is confronted with several challenges which include:

- i. **High cost of building materials:** up to 60% of materials used for building in the Nigerian housing sectors are imported and this contributes to the rising cost of housing.

- ii. **Infrastructure:** the responsibilities of the government in terms of infrastructural development have been neglected by the government and this has resulted in percentage increase in the cost of housing. This has also affected the availability of affordable housing in Nigeria. Most developers of residential estate now provide independent/ alternative power supply, water treatment plants, plants for sewage treatment and access roads (Fin mark Trust ,2009).

2.6 Affordable housing

2.8.1 Definition of affordable housing

By definition, affordable house can be said to be housing the minimize or completely obliterate stresses associated with owning a house especially among low-income earners, individuals and families that are disadvantaged so that they can be able to meet other vital basic needs in a manner that is sustainable. In this way they will be able to balance the need for housing in a least appropriate standard (Ojoko and Ojoko, 2016).

2.6.2 Types of affordable housing

There are three types of affordable housing:

2.8.2.1 Sub-market private rental: it is a kind of housing made available by private market to be accessed by low and middle income families at reduced rent when compared to market rate. To be eligible, certain criteria have to be met with a governed by the discretion of service provider.

2.6.2.2 Community housing: these are rental houses that are both owned and managed by organizations that non-profit oriented and are allotted to households of low income in compliance with certain criteria and policies.

2.6.2.3 Public housing: the ownership and management of these kinds of rental housing is by the either state or government agencies. They are normally allotted to the very low and low income earners in compliance with some stated criteria. It is in the jurisdiction of the state or controlling agencies to make this allocations and preferences are usually given to people of higher needs but the type of preference given depends on the agencies involved (Ojoko and Ojoko, 2016). Based on this, many low-income or less privileged household do not always have access to this kind of housing because some of them are not able to meet the cost of housing while also trying to meet other basic necessities. It has also been reported by Wood *et al.* (2014) that most low income earners resort to renting from private markets characterized with high price and less secured tenure; the result of which is housing stress.

2. 7. Public Private-Partnership (PPP) in Niger State

The introduction of PPP by the government Niger State is to enhance large scale housing growth. The main purposes are:

- i. Help low and medium earners to own houses based on owner-occupier.
- ii. To make use of the technical and managerial skills associated with the private sector in the development of real estate in order to attain the given aim of the government (NSP&OGPPP, 2007). This effort is geared towards the construction of 5,000 housing units in the whole of Niger State by the adoption of Public Private-Partnership (Niger State Development Action Plan, 2007).

2.8 Sources of Housing Finance

According to Abdullahi (2015), sources of housing finance can be private or public.

2.8.1 Private sector housing finance

This includes all types of private financing initiated by individuals and companies with the exception of government organizations. They take different forms and originates from different sources within the private sector. Some of these sources are:

- Fund raised from contributions and personal savings.
- Funds obtained as gift and donations from friends and relatives.
- Capital realized through investments
- Money obtained as a result of lotteries and raffles in most cases are donations from non-government organizations or donor agencies.

Funds for the financing of housing construction may be realized from any of or a combination of some of these sources. It is important to noted that fund realized from some of these sources have degenerated with years as a result of unfavourable economic conditions of Nigeria. It is based on this that most civil servants have continued to seek housing finance from public sources (Madawaki, 2011).

2.8.2 Public sector housing finance

The government is usually the source of public housing finance. The first recorded attempt with regards to housing finance took place in 1956 and this was undertaken by the Colonial Development Corporation (CDC). This was in collaboration with the Central government of Nigeria and the government of eastern region. This resulted in the creation of the Nigeria Building Society (NBS) whose aim was geared towards lending out finance to own a house. There was no record of large beneficiaries among the people due to its credit term, insufficient fund and its orientation. Despite the fact that there was significant success among

the populace, the concept of Housing Corporation was introduced. Some of the functions of housing corporation according to Abdullahi (2015) include:

- i. Acquisition, management and development of housing estate.
- ii. Making loans available to qualified persons in order to build houses for themselves.

2.8.2.1 The Federal Mortgage Bank of Nigeria (FMBN)

The Federal Mortgage Bank came into existence just by the change of the Nigerian Building Society (NBS) in 1977. It was later observed in 1979 that the Federal Mortgage Bank was not as effective as expected since only some middle and high income earners had access to their loans in Nigeria (NHP, 1991). It became necessary to the bank to be operated as a means of enhancing long-term loan mobilization, increasing lending volume and also improvement of services related to mortgage lending to all strata of Nigerians. By this, the bank began to manage and administer savings contributions as a scheme which is now referred to as the National Housing Fund whose establishment was based on Act 3 of 1992.

2.8.2.2 National Housing Fund (NHF)

The National Housing Fund (NHF) assumed the responsibilities of the National Provident Fund when the NHF Decree No.3 was enacted in 1992 (Madawaki, 2011). The decree made it compulsory that a contribution be made in order to a long term fund sole for the purpose of raising enough finance to finance housing credit. By 1991, the fund stood as the component of finance for the newly established National Housing Policy and by this the National Housing Fund started to pool long term financial resource together from the salaries of Nigerian workers; these include members of staff of banks, the government, insurance companies. The purpose of this fund was to serve as soft loans to contributor for the fund.

The FMB was given the mandate to enhance the provision of modern houses that are affordable to citizens of Nigeria. This mandate was not limited to the encouragement of increasing number of financial institutions involved in housing but to also enhance the mobilization of long term funds so that loans can be available to people in need of them.

Other purpose of the establishment of the NHF was to:

- i. Encourage more housing finance institution to be formed
- ii. Encourage the availability of long term fund
- iii. Ensure that there is always loans for Nigerian to access for the sole of aim of building;
- iv. Procure and improve residential houses
- v. Provide incentives necessary to help capital markets towards the investment in property development;
- vi. Inspire the growth of special programmes that will help financing of housing development to be efficient and
- vii. Provide loans of long duration for mortgage institutions to access so that they be lent to contributors.

The purpose for the establishment of the NHF was also to shield the system from instabilities associated with the system whereby it depended on the intervention of the government. This was to make the NHF consistent with practices similar to operation of countries where this has been in operation (FMBN, 2010).

2.8.2.3 Primary Mortgage Institution (PMI)

The declaration Decree No. 53 of Mortgage Institutions in 1989 created an outline used to establish and operate Primary Mortgage Institution now practiced by entrepreneurs. By this, the Federal Mortgage Bank of Nigeria was made the coordinating and highest institution

whose duties include regulation of primary mortgage institutions and issuing of license to Primary Mortgage Institutions as 2nd tier housing institution for housing finance. These second tier housing institutions under the decree 53 were given the mandate to mobilize savings from the public and this savings can be granted as housing loans to individuals while the roles of the FMBN is to put together capital funds for use to the Primary Mortgage Institutions. It was expected that the PMIs should help private sector to participate in the financing of housing (FMBN, 2010) but revealed that despite 150 application for the M. I. Wushishi Housing Estate, no beneficiary has been recorded with regard to any loan and all these are participants of the ASO Saving in 2012.

Akeju (2007) has noted that in most developing nations have taken for granted housing that is provided by means of the creation of mortgages and this has been a serious challenge to be overcome in many developing nations and this is most with the sub-Sahara region. It is sad to note that since independence (about 61 years), the development of an active mortgage market and the provision of adequate/ affordable housing have continued to be by means of traditional purchasing of land and then building over many years and this could take the whole life time of a given person. A common occurrence in this kind of setting is either the individual's building project is abandoned or he/ she spends his/ her whole life savings in order to accomplish it.

In an attempt to make improvement on housing finance in the state, the government of Niger State revived one of the two PMIs (which are Niger House Building Society and the Merry Building Society). This was geared towards providing access to the National Housing Fund

(NHF). This fund was mobilized in form of long term fun by the government from the NHF and also sought for partners with good relationship with viable PMIs for funding.

2.9 Housing development in Niger State

The provision of public housing by the government of Niger state commenced in 1976 when the state was created. It started in form of government quarters which was overseen by the Ministry of Works, Transport and Housing. According to the Niger State Strategy for Sustainable Housing (2007), the Ministry later evolved into Niger State Housing Corporation in 1979 which was assigned to provide about 3,000 housing units on or before 2007. What then followed was the challenge of the development of sustainable and efficient housing systems that every income earner can access with or without subsidy from the part of the government. This now created the development of the public private partnership (Niger State Gateway to Land and housing (NSGL and H, 2007).

The profile for housing demand has showed that housing deficit is at 8 people per household and housing units in the order of 12 million. The implication of this is that Niger state is in need of about 30,000 housing units. But the state has only about 3,000 units which is far from meeting housing need of the people of Niger state (NSESSH, 2007). There comes the need to reposition the mechanism of housing provision in Niger state in tendom with the revised National Housing Policy of 2004 in which it was emphasized that affordable and efficient mass provision of should be implemented through public private partnership (PPP). This was a mandate of the Habitat Agenda that was adopted during the 2nd United Nations conference on human settlement in 1996 (NSSDP, 2007). It was also noted by Akeju (2007) that filling

the housing gap cannot be accomplished by the government alone and must take advantage of the resources available within the private sector for this gap to be filled.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Research Design

This research made use of quantitative research method. This was due to the fact that this research involved testing of hypothesis or theories that involve variables that are measured with figures and then made use of statistical techniques to determine if the theories or hypotheses hold or not (Ofide, 2014). The quantitative method was used in this research to collect data through questionnaire survey. The population of the study is obtained from the Professional bodies in Niger State, Financial Institutions and Niger State Housing corporation. From the population obtained Quantity surveyors are 110, Architect are 26, Builders are 72, Financial institution are 44 and Developers are 45 respectively. This information was obtained in May, 2020 from the data base of this professional bodies, Financial Institution and Housing corporation where the developers patronize to provide

housing for Niger State. The 200 questionnaire was distributed to enable the researcher to give the questionnaire to competent respondents that will give correct information.

3.2 Data Collection

In this study, both primary and secondary data were used. This study used a questionnaire as Primary tool of data collection and it was subdivided into two (2) sections that discussed the general information of the respondents and the specific objectives of the study. Data were distributed and collected hand to hand to the respondents.

3.2.1 Questionnaires Design

The closed ended questionnaire is used for this study. The questionnaire has two sections, A and B. Section. Section A provided information on respondent's profile such as educational qualification, profession and year of experience. Section B focused on the objectives. The quantitative questionnaire was developed and administered to housing developers and construction professionals who practice in Niger State. Two hundred (200) questionnaires were distributed, twenty (26) was given to Architect, forty-five (45) to quantity surveyor, forty-three (43) each to Builders, Developers, and Financial institutions and one hundred and fifty (150) retrieved and found suitable for the analysis.

3.3 Sample Size

Sample size is the proportion of the population to be served with the research instrument. Two hundred (200) questionnaires are distributed among the professionals, Developers in the construction industry and the stake holders. One hundred and fifty (150) questionnaire responsibly were retrieved. The adoption of selection is based on information obtained in

Table 3.1 which shows that the population of Architect in Niger State is 26, Quantity

Professionals	Population
Architect	26
Quantity Surveyor	110
Builder	72
Financial Institutions	44
Developers	45
Total	297

Surveyors 110, Builder 72, Financial institutions 44 and Developers 45 respectively.

Table 3. 1, Sample Population

Source: Niger state NIA, NIQS, NIOB, NSHC AND FCMB

3.4 Sample Technique

This is the process of getting information on a whole population and studies some particular aspect as the nature of population is heterogeneous, from probability sampling technique. A randomly selected technique was adopted in selection of sample size. The reason for choice of random sampling technique is that, it improves the potential for units to be more evenly spread over the population.

3.6 Method of Data Analysis

Since this study was designed to conform to nominal scale, responses from respondents were rated according to Likert scale. Hence inferential and descriptive statistics were adopted in this work for the enhancement of presentation, validity and reliability of the result. In the

analysis of the demographic and bio-data of respondents, descriptive statistics was used and these was presented in tables and charts. Inferential statistics was used in the Factor Analysis. This is the combination of statistical package for social sciences (SPSS) and Microsoft Excel in analysis and presentations.

3.6.1 Descriptive Statistics Analysis

This makes use of percentage, frequency and means score in the presentation of findings. They were employed to analyze data obtained from the questionnaires some of which are demographic information of respondents. The results were presented as tables and charts.

3.6.1.1 Mean Scores

The determination of mean scores for every variable was based on the Likert scale that was adopted in the collection of data for the establishment of the level of significance in the construct. Mean scores involve the allocation of points to how respondents rate variables. This has been utilized widely by researchers in variables identical to this as in the case of Assaf, *et al.* (2010). The calculation of mean score based on SPSS is as portrayed by the formular given as:

$$Mean\ score = \frac{5n_5+4n_4+3n_3+2n_2+1n_1}{n_5+n_4+n_3+n_2+n_1} \quad (3.1)$$

Where; n_1 = total number of respondents who strongly disagree

n_2 = total number of respondents who disagree

n_3 = total number of respondents that are neutral to questions asked

n_4 = sum of all respondents who agreed

n_5 = sum of all respondents whose answer is “strongly agree”

3.6.2 Factor Analysis (FA)

Several related methods are involved in factor analysis (FA). FA is employed for the reduction of numerous set of variables so that small sets of factors are selected (Pallant, 2011). Some literatures most of the time interchange factor analysis with Principal Component Analysis. The similarity in them is that they try to produce fewer linear combinations of the original variables. These fewer linear combinations still show variation in correlation pattern. What motivates researchers in the use of factor analysis is that it helps them to search smaller numbers of hidden factors which do not correlate with others. These show the inter-correlations of response variable such that by slightly removing the hidden factors from response variables, no correlations will remain between a given set of response variables, (Pallant, 2011)

Factor Analysis is use in the analysis of the factors influencing the choice of housing financing models. The Factor analysis is use in other to reduce the number of variables from 19 to a smaller unit by grouping then and give a major name to each group (Pallant, 2011).

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

This chapter is set to present analysis of information's composed from questionnaires by the use of statistical method. The outcome of the analysis is display, discussed and inferences were made in their meaning in relation to this research according to aim and objectives of this study.

4.1 Distribution of Questionnaire

A total of 200 numbers of questionnaires were distributed at the various locations. Twenty numbers were considered invalid and 30 numbers were not returned while a total of 150 which is 75% of the population were used for the analysis.

Table 4.1, Questionnaire distribution

Method of distributing questionnaire	Quantity of questionnaire administered	Quantity of questionnaire not returned back	Number of invalid responses from respondents	Quantity used for analysis	Fraction (%) used for analysis
Hand delivered	200	30	20	150	75

Source: Researcher's fieldwork (2020)

4.2 General Information of Respondents

The respondents' biographic data of interest are: Positions, Type of organization, Education qualification, professional affiliations, Years of experience, and Number of projects handle

From Table 4.2 it can be observed that 21.3% of respondent were senior Q/S, 14.7% were site manager, 10.7% were project managers and 53.3% were others specified.

The analysis of the type of organisation revealed that 31.3% were in public organisation, 18.7% were in private organisation, 15.3% were in financial institution, 26.0% were developers and 8.7% were cost consultant Q/S. The result shows that public organisation has the highest percentage of 31.3% of respondents. The respondent education qualification indicates that out of 150 respondents, 10% were OND, 20.7% were HND, 36% were B.Sc/B.Tech, 27.3% Msc/M.Tech/PhD and 6% were others specified. The result revealed that the majority of respondents were B.sc/B.Tech. The analysis shows that about 12% of respondents have worked between 0 to 5 years, 40% have a working experience of 5 to 10 years, 26.7% have a working experience between 11 to 15 years, and 21.3% have a working experience above 15 years. These shows that a vast majority (88%) of respondents has practice for a range above 5 to 10 years and considered suitable for the analysis.

On the professional affiliation of the respondent, the result revealed that 17.33% of the respondent was Architect, 24.65% were quantity surveyors, 21.33% were Builders, 18% were Financial institution and 18.69% were Developers/ Estate surveyor. The analysis of the respondent on project handled revealed that 50% of the respondent handle between 0 to 5 projects, 36% of the respondent handle between 5 to 10 project, 12.7% handle between 11 to 15 project and 1.3% handle above 15 project. The result shows that between 0 to 5 projects have the highest percentages of the respondents. This result proves further that the respondents are qualified both are also capable, skilled and experienced in the concept of sustainable and affordable housing development.

Table 4.2, Results of Respondents Background information

		Frequency	Percent (%)	Cumulative Percent (%)
Position	Senior QS	32	21.3	21.3
	Site Manager	22	14.7	36.0
	Project Manager	16	10.7	46.7
	Others specified	80	53.3	100.0
	Total	150	100.0	
Organisation Type	Public	47	31.3	31.3
	Private	28	18.7	50.0
	Financial institution	23	15.3	65.3
	Developer	39	26.0	91.3
	Quantity Surveying.	13	8.7	100.0
Total	150	100.0		
Education Qualification	OND	15	10.0	10.0
	HND	31	20.7	30.7
	BSc / BTech	54	36.0	66.7
	MSc / MTech / PhD	41	27.3	94.0
	Others specified	9	6.0	100.0
Total	150	100.0		
Years of Working Experience	Less than 5 years	18	12.0	12.0
	5 - 10 years	60	40.0	52.0
	11 - 15 years	40	26.7	78.7
	above 15 years	32	21.3	100.0
Total	150	100.0		
Professional Affiliation	Architect	26	17.33	17.33
	Quantity Surveyor	37	24.65	41.98
	Builder	32	21.33	63.31
	Financial Inst.	27	18	81.31
	Estate Surveyor	28	18.69	100.0
Total	150	100.0		
Project Handled	Less than 5 projects	75	50.0	50.0
	5 - 10 projects	54	36.0	86.0
	11 - 15 projects	19	12.7	98.7
	above 15 projects	2	1.3	100.0
Total	150	100.0		

Source: Researchers Analysis (2020)

4.3 Data analysis and Interpretation

4.3.1 Analysis on housing financing model for delivery of sustainable housing project

The result of the analysis in Tale 4.3 revealed that the highest mean score is 4.40 and the lowest mean score is 2.59 from Table 4.3. Mortgage payment subsidies (ranked first with the mean score value of 4.40), Down payment grant (second with mean score value of 4.03), Secondary market based mortgage finance system (third with mean score value of 3.84), Housing cooperative (fourth with mean score value of 3.53) and Unbundled mortgage finance system (Fifth with mean score value of 3.52). The first five ranked housing financing model will be considered for these research work as the minimum mean score value selected is 3.50. The result of the analysis in Table 4.3 showed the majority of the respondent strongly agreed that mortgage payment subsidies is the best and first housing financing model that is effective for the delivery of sustainable and affordable housing project follow by down payment grant, secondary market based mortgage finance system, housing cooperative and the fifth one is unbundle mortgage finance system.

Table 4.3, Housing Financing Model for Delivery of Sustainable Housing Projects

Housing Financing Models	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Mortgage Payment Subsidies	150	3.00	5.00	4.40	0.60	1
Down Payment Grant	150	1.00	5.00	4.03	1.03	2
Secondary Market Based Mortgage Finance System	150	1.00	5.00	3.84	1.18	3
Housing Cooperatives	150	2.00	5.00	3.53	1.02	4
Unbundled Mortgage Finance System	150	1.00	5.00	3.52	1.12	5
Housing Loan / Bond	150	1.00	5.00	3.40	1.06	6
Aggregator Credit	150	1.00	5.00	3.36	1.10	7
Enhancement Housing Trust	150	1.00	5.00	3.25	1.12	8
Bundled Mortgage Finance System	150	2.00	5.00	3.03	0.73	9
Mortgage Interest Deduction	150	1.00	4.00	3.00	0.84	10
Impact Investment Model	150	1.00	5.00	2.93	1.21	11
PPP Model	150	1.00	5.00	2.83	1.33	12
DepositoryBased Mortgage finance	150	1.00	5.00	2.59	1.15	13

Source: Researcher Analysis (2020)

4.3.2 Analysis of the factors influencing the choices of housing financing model on successive delivery of housing project

Factor analysis on SPSS application package was used to analyse the data on factors influencing choice of housing financing model. According to Pallant (2011), Kiser- Meyer-Olkin (KMO) and Bartletts Test must be conducted to examine the sample adequacy and to ensure that the technique is appropriate for the variables, hence KMO and Bartletts analysis.

4.3.2.1. K.M.O. Adequacy and Bartlett's Sphericity Test

The first step in PCA analysis is to test the appropriateness of a study's data for PCA analysis hence the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's test of Sphericity were carried out on the factors influencing the choice of housing financing model to the delivery of sustainable housing project. Table 4.4 shows the results of KMO and Bartlett's test of Sphericity. These tests provide the basis for measuring the minimum standard that the data must meet before being considered adequate for further analysis. The KMO index ranges from 0 to 1, with 0.6 suggested as the minimum value for a good factor analysis (Pallant, 2011; Tabachnick & Fidell, 2012). The Bartlett's test of Sphericity indicates the strength of the relationship among variables and it should be significant at $p < 0.05$ for the PCA to be considered. However, the results in Table 4.4 display KMO value of 0.915 which is greater than 0.6 and less than 1, while the Bartlett's Sphericity value $p = 0.000$ (i.e. $p < 0.05$). Therefore, the data is adequate and suitable to be used for PCA.

Table 4.4, Result of KMO and Bartlett's Test for Factors Adequacy

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.915
Bartlett's Test of Sphericity	Approx. Chi-Square	1731.033
	df	171
	Sig.	.000

4.3.2.2 Principal Components of Factors Influencing the Choice of Housing Financing Models

According to Pallant (2011), the next step after showing the appropriateness and suitability of the research data is component (factor) extraction. This is a process to ascertain the number of components to retain, based on their influence on the choice of the model, since not all factors are kept (Tabachnick & Fidell, 2012). The most commonly used methods of factor extraction in PCA include: Kaiser's criterion; the using eigenvalue greater than 1 rule; Catell's scree test; retaining all factors above the elbow in the structure. In this thesis, "Kaiser's criterion using eigenvalues" was adopted to extract the components and varimax rotation was used to extract the variables that load on each identifiable variables. However, the significant factors, according to Kaiser's criterion, are those factors with eigenvalues above 1. In Table 4.5, five components with initial eigenvalues greater than 1 were extracted from the components to achieve factors influencing the choice of the model. The eigenvalues of the five variables are 7.461, 1.342, 1.290, 1.152 and 1.017; the result shows that the first component is capable of explaining 39.267% of the variance while the second component explained 7.06% , third explained 6.79% fourth explained 6.06 % and fifth explained 5.35% of the component. However, the five components combined to explain 64.54% of the total variance and considered to be highly significantly responsible factors affecting the choice of the models. While those below 1 were considered to be less .

Table 4.5, Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared			Rotation Sums of Squared		
	Total	Loadings		Total	Loadings		Total	Loadings	
		% of Variance	Cumulative %		% of Variance	Cumulative %		% of Variance	Cumulative %
1	7.461	39.267	39.267	7.461	39.267	39.267	7.412	39.009	39.009
2	1.342	7.064	46.331	1.342	7.064	46.331	1.362	7.169	46.178
3	1.290	6.788	53.119	1.290	6.788	53.119	1.236	6.505	52.683
4	1.152	6.063	59.182	1.152	6.063	59.182	1.139	5.997	58.680
5	1.017	5.352	64.535	1.017	5.352	64.535	1.112	5.854	64.535
6	.894	4.706	69.241						
7	.823	4.330	73.570						
8	.791	4.165	77.736						
9	.782	4.118	81.854						
10	.659	3.467	85.321						
11	.617	3.248	88.569						
12	.546	2.873	91.442						
13	.456	2.402	93.844						
14	.317	1.669	95.513						
15	.314	1.653	97.166						
16	.281	1.477	98.643						
17	.162	.853	99.496						
18	.074	.392	99.888						
19	.021	.112	100.000						

Extraction Method: Principal Component Analysis.

In Table 4.6 a total of Nineteen (19) factors were identified and classified into five major groups, are stringent condition, funding, research and development, Government programme and policies and project to be financed.

Table 4.6, Grouping of Variables by Factor Analysis of 19 Factors into 5 major groups

S/no	Major Name for each Group	Variables on each Groups
1	Stringent condition	Appropriate Collateral Stringent Condition Re-payment criteria Interest rate Delay in obtain C of O Bureaucratic in land acquisition Delay in obtain approval of budget plan
2	Funding	In adequate funding In effective housing finance Difficult in accessing NHF Type of loan provided
3	Research and development	Poor Research Dev Lack of effective planning Weak institution frame work In adequate financial instruments
4	Government programme and policies	Ineffective gov't programme & Policies Lack of Policy and Implementation
5	Project to be financed	Type of project to be financed Site and location of the project to be finance

Source: Factor Analysis.

To further confirm the number of components to retain, Catell's scree test was performed on the variable and the results in Figure 4.1. The (scree plot) shows that two components are retained. These components are the point, which is above the elbow on the scree plot shown

in Figure 4.1. These components, however, contribute the most to the variance in the data set, and this agrees with the results displayed in Table 4.5.

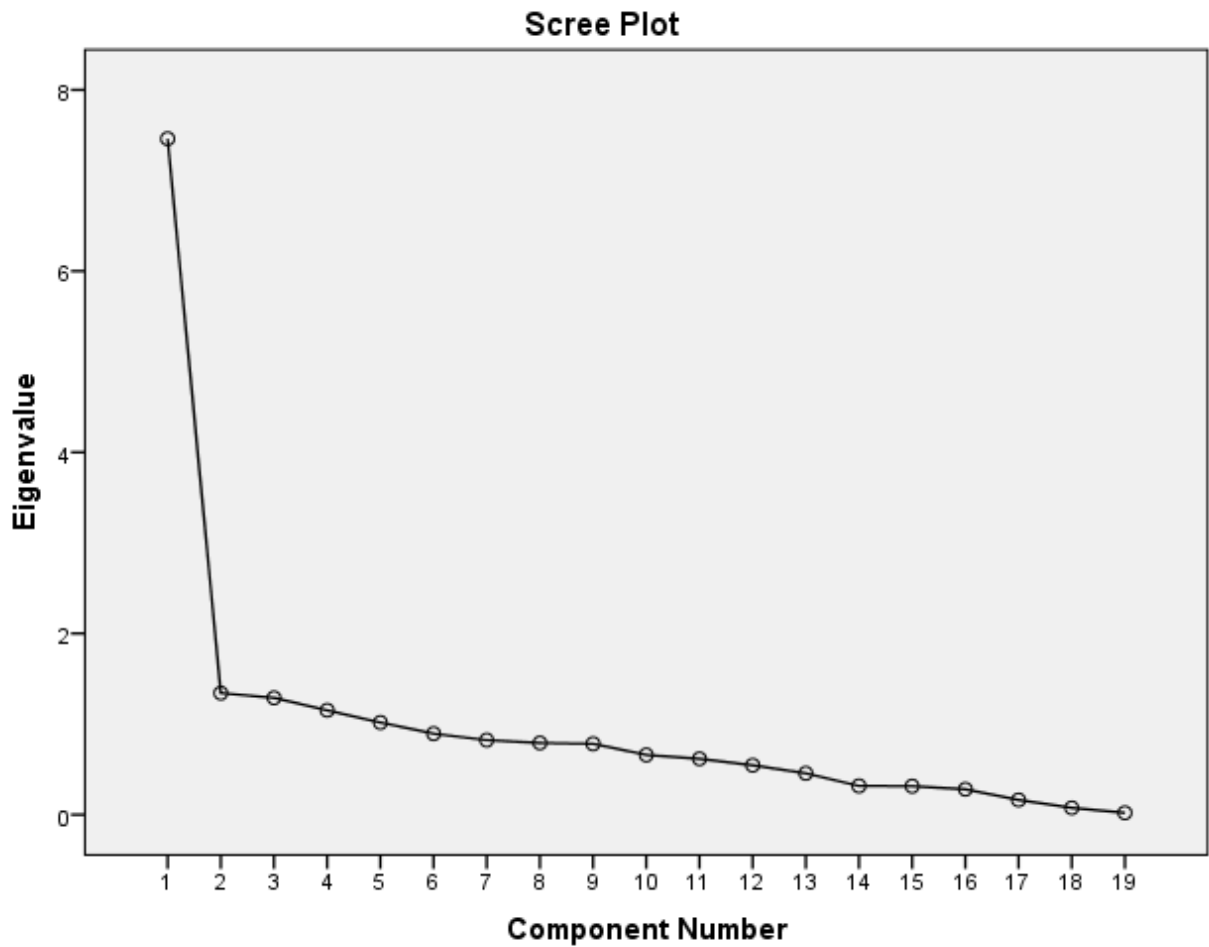


Figure 4.1. Catell's scree plot for factor influence the choice of housing financing model

4.4 Analysis of challenges associated with financing models.

4.4.1 Housing loan/bond aggregator

The result in Table 4.7 shows that building material have a mean value of 4.473 is ranked the first challenges associated with housing loan/bond aggregator as housing financing models, follow by poor government policies with mean value of 4.433, third is access to finance with mean value of 4.387, fourth is capital based with mean value of 4.380 and the fifth is inflation with mean value of 4.287. The first five is selected as the most challenges associated with the financing models.

Table 4.7, Summary of Result for challenges associated with Housing Loan / Bond Aggregator

	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Building Material	150	4.00	5.00	4.473	0.501	1
Poor Govt Policies	150	4.00	5.00	4.433	0.497	2
Access to Finance	150	3.00	5.00	4.387	0.502	3
Capital Base	150	4.00	5.00	4.380	0.487	4
Inflation	150	1.00	5.00	4.247	0.714	5
Land Use Act	150	1.00	5.00	4.220	0.722	6
Unreliable Data.	150	2.00	5.00	3.893	0.820	7
Duties and Fees	150	1.00	5.00	3.440	1.065	8
Secondary Market	150	2.00	5.00	3.407	1.011	9
Lack of Transparency	150	1.00	5.00	3.353	0.913	10

4.4.2 Housing trust model

The result of the descriptive statistical analysis in Table 4.8 revealed that building material ranked first with mean score value of 4.473 and considered as the most challenges associated with housing trust model as a financing model for housing delivery, second is the poor government policy with mean value of 4.43 and third is the access to finance with mean value of 4.387, fourth is the capital based with mean value of 4.380 and fifth is inflation with mean value of 4.247. The first five factor is the highest mean score value is considered as the main challenges associated with housing trust as a housing financing model.

Table 4.8 ,Summary of Result for challenges associated with Housing Trust Model

	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Building Material	150	4.00	5.00	4.473	0.501	1
Poor Govt Policies	150	4.00	5.00	4.433	0.497	2
Access to Finance	150	3.00	5.00	4.387	0.502	3
Capital Base	150	4.00	5.00	4.380	0.487	4
Inflation	150	1.00	5.00	4.247	0.714	5
Land Use Act	150	1.00	5.00	4.220	0.722	6
Unreliable Data.	150	2.00	5.00	3.893	0.820	7
Duties and Fees	150	1.00	5.00	3.440	1.065	8
Secondary Market	150	2.00	5.00	3.407	1.011	9
Lack of Transparency	150	1.00	5.00	3.353	0.913	10

4.4.3 Housing co-operative

On Table 4.9, the analysis revealed that capital based ranked the first challenges associated with housing co-operative as a financing model for sustainable and affordable housing delivery with mean value of 4.513, land use Act ranked second with mean value of 4.420, access to finance ranked third with mean value of 4.320, Building material ranked fourth with mean value of 4.253 and property registration ranked fifth with the mean value of 4.233.

Table 4.9, Summary of Result for challenges associated with Housing Cooperatives

	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Capital Base	150	3.00	5.00	4.513	0.528	1
Land Use Act	150	3.00	5.00	4.420	0.547	2
Access to Finance	150	1.00	5.00	4.320	0.689	3
Building Material	150	3.00	5.00	4.253	0.466	4
Property Registration	150	3.00	5.00	4.233	0.680	5
Lack of Transparency	150	2.00	5.00	4.067	0.662	6
Inflation	150	2.00	5.00	3.927	0.592	7

4.4.4 Impact investment model

The analysis from Table 4.10 showed that access to finance is the first with the mean value of 4.633, poor government policies is the second with the mean value of 4.600, Building material is the third with the mean value of 4.340, land use Act is the fourth with the mean value of 4.087 and secondary market is the fifth with the mean value of 3.907.

Table 4.10, Summary of Result for challenges associated with Impact Investment Model

	N	Minimum	Maximum	Mean	Std. Deviation	Rank
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Access to Finance	150	3.00	5.00	4.633	0.511	1
Poor Govt. Policies	150	4.00	5.00	4.600	0.492	2
Building Material	150	4.00	5.00	4.340	0.475	3
Land Use Act	150	2.00	5.00	4.087	0.543	4
Secondary Market	150	1.00	5.00	3.907	0.789	5
Inflation	150	2.00	5.00	3.867	0.652	6
Duties and Fees	150	0.00	5.00	3.273	1.135	7

4.4.5 Down payment grant

The descriptive statistical analysis of the challenges associated with the down payment grant as housing finance model shared in the Table 4.11 as, access to finance is the first challenge with mean value of 4.720, the second is poor government policies with the mean value of 4.40, third is the capital base with the mean value of 4.400 and the fourth is the inflation with the mean value of 4.380 and the fifth is the Building material with the mean value of 4.380.

Table 4.11, Summary of Result for challenges associated with Down Payment Grant

	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Access toFinance	150	4.00	5.00	4.720	0.451	1
PoorGovt. Policies	150	4.00	5.00	4.400	0.492	2
CapitalBase	150	4.00	5.00	4.400	0.492	3
Inflation	150	4.00	5.00	4.380	0.487	4
Building Material	150	4.00	5.00	4.380	0.487	5
Property Regist	150	3.00	5.00	4.233	0.680	6
Land Use Act	150	3.00	5.00	4.140	0.434	7
Duties And Fees	150	0.00	5.00	3.260	1.126	8
Shortage Of Labour	150	2.00	5.00	3.227	0.991	9

4.4.6 Mortgage payment subsidy

The Table 4.12 revealed the result of the analysis as capital based ranked first with the mean value of 4.553, Poor government policies ranked second with the mean score value of 4.373, building material ranked third with the mean value of 4.347, infrastructural delivery ranked fourth with the mean value of 4.140 and the inflation ranked the fifth with the mean value of 4.107. The first five was selected as the major challenges associated with the financing model.

Table 4.12, Summary of Result for challenges associated with Mortgage Payment Subsidies

	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Capital Base	150	2.00	5.00	4.553	0.562	1
Poor Govt Policies	150	4.00	5.00	4.373	0.485	2
Building Material	150	2.00	5.00	4.347	0.531	3
Infrastructural Chall	150	1.00	5.00	4.140	0.695	4
Inflation	150	2.00	5.00	4.107	0.625	5
Duties And Fees	150	1.00	5.00	4.033	0.965	6
Property Regist	150	2.00	5.00	3.833	0.893	7
Land Use Act	150	2.00	5.00	3.780	0.961	8

4.4.7 Mortgage interest deduction

On the Table 4.13 it showed the result of the analysis as the capital based ranked first with mean value of 4.460 access to finance ranked second with mean value of 4.413, inflation raked third with the mean value of 4.380, building material ranked fourth with the mean value of 4.333 and Poor government policies ranked fifth with the mean value of 4.240.

Table 4.13, Summary of Result for challenges associated with Mortgaged Interest Deduction

	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Capital Base	150	4.00	5.00	4.460	0.500	1
Access To Finance	150	2.00	5.00	4.413	0.581	2
Inflation	150	4.00	5.00	4.380	0.487	3
Building Material	150	1.00	5.00	4.333	0.575	4
Poor Govt Policies	150	1.00	5.00	4.240	0.721	5
Property Regist	150	3.00	5.00	4.233	0.680	6
Land Use Act	150	2.00	5.00	3.793	0.971	7

4.4.8 Credit enhancement

The result of the analysis of table 4.14 showed that access to finance, capital base, poor government policies, building material and mortgage are the first, second, third, fourth and fifth challenges associated with credit enhancement as a financing model with mean value of 4.527, 4.380, 4.360, 4.267 and 4.247 respectively.

Table 4.14, Summary of Result for challenges associated with Credit Enhancement

	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Access To Finance	150	3.00	5.00	4.527	0.564	1
Capital Base	150	4.00	5.00	4.380	0.487	2
Poor Govt Policies	150	2.00	5.00	4.360	0.648	3
Building Material	150	1.00	5.00	4.267	0.702	4
Mortgage Insurance	150	2.00	5.00	4.247	0.802	5
Inflation	150	3.00	5.00	4.227	0.436	6
Property Regist	150	3.00	5.00	4.220	0.684	7
Infrastructural Chall	150	1.00	5.00	4.140	0.695	8
Secondary Market	150	1.00	5.00	4.000	0.997	9
Duties And Fees	150	1.00	5.00	3.533	1.103	10
Land Use Act	150	2.00	5.00	3.320	1.189	11

4.4.9 Bundle mortgage finance

The Table 4.15 revealed that capital base is the first with mean value of 4.453, second is property registration with mean value of 4.353, third is infrastructural challenges with mean value 4.140, forth is building material with mean value of 4.047 and fifth is land se act with mean value of 4.047.

Table 4.15, Summary of Result for challenges associated with Bundled Mortgage Finance

	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Capital Base	150	4.00	5.00	4.453	0.499	1
Property Regist	150	3.00	5.00	4.353	0.507	2
Infrastructural Chall	150	1.00	5.00	4.140	0.695	3
Building Material	150	1.00	5.00	4.047	0.972	4
Land Use Act	150	2.00	5.00	3.773	0.977	5
Inflation	150	1.00	5.00	3.600	1.187	6

4.4.10 Unbundle mortgage finance

The Table 4.16 showed the result of the analysis as capital base ranked first with mean value of 4.473, property registration ranked second with mean value of 4.353 delays in access fund ranked third with mean value 4.320, poor government policy ranked fourth with mean value of 4.280 and building material ranked fifth with the mean value of 4.047.

Table 4.16 , Summary of Result for challenges associated with Unbundled Mortgage Finance

	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Capital Base	150	4.00	5.00	4.473	0.501	1
Property Regist	150	3.00	5.00	4.353	0.507	2
Delay In Access Fund	150	3.00	5.00	4.320	0.559	3
Poor Govt Policies	150	2.00	5.00	4.280	0.677	4
Building Material	150	1.00	5.00	4.047	0.972	5
Inflation	150	1.00	5.00	3.600	1.187	6

4.4.11 Depository base mortgage finance

The Table 4.17 revealed the result of the analysis, as capital base ranked first with mean value of 4.440, inflation ranked second with mean value of 4.367, poor government policies ranked third with mean value of 4.253, building material ranked fourth with mean value of 4.120, and infrastructural challenges ranked fifth with mean value of 3.880.

Table 4.17 , Summary of Result for challenges associated with Depository Based Mortgage Finance

	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Capital Base	150	4.00	5.00	4.440	0.498	1
Inflation	150	2.00	5.00	4.367	0.718	2
Poor Govt Policies	150	1.00	5.00	4.253	0.779	3
Building Material	150	1.00	5.00	4.120	0.750	4
Infrastructural Challenge	150	2.00	5.00	3.880	0.882	5
Property Registration	150	1.00	5.00	3.347	1.248	6

4.4.12 Secondary Market Based Mortgage Finance

On the Table 4.18, the analysis revealed the result as access to finance is the first challenge associated with the financing model with the mean value of 4.600, capital base with the mean value of 4.367, poor government policies is third with mean value of 4.367, secondary market is the fourth with mean value of 4.260, and building material is the fifth with mean value of 4.193.

Table 4.18, Summary of Result for challenges associated with Secondary Market

	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Access To Finance	150	3.00	5.00	4.600	0.505	1
Capital Base	150	4.00	5.00	4.367	0.484	2
Poor Govt Policies	150	3.00	5.00	4.367	0.511	3
Secondary Market	150	2.00	5.00	4.260	0.650	4
Building Material	150	2.00	5.00	4.193	0.702	5
Inflation	150	1.00	5.00	4.120	0.732	6
Duties And Fees	150	2.00	5.00	4.087	0.794	7
Land Use Act	150	1.00	5.00	3.627	1.173	8

4.4.13 PPP model

The Table 4.19 showed the result of descriptive analysis of the challenges associated with PPP model as housing financing model and it revealed as access to finance ranked the first with mean value of 4.673, Capital base ranked second with mean value of 4.380, poor government policies ranked third with mean value of 4.373, building material ranked fourth with mean value of 4.313 and inflation ranked fifth with value of 4.287.

Table 4.19 , Summary of Result for challenges associated with PPP Model

	N	Minimum	Maximum	Mean	Std. Deviation	Rank
Access To Finance	150	3.00	5.00	4.673	0.512	1
Capital Base	150	4.00	5.00	4.380	0.487	2
Poor Govt Policies	150	4.00	5.00	4.373	0.485	3
Building Material	150	2.00	5.00	4.313	0.636	4
Inflation	150	2.00	5.00	4.287	0.535	5
Property Regist	150	1.00	5.00	4.153	0.800	6
Infrastructural Chall	150	1.00	5.00	4.093	0.754	7
Land Use Act	150	1.00	5.00	3.920	1.096	8
Duties And Fees	150	2.00	5.00	3.740	0.993	9

4.5 Framework for Implementation of Financing Model for Sustainable Housing Development

The Figure 4.2 shows suitable housing financing models for sustainable housing development. Five housing financing models have been selected based on the results of data analysis as the best models. The models are mortgage payment subsidies ranked first, dawn payment grant second, secondary market based mortgage finance system third, housing cooperative fourth and unbundled mortgage finance system is the fifth. It also identifies the most factors influencing the choice of housing financing models using principal component analysis. The nineteen (19) factors were reduced to five (5) severe factors by margin the factors together. These five factors were stringent conduction, funding, research and development, government programme and policies and project to be financed. The Figure

4.2 also shown the most severe challenges associated with financing models, these are capital base, poor government policies, building materials, inflation, access to finance, secondary market, land use act, property registration and infrastructural challenges.

Thus, the first model is mortgage payment subsidies and the most challenges associated with the model are capital base, poor government policies, building material, inflation and infrastructural challenges. The second model is dawn payment grant and the most challenges associated with the model are access to finance, poor government policies, capital base, inflation and building material. The third model is secondary market based mortgage finance, the challenges are access to finance, capital base, poor government policies, secondary market and building materials. The fourth model is housing cooperatives and is challenges by capital base, land use act, access to finance, building material and property registration. The fifth model is unbundled mortgage finance system and the most challenges associated with it are capital base, property registration, access to finance poor government policies and building materials. The framework developed shows to Government, housing providers and the developers, the best five financing models, the most severe factors influencing the models and the challenges associated with each models. The framework will enable them to take a better decision of the type of model to choose in the provision of affordable and sustainable housing development for low – income earners. The framework is design for sustainable housing delivery and help to eliminate the housing deficit over time.

4.6 Suitable Financing Model for Sustainable Housing Development

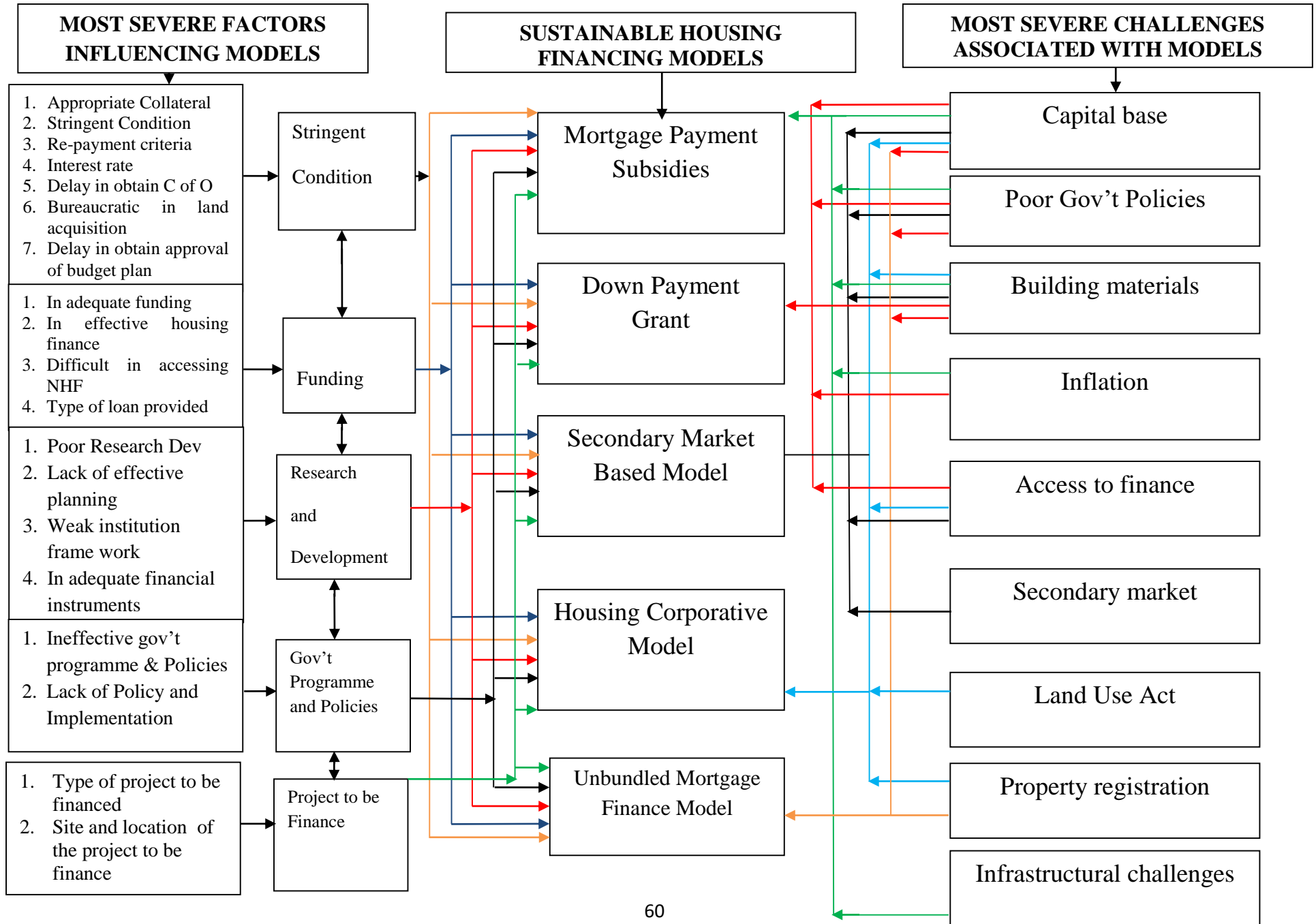


FIG. 4.2. FRAMEWORK FOR SUSTAINABLE HOUSING FINANCING MODEL

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATION

5.1 Conclusion

Sequel to the extensive literature review which led to the development of data collection instrument and subsequent data analysis. The result of the analysis was discussed and inferences drawn from the analysis. The study thus concludes as follow;

This study identifies housing financing models that are effective for the delivery of sustainable housing project. The unique characteristics of this financing model were put together as variables for measuring the effectiveness of each model. It is concluded that mortgage payment subsidies, dawn payment grant, secondary market based mortgage finance system, housing cooperative and unbundled mortgage finance system are the most effective models to finance construction of affordable housing to enhance sustainability. The results of the analysis on housing financing systems have demonstrated that sustainable affordable housing construction will best be achieved through a combination of two or more financing concepts, as the economic situations of individual house owners differ from one another. The study has evaluated the various factors that affect the choice of housing financing models in Niger State. A total of Nineteen (19) factors were identified and classified into five major groups, stringent condition, inadequate funding, research and development, Government programme and policies and project to be financed. From the analysis it was concluded that appropriate collateral, stringent condition, repayment criteria, interest rate and access to National Housing Fund are the most important factors considered by the respondents that hinder the easy accessibility to housing financing. The identified factors have not been

advantage to the building sector and its participants and proper measures should be taken to put stop to this factors. The study has therefore provided additional data base of factors affecting the choice of financing models to Developers, stakeholder's professionals and financial institutions that partake in housing provisions in making quality decisions as regards investment in housing development and to reduce the conditions upon which finances are obtained.

The study also identified the five most severe challenges associated with each financing model. The challenges are capital base, access to finance, poor government policies, infrastructural challenges, building materials, secondary market, property registration, land use Act and inflation. Hence the housing financing framework model developed in this study will enhance the construction of user-defined affordable housing and help to eliminate the housing deficit over time. It will also help the developers and housing provider in better decision making by consider factors and challenges of each models.

5.2 Recommendations

From the finding the following recommendation were made in order to implement the selection of best housing financing model to enhance delivery of sustainable housing projects.

- i. Government, developers, housing providers, construction professional's and stakeholders in the building industries should make use of the result obtain from the analysis on identified suitable financing models, factors influencing the models and challenges associated with the models in decision making for effective and successful delivery of sustainable housing project.

- ii.. Government, developers, housing providers, construction professional's and stakeholders in the building industries should adopt the framework for effective delivery of the housing by considering the factors and challenges associated with the models and appropriate measures should be taken to amend all the default by the government.
- iii. The financial institutions should be reducing conditions attached to the procedure of obtained the housing loans by the prospective homeowner's.

5.3 Suggestions for Further Studies

- i. Application of financing models on road construction in Niger State.
- ii. Evaluation of sustainable developments in Niger State housing sector.
- iii. Developing effective subsidy model for low- income homeownership in Niger State.

5.4 Contributions to the Body of Knowledge

Housing financing is a quantity surveyor's profession because they are the profession control the finance in the construction industry. Therefore, this study has established a financing models and framework which when applied in the construction of housing will enable developers and housing provider produce affordable and sustainable housing. Also this study is important to the government and financial institution that financing the houses.

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Appendix

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QUESTIONNAIRE

EVALUATION OF SIGNIFICANCE OF HOUSING FINANCING MODELS TO
DELIVERY OF SUSTAINABLE HOUSING PROJECTS IN NIGER STATE

Dear Respondent,

This questionnaire is a part of Master's degree research project which is in partial fulfillment of the requirements for the award of Masters of Technology (MTECH) degree in Quantity Surveying, of Federal University of Technology Minna, Niger State. This questionnaire is aimed at Evaluation of significance of housing financing models to the delivery of sustainable housing projects in Niger State.

Kindly answer the question in this questionnaire. Be assure that information given will be used for research purpose only and will be treated with strict confidentiality.

After all questionnaires are collected and analyzed interested participants in the study will be given feedback on the overall results.

Thank you.

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SECTION A

RESPONDENT BACK GROUND INFORMATION

Please tick or fill as appropriate.

1. Name (Optional)

2. Organization

3. Position

4. Which of the following best describe your organization
 - a. Public ()
 - b. Private ()
 - c. Financial institution ()
 - d. Developer ()
 - e. Quantity Surveyor ()
5. Education qualification of the respondent
 - a. OND ()
 - b. HND ()
 - c. Bsc/Btech ()
 - d. Msc /MTech/PhD ()
 - e. Others specify _____
6. Respondent years of experience?
(a) Less than 5 year's () (b) 5 – 10years () (c) 11 – 15 years () (d) above 15years ()
7. What is your profession affiliation?
 - a. Architect ()
 - b. Quantity surveyor ()
 - c. Builder ()
 - d. Financial Inst. ()
 - e. Estate surveyor ()
8. Number of housing project handled.
(a) Less than 5 () (b) 5 – 10 () (c) 11 – 15 () (d) above 15 ()

SECTION B
DEFINITION OF FINANCIAL MODEL TERMS

1. **Housing loan/Bond Aggregator Mode:** - This model provide vehicle for affordable housing providers by assisting them to obtain funding from the wholesale market at a better price and larger tenure.
2. **Housing Trust Model:** Is not for profit community based organization to prevent homelessness by providing community homes. They provide long-term rental housing to peoples on very low to moderate income via social affordance housing.
3. **Housing Co-operative model:** Is an association formed for the purpose of providing a housing product for members and the usually owned and controlled by members.
4. **Impact investment models:** It offers an opportunity to bring together capital and expertise from public, private and not-for profit sectors to deliver better out comes for the community.
5. **Down payment grant model:** Loans ideally result in the repayment of capital that is then re-used as a down payment loan for another borrower in providing housing project.
6. **Mortgage payment subsidies model:** are housing financing model that realistically lessen the interest rate and other periodic charges to be paid by an individual or organization that has taken a loan for a housing project.
7. **Mortgage Interest Deduction Model:** Is a model by which mortgage borrowers may deduct mortgage interest from taxable income which calculating federal income tax and reduce tax abilities for home buyers and taxes increase income available for monthly housing payment.
8. **Credit enhancement:** is a finance model that does not provide direct finance for low-cost housing. It involving additional guarantees or collateral before accessing the funds.
9. **Bundled Mortgage Finance System:** This is a model by which single actor or player performs role in the mortgage process to access the finance for housing provides but it is characterized by liquidity and interest rate risk, as borrowers often expect longtime funding but depositing funds are traditionally short-term.
10. **Unbundled mortgage finance system:** This is model by which all the players play different roles in access the fund. The borrower goes through a mortgage banker to source

funds from investors other depositories and the secondary market. The benefit of this system is every loan goes through necessary due diligence of risk management.

11. **Depositing Based mortgage finance:** Is a system where deposit money banks enter into mortgage lending. Banks with excess liquidity begin to consider setting up mortgage desk in their branches. The challenges are to do with mismatch of tenure; interest offered and offer short-term loans.
12. **Secondary market based mortgage Finance system:** This is model that provide long term liquidity to the housing market. The money obtained from the sale of mortgages is ploughed back into the system to create more mortgages.
13. **PPP Model:** In this model the public authority provide land to the developer and the developer design building and financing of affordable housing project.

B1. KINDLY RANK THE SEVERITY OF SELECTING THIS HOUSING FINANCING MODELS THAT IS EFFECTIVE FOR THE DELIVERY OF SUSTAINABLE AND AFFORDABLE HOUSING PROJECT.

S/No	Financing Model	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	Housing loan/Bond Aggregator					
2.	Housing Trust					
3.	Housing Co-operatives					
4.	Impact Investing Models					
5.	Down payment grant					
6.	Mortgage payment subsidies					
7.	Mortgage Interest deduction					
8.	Credit enhancement					
9.	Bundled Mortgage Finance System					
10.	Unbundled mortgage Finance system					
11.	Secondary Market Based Mortgage Finance System					
12.	Depository based mortgage finance					
13.	Public private partnership model (PPP)					

B2. KINDLY RANK THE SEVERITY OF THIS FACTORS INFLUENCING THE CHOICES OF HOUSING FINANCING MODELS ON SUCCESSFUL DELIVERING OF HOUSING PROJECT

S/No	Factor Influencing the Choice of Housing Financing Models	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	Appropriate collaterals required by financial institution before granting loans to housing providers					
2.	Stringent conditions on access to loan and affordability					
3.	Repayment criteria of a financial institution					
4.	Interest rate charged by primary mortgage institution					
5.	Difficulty in accessing national housing funds					
6.	Type of loan provided (short term, medium and long-term finance).					
7.	Type of project to be financed.					
8.	Site and location of the property to be financed					
9.	In adequate funding					
10.	In effective housing finance					
11.	In adequate financial instrument for mobilization of funds					
12.	In effective government programme and policies					
13.	Lack of policy instrument and its implication					
14.	Poor research and development into housing					
15.	Lack of effective planning					

16.	Delay in obtained approval of building plan					
17.	Bureaucracies in land acquisition					
18.	Difficulty in obtained certificated of occupancy (C of O)					
19.	Weak institution frame work					

B3. KINDLY RANK THE SEVERITY OF THIS CHALLENGES ASSOCIATED WITH FINANCING MODELS

S/No	Challenges Associated with Housing Financing Models	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	Housing loan/bond aggregator model					
	(a) Inflation					
	(b) Land use act					
	(c) Taxes ,stamp duties and fees					
	(d) Insufficient capital base					
	(e) Access to finance					
	(f) Unavailable of secondary market					
	(g) High cost of building materials					
	(h) Lack of transparency					
	(i) Poor government policies and bureaucratic regulation					
	(j) Unreliable data.					
2.	Housing Trust model					
	(a) Inflation					
	(b) Land use act					
	(c) Taxes ,stamp duties and fees					
	(d) Insufficient capital base					

	(e) Access to finance					
	(f) Unavailable of secondary market					
	(g) High cost of building materials					
	(h) Lack of transparency					
	(I) Poor government policies and bureaucratic regulation					
	(j) Unreliable data.					
3.	Housing Cooperatives model					
	(a) Inflation					
	(b) Land use act					
	(c) Insufficient capital base					
	(d) Access to finance					
	(e) High cost of building materials					
	(f) Lack of transparency					
	(g) Property registration					
4.	Impact Investment Model					
	(a) Inflation					
	(b) Land use act					
	(c) Taxes, stamp duties and fees					
	(d) Unavailable of secondary market					
	(e) High cost of building materials					
	(f) Poor government policies and bureaucratic regulation					
	(g) Access to finance					
5.	Dawn Payment grant model					
	(a) Inflation					
	(b) Access to finance					

	(c) Land use act					
	(d) Shortage of skilled labour					
	(e) Poor government polices and bureaucratic regulation					
	(f) High cost of building materials					
	(g) Insufficient capital base					
	(h) Taxes ,stamp duties and fees					
	(i) Property registration					
6.	Mortgage Payment Subsidies Model					
	(a) Inflation					
	(b) Land use act					
	(c) Poor government policies and bureaucratic regulation					
	(d) High cost of building materials					
	(e) Taxes ,stamp duties and fees					
	(f) Property registration					
	(g) Insufficient capital base					
	(h) Infrastructural challenges					
7.	Mortgage interest deduction model					
	(a) Inflation					
	(b) Land use act					
	(c) Access to finance					
	(d) Insufficient capital base					
	(e) High cost of building materials					
	(f) Poor government polices and bureaucratic regulation					
	(g) Property registration					
8.	Credit enhancement					

	(a) Inflation					
	(b) Land use act					
	(c) Access to finance					
	(d) Insufficient capital base					
	(e) High cost of building materials					
	(f) Poor government policies and bureaucratic regulation					
	(g) Property registration					
	(h) Infrastructural challenge					
	(i) Taxes ,stamp duties and fees					
	(j) Unavailable of secondary market					
	(k) Lack of mortgage insurance to guarantee credit risk.					
9.	Bundled mortgage finance system					
	(a) Inflation					
	(b) Land use act					
	(c) Insufficient capital base					
	(d) High cost of building materials					
	(e) Property registration					
	(f) Infrastructural challenges					
10.	Unbundled mortgage finance system					
	(a) Inflation					
	(b) Poor government politicizes					
	(c) Insufficient capital base					
	(d) High cost of building materials					
	(e) Property registration					
	(f) Bureaucratic delays in access funds					

11.	Depository-based mortgage finance					
	(a) Inflation					
	(b) Poor government policies					
	(c) Insufficient capital base					
	(d) High cost of building material					
	(e) Property registration					
	(f) Infrastructural challenges					
12.	Secondary market based mortgage finance system					
	(a) Inflation					
	(b) Access to finance					
	(c) Insufficient capital base					
	(d) Land use act					
	(e) Taxes .stamp duties and fees					
	(f) Unavailable of secondary market					
	(g) Poor government policies and bureaucratic regulation					
	(h) High cost of building material					
13.	PPP Model					
	(a) Inflation					
	(b) Access to finance					
	(c) Insufficient capital base					
	(d) Land use act					
	(e) Taxes, stamp duties and fees					
	(f) High cost of building material					

	(g) Poor government policies and bureaucratic regulation					
	(h) Property registration					
	(j). Infrastructural challenges					

Appendix 2

FACTORS INFLUENCING FINANCING MODELS

Communalities

Variables	Initial	Extraction
Appropriate Collateral	1.000	0.941
Stringent Condition	1.000	0.880
Repayment Criteria	1.000	0.672
Interest Rate	1.000	0.610
Accessing NHF	1.000	0.766
Type of Loan	1.000	0.683
Type of Project Financed	1.000	0.614
Site and Location of Project	1.000	0.642
In Adequate Funding	1.000	0.923
In effective Housing Finance	1.000	0.546
Financial Instrument	1.000	0.713
Govt. Programme Policies	1.000	0.686
Policy Instrument	1.000	0.397
Poor Research and Dev.	1.000	0.694
Lack of Effective Plan	1.000	0.423
Approval of Building Plan	1.000	0.538
Bureaucracies In Land Allocation	1.000	0.381
Difficulty in Obtain Cof O	1.000	0.696
Weak Institutional Framework	1.000	0.459

Extraction Method: Principal Component Analysis.

Component Matrix

Factors	Component				
	1	2	3	4	5
Appropriate Collateral	0.969	-	-	0.037	0.012
Stringent Condition	0.928	-	-	0.053	0.042
Repayment Criteria	0.814	0.031	0.046	0.068	0.041
Interest Rate	0.240	0.533	0.430	0.117	0.265
Accessing NHF	0.074	0.017	0.120	0.793	0.342
Type of Loan	-	0.754	0.218	0.083	0.242
Type of Project	0.037	-	-	-	-
Financed	0.154	0.302	0.578	0.174	0.368
Site and Location of Project	0.390	0.043	0.189	0.004	0.673
In Adequate Funding	0.960	0.025	0.013	0.018	0.005
Ineffective Housing Finance	0.722	0.048	0.040	0.143	0.022
Financial Instrument	0.830	0.100	0.048	0.103	0.027
Govt. Programme Policies	0.778	-	-	-	0.059
Policy Instrument	0.578	0.138	0.089	0.180	0.062
Poor Research and Dev.	0.800	0.162	0.162	0.019	0.033
Lack of Effective Plan	0.597	-	-	0.156	0.100
Approval of Building Plan	0.616	0.205	0.118	0.312	0.064
Bureaucracies In Land Allocation	0.418	-	-	-	0.088
Difficulty In Obtain C of O	0.291	0.231	0.347	0.159	0.346
Weak Institutional Framework	0.228	0.356	0.501	0.336	-
	0.228	0.000	0.490	0.371	0.169

Extraction Method: Principal Component Analysis.