Risk in Housing Development Investment Appraisal in Abuja, Nigeria

Zainab Toyin Jagun, Dzurllkanian Daud, Salfarina Samsudin

Abstract: The growing prospect of any investor is to achieve maximum satisfaction in his investment. To attain the investment objective of maximizing wealth, maximizing returns and minimizing risks as a prudent investor will be paramount, therefore, chooses between ranks of alternative investments. Therefore, this study aims to identify various risk factors that affect housing investment appraisal and measure the level of familiarity with the risk factors in housing development investment appraisal in Nigeria. This study adopted the use of exploratory sequential methods which consist of expert opinion and survey method by using stratified sampling technique in administering questionnaires to the 160 estate surveyors and valuers in Abuja, Nigeria. The ordinal test was analyzed using frequency distribution while the nominal was analyzed using partial least square (PLS) analysis. The study, however, shows that estate surveyors and valuers are most familiar with four risk factors which include the economic factors, political factors, technological factors, and social factors. Therefore, there is the need for estate surveyors and valuers to increase their effort to ensure that risk factors that are prone to variation during appraisal estimates are managed, as it affects the outcome of housing development investment.

Index Terms: Risk, Housing Development, Investment, Appraisal, Valuers Nigeria

1 INTRODUCTION

THE growing expectation of any investor is to achieve maximum satisfaction in his investment. To attain the investment objective of maximizing wealth, maximizing returns and minimizing risks as a prudent investor will be paramount; therefore, investors choose between ranks of alternative investments. The need to obtain the best out of one's investment has led to the call for risk management in housing investment appraisal. The absence or deficiency of this vital housing investment decision-making tool could result in a financial loss on the part of the investors. However could also constitute the abandonment of the housing development investment project, that could constitute a nuisance in the neighborhood in which the project is sited [1] [2]. Housing investment appraisal is an essential element of a reliable security system occurrences that affected the housing delivery outcomes and hence resulted in a loss of the output within the projected growth [3]. Housing risk analysis is the most essential and underestimated area of housing investment appraisal. The reality of significant management of risk in housing as well as the setting up and landscape policy relating to the future of housing supply be able to transmit abnormal technical hitches and convolution. Indeed, reliable indication advocates that housing investment development in Nigeria go through many acute inconveniences and multifaceted issues associated with different types of setback and bureaucracy ascribed to the Nigerian housing sector. In contradiction, the prerequisite of appropriate housing is critical in every economy and usually assumes a crisis extent in emerging economies such as Nigeria where rapid urbanization often outstrips the capacity of cities to provide new housing development with emerging problems.

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Whereas, Nigeria's housing investment development system has also been criticizing by the various culture of corruption and nepotism, interpreting to small repayment of the low-interest credit on condition that the Fund through primary mortgage institutions. Resolving the problem will necessitate a thorough restructuring of the mortgage finance sector that currently contributes less than one percent to Gross Domestic Product, unlike OECD countries where it averages over 50 percent. However, because of emerging risk experience, housing development activity is not in a relationship with housing need indicators, as such, risk management study in housing investment appraisal can support in recognizing current concerns and technical hitches related with development productivity within the housing industry [4]. There is no doubt that the abysmal fiscal performance of Nigerian developers are greatly influenced by uncertainties inappropriate supplies and prices of housing development materials, coupled with difficulty in acquiring access to capital, interim payments and access to/maintenance of plant and equipment [5][6] [7]. Uncheck poor book-keeping or fiscal management, a high rate of corruption among others and dominance of foreign contractors are also known to obstruct construction firms (among the housing stakeholders)' fiscal performance [8]. However, over five decades, an emphasis was made on the need to analyze risk in investment analysis such as viability study "it must be acquainted with that the value of a property cannot be articulated in a particular unchallengeable figure. The evaluator must frankly admit that his forecasts are weighed down with the different degrees of reliability. As a result, the appraiser is answerable for giving investors the advantage of his opinion on the degree of assurance of his findings, expressed as a possible prerequisite to the value figure in the report" ([9][10] . The argument raised by[10] was supported by UK scholars such as [11][12] and there has been campaign for this in Nigeria by [13][14][15] [16][17] [18] [19]. Risk happening in housing investment development should be measured and should not be underrated because it influences project management procedures due to unbridle project management delay, project abysmal cost over-run, and worth of products[20] . Moreover, regardless of the type and magnitude of the project, housing investment development is liable to risks that are

interconnected to social, hi-tech, ecological, monetary and political factors which influence the likely income, appropriate delivery of use and general point of reference of the envisaged project [21][22] [20] [23] . This study aims to identify various risk factors that affect housing investment appraisal and to measure the level of familiarity of the risk factors in housing development investment appraisal in Nigeria. However, the study frame was derived from the list of the 2016 registration of firms of the Nigerian Institution of Estate Surveyors and valuer, Abuja branch Nigeria. According to the register, there were 437 registered Estate Surveying and Valuation firms in the area (NIESV, 2016).

2 HOUSING DEVELOPMENT PROCESS

A housing development is a combined procedure spinning around several stages that connect separate phases in the development cycle. As opined by [24], the housing development procedure comprises the constant blend of unique elements of construction (labor, enterprise land, and capital). The housing development phase involves the skill to apply multi-dimensional decision making - somewhat frequently described, but not taught [25]. A housing development is the way of creating worth by creating real events to the housing [26][27]. The housing development process consists of five essential performance: planning, design, construction, feasibility analysis and operation, each of these actions or stages could occur as a distinct project [28][29]opined that the development stage of a project is most significant, as inaccuracy made are compounded and challenging to prevail over throughout the property development life [29][30] . The operators of the housing development industry can influence promote opportunities through accomplishing thriving projects. Challenges to the housing development process may include bureaucracy, political instability, infrastructural deficiencies, and environmental factors. For housing development project the specific problems may comprise land, labor, building materials, and the technologies of construction. The housing development process is of into three main segments: pre-construction, construction, and post-construction. Preconstruction includes assessment of the feasibility and viability of the development and preparation activities such as site acquisition and securing finance and planning permission. The construction phase consists of the tendering for a contractor and the construction of the development. Finally, the post-construction period includes the letting or selling of the completed development. Numerous authors have diverse approaches, with different degrees of detail indicating the housing development phase by stating its stages. [31], identified four main steps with 14 core activities proposed which include Evaluation (site identification,market research,site investigation and feasibility studies) Acquisition(site assembly and purchase, planning application and financing) Procurement(design,tendering, and construction)and Disposal(Sale, letting and promotion), similarly [32]. Distinguish among eight phases (Evaluation, Design and costing, Initiation, Permissions, Acquisition, operational, devotion and Letting manage to set out of).and also as seen in [33].

Figure 1: Source: Jaafar and Wan-Daud (2014)

Similarly, [34] classified housing development phasing to consist of Project commencement, Project idea, Project realization/management, Project marketing/disposal. With the existence of a diverse author with altering numbers of phases, they usually still the same function accomplished by a developer. These performances are inclined to transform and deviation regarding the character of the positive housing development and its diverse risk element. The property developer in the development sector is responsible for ensuring development success, which may develop products, to make the most of the chances of development accomplishment. Many events link to all aspects of the development phase however link with various degrees of risk and uncertainty [16]. The purpose of housing development appraisal and risk analysis is to deal thoroughly with the challenges and achievement of the housing investment development

3 RISK IN HOUSING INVESTMENT DEVELOPMENT APPRAISAL

Risk is mathematically related to notions of likelihood and impact, is an impending event or circumstances that have unconstructive or positive effects on the housing development targets" [26][35]. [13] provided the taxonomy of risk sources to include planning, structural, legal, taxation, comparative, timing and, default.[36] agrees with these sources but added environment and political risk to it. [37]consider natural phenomena, economic/ finance, politics/society, industrial characteristics, contract, construction, job site, safety/environment, client, design, and contractor as the sources of risk but [49][38][39][22] pointed down these risks factors to five distinct classes, which he named „STEEP" factors: social, technological, environmental, economic and political factors. Accordingly [9]identified downside risk as the probability that the variable in the housing development appraisal may not turn out as Favorably expected therefore downside risk that can affect housing development which is seen as risk factors include market risk, fiscal risk, capital market risk, inflation risk, liquidity risk, environmental risk, Planning, and Legislative risk and management risk. Therefore the primary focus of housing investment development literature concerning risk has been the submission of investment theory, the risk profiles of housing assets and the expected position of housing portfolios [40]. Financiers should critic the prospect of potential levels of return, and the predictable assess of risk is the benchmark of previous returns [41][42]. The conventional measures of risk, ventures, and housing production are both aspects of the provisional developer's risk predicament envisage. Housing

stakeholders require to be aware of risks, financial markets, and effect on return on investment.[43] Housing investment appraisal occurs at the inauguration of the housing investment development and should structure part of the procedure of understanding to invest. [44][45], argued that the appraisal of risks in housing investment development should include comprehension, identification, and communication. The forestalling of unknowns equally part of risk examination and necessitates understanding [46][47]. An enhanced team understanding is achievable through the information skills required of the housing investment development stakeholder [48]. However, Table 1 also shows the list of risk factors in housing development by various authors.

Table 1 Risk Factors in housing development

Risk factors	Authors						
	Ogunba 2013	Oteguru 2011	Tsaseyang 2009	Kumpaisal & Chen 2010	2007	Rehacek 2017	Frequency
Economic factors	√	√	√	√	√	√	6
Political factors	√	√	√	√	√	√	6
Technological factors	√		√	√	√		4
Social factors	√	√		√	√	√	5
Environmental	√		√		√		3

4 METHODOLOGY

The study adopted exploratory sequential methods, which consist of expert opinion and survey methods for risk in housing development investment appraisal in Nigeria. The sturdy frame was found from the list of the 2016 registration of firms of the Nigerian Institution of Estate Surveyors and valuer, Abuja branch Nigeria. According to the register, there were 437 registered Estate Surveying and Valuation firms in the area. The sampling technique adopted was stratified sampling technique to select the study sample from the total population 160 was retrieved after inquiry whether the firm undertakes housing investment appraisal in recent times. Data were collected through self-administered questionnaires which were divided into demographic and constructs measure. The demographics were mainly ordinal and nominal responses, while a five-point Likert scale was used. The ordinal test was first conducted using frequency distribution while the nominal was conducted using partial least square (PLS) analysis

5 RESULT AND FINDING

Figure 2: Focus group Index

Figure 2 indicates that there was 100% agreement by three experts with over 25years' experience in investment appraisal on risk factors that affect property development investment appraisal in Abuja, Nigeria. However, the 17 risk factors are used to develop the questionnaire used to ascertain the familiarity of those risk factors by the appraiser during the assessment of the housing development investment project.

(a) (b)

Figure 3 Numbers of years and Appraisal prepared

(c) (d)

Figure 4 Cost variation and Risk variation

Figure 3a Number of year, most of the sample population who are estate surveyor and valuer in Abuja, Nigeria have worked for a good number of years from Fig (3a) it can be seen that they had adequate experience to carry out these research because 60%of the estate surveyor had between 21-30 years' experience, 20% had 11-20years while 10% had 0-10years and 31-40 year experience respectively. Figure 3b shows the number of appraisal reports prepared by the estate surveyor in the study area. its indicate that 60% of estate surveyor at the study area developed between 11-15 reports over 10yrs period,20% of them prepared 6-10 report while 10% of them both prepared o-5 and 16-20 report respectively Figure 4c indicated the degree of cost variation on an appraisal prepared by the estate surveyor and valuer. the response reveals that 40% of the report rarely meet up to the cost variation indicating that there is a high-cost difference with what was appraised while 30% agree that sometimes the cost of change is meant,10% agrees that it is always, often and never a variation in the cost appraised Figure 4d shows the acceptance level of the need for there to be a risk consideration in our appraisal prepared. The responses show that 40% of the estate surveyor considers the need to have risk variation in the assessment made while 30% agreed that it would be fair and 10% felt that it is very poor, poor and perfect respectively

Figure 5: The Risk Familiarity Measurement Model

***Table 2**: Composite Reliability and Convergent Validity of Risk Familiarity Model*

				Loading (>.4)	CR (>.6)	AVE (>.5)
Measurement Model of Familiarity	Economic factors	FR10 FR12 FR2 FR5	Reflective	0.990 0.980 0.987 0.990	0.993	0.974
	Political factors	FR13 FR4 FR6 FR7	Reflective	0.994 0.994 0.992 0.974	0.994	0.977
	Technological factors	FR15 FR8	Reflective	0.982 0.978	0.998	0.996
	Social factors	FR16 FR3 FR9	Reflective	0.991 0.998 0.995	0.996	0.989

***Table 3**: Discriminant Validity for Risk Familiarity Model.*

	Economics factors	Political factors	Social factors	Technological factors
Economic factors				
Political factors	0.713			
Social factors	0.527	0.006		
Technological factors	0.54	0.237	0.163	

Figure 5 shows the familiarity measurement model having a second-order construct and Table 2. showing the composite reliability convergent validity and Table 3 showing the discriminant validity, respectively. The reflection measurement model for the economic, political, technological and social factors when analyzing composite reliability, Economy factors had four indicators, political factors had four indicators, technical factors had three indicators, and social factors had three indicators. However with all the indicators of the constructs included, the (FRV1) values fell below the accepted minimum value. therefore after removing the item of the constructs with low indicator reliability values, the composite reliability value of technological constructs increased to0.998 which are well above the minimum acceptable value of 0.6.while,other constructs like economic factors, political factors and social factors with all the indicators of the constructs the resulting reliability values were all above the accepted minimum for each construct as shown in Table 2 which were all above 0.6 from these reflective measurement models after establishing the composite reliability the AVE were as follows as shown in Table2: Economic factors(0.974), Political factors(0.977), Technological factors(0.996), Social factors(0.989) respectively confirming that convergent validity has was established. Table 3 shows discriminant validity values for the reflective constructs with all constructs' HTMT value below 0.90. Therefore, discriminant validity has was established. However, the Familiarity measurement model proves that estate surveyors and valuers are familiar with four risk factors which include the economic factors, political factor, technological factors, and social factors as shown in the above Table1. Therefore, there is the need for estate surveyors and valuers to increase their effort to ensure that risk factors that are prone to variation during appraisal estimates are managed, as it affects the outcome of housing development investment.

5 CONCLUSION

Risk in housing investment appraisal in Abuja Nigeria was appraised, invariably the cumbersome and indecision in housing development have increased due to quite a few factors, such as economic, political, technological and social; whereas risk factors familiarity among stakeholders consideration has become relevant factors towards the housing development in Nigerian and elsewhere. In the same way, the stakeholders in the built environment are paying little attention to the great disservice to housing development which is risk familiarity and awareness as a result of lack of appropriate in emerging research and improvement by the various stakeholders in the housing industry. Estate surveyors involved in housing investment development appraisal should learn what is needed to reduce the risks and its influence on housing investment development. More importantly, they need to develop the holistic risk program with an innumerable of policies to wrap all assets exposures, together with that of e-commerce, and another numerous strategies to protect housing investment responsibility exposures. Efforts should be made towards the prevention of risk factors in the development process that was mostly

subjected to variation from the appraisal estimate.

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