



## **THE DEMAND FOR HOME AND PROPERTY INSURANCE IN NIGERIA**

**<sup>1</sup>Ikechukwu Kelikume & <sup>2</sup>Adewumi Otonne**

<sup>1</sup>Department of Economics, Lagos Business School, Pan Atlantic University, Nigeria

<sup>2</sup>Department of Research, Lagos Business School, Pan Atlantic University, Nigeria

<sup>1&2</sup>Email: [ikelikume@lbs.edu.ng](mailto:ikelikume@lbs.edu.ng) ; [otonne3@gmail.com](mailto:otonne3@gmail.com)

### **ABSTRACT**

The demand for insurance, notably home and property insurance in Nigeria, is unresearched and ignored, coupled with the low level of patronage and penetration rate amidst the numerous insurance scheme to boost the performance of the insurance industry. This study, therefore, contributes to the literature serving as a helpful guide to the insurance industry in Nigeria. The study examines Nigeria's home and property insurance determinants, focusing on Lagos Metropolis. The study adopts the positivist paradigm, a quantitative technique based on the primary data sampled from 500 legal tenants and landlords. The study employed the Logit regression and Maximum likelihood estimation technique for the investigation. Empirical results from the Maximum likelihood technique indicate that risk attitude and aversion and low education and literacy levels are positive and significant determinants of home and property insurance demand. In contrast, the non-performance of the insurance companies in managing primary risks shows a negative and significant impact on insurance demand purchase. Interestingly culture, religion, the quality of the service of the insurance operators, and other economic factors were not significant determinants of home and property insurance demand. The study's findings suggest that insurers must consider the different risk attitudes in the design of insurance packages and embrace accountability and transparency in fulfilling their obligations to reduce the expectation of non-performance and basis risk.

**Keywords:** Insurance services, Insurance Demand, Home and Property Insurance



## 1. INTRODUCTION

Recently, the insurance industry experienced a tremendous increase in market size and global gross domestic product (GDP). Emerging market and frontier economies growth are responsible for these developments in the worldwide insurance industry (Kurylo *et al.*, 2017). The increasing contributions of the insurance sector have generated attention from policymakers and academia on improving insurance and reinsurance market penetration (Iyodo *et al.*, 2020). SwissRe (2019) observed a similar trend of increasing insurance sector contribution to GDP in Africa. The insurance sector's contribution to growth doubled between 1999 and 2019; however, the demand for insurance, its supply and penetration lagged far from global averages (SwissRe, 2019). According to the Swiss Re (2014; 2019), South Africa had enormous insurance penetration, while the Nigerian insurance industry represented the fourth largest market in Africa by nominal insurance premium values with an insurance market penetration of 0.20% and 0.33% in 2014 and 2019, respectively, and an insurance density per capita of \$10 - the poorest in the continent (SwissRe, 2019). This trend is low compared to other African countries and global averages. The gross premium per capita ranked least at US\$6.2 as against South Africa's US\$762.5, Kenya's US\$40.5, Angola's US\$30.5 and Egypt's US\$22.8 (Omoeffe, 2018). These statistics show a low demand for insurance products and packages in Nigeria relative to other African countries.

In Nigeria, the insurance industry regulatory body - National Insurance Commission (NAICOM) established seven compulsory insurance policies backed up by the national assembly Act in 2003. The seven mandatory insurance schemes, including third-party motor insurance, employee group life, healthcare indemnity, occupier's liability, builder's liability, aviation third party and marine insurance, aimed to make insurance a household name in Nigeria by improving awareness and penetration for the demand of insurance services. However, despite the robust compulsory insurance schemes backed by legal support, Nigerians still suffer from incessant loss of lives and property occasioned by building collapse, fire outbreaks, floods and other forms of disaster.

Moreover, to understand the insurance scheme's demand, a few studies have examined the determinants of life insurance schemes in Nigeria, while others focused on Islamic insurance determinants (Yusuf *et al.*, 2014; Tom, Ibok, & Awok, 2014; Laurent & Kiviyiro, 2015; Abass, & Oyetayo, 2016; Abel, 2018). Ajemunigbohun *et al.* (2017) and Abel (2018) explored the determinants of health care insurance, while



Akinola (2014) examined the determinants of farmers' adoption of agricultural insurance in Nigeria. One major limitation of these studies is the methodology used to arrive at their conclusions about the determinants of the sector-specific insurance industry in Nigeria. This study improved on existing methodological deficiencies identified in previous studies by applying a mixed-method technique to draw policy implications that are valid, consistent, reliable, and relevant to insurance industries, regulators, and the potential buyers of insurance products. Theoretically, this study extended the application of expected utility theory to explain home and property insurance determinants in Nigeria by incorporating risk and non-risk performance variables such as education and literacy level as significant determinants of home and property insurance demand in Lagos, Nigeria. Hence, this study is significant. It employed the estimation technique of maximum likelihood and descriptive techniques while also extending the expected utility to focus on vital variables relevant to the Nigerian insurance industry.

This study is motivated by a few reasons; first, the poor performance of the Nigerian insurance penetration and density tracker indicators. The relative positions of these insurance industry performance indicators (KPIs) portrayed low demand for insurance products and services, despite the multiplicity of insurance companies numbering more than 57 in the country (Tom, Ibok, & Awok, 2014; NAICOM, 2019). Secondly, the home and property insurance scheme, under the non-life insurance sub-sector, has low patronage, with a penetration rate of 0.15% (SwissRe, 2019). Despite the regulators' attempts to enforce compulsory insurance schemes, evidence shows that the sub-sector is undeveloped, undercapitalized, innovation drain, and awareness deserted. Therefore, there is a need to increase the demand for insurance policies by Nigerians, which makes identifying the determinant of home and property insurance demand of utmost concern. This study aims to identify these determinants by answering the following research questions: 1) Does economic factors affect home and property insurance demand? 2) Do risk factors matter in demand for home and property insurance? 3) How does non-performance and basis risk, quality of service, culture/belief and financial literacy affect the demand for home and property insurance? Following the introductory section, section 2 of the study reviews the literature. Next, section 3 presents the methodological proposition, and section 4 the results. Finally, section 5 concludes the study.



## 2. LITERATURE REVIEW

### Expected Utility Theory and Consumer Theory

The expected utility theory, by Bernoulli, assumes that in periods of uncertainty, risk-averse households make choices that yields the highest possible utility (O'Donoghue & Somerville, 2018; Serfilippi et al., 2019). This theory explains why families would take up insurance policies to mitigate risks and minimize the occurrence of an unpleasant event. In most cases, the costs associated with catastrophic events are usually not defined. Hence households would rather pay for insurance to reduce their risks (Owen & Noy, 2019). Moreover, families will generally purchase insurance products, given the prevalence of most homes' known and unknown risks in developing and emerging markets.

Following Mossin's (1968) insurance demand model, an expected utility maximizer with initial wealth level  $W_0$ , who risks losing his wealth at a probability value of  $q$ , exchanges the amount for an insurance premium of  $P = pI + C$  and  $I$  and when the incident insured against occurs.  $P$  is the insurance price,  $I$  is the amount received if the accident occurs, and  $C$  is the fixed cost. The indemnity ( $I$ ) is greater than zero but less than  $x$ . Thus, the wealth of the individual in the case of the incidence occurring and not occurring differs. Let  $W_1$  and  $W_2$  represent the final wealth when no accident occurs, and in the event of an accident, we have:

$$W_1 = W_0 - pI - C \quad (1)$$

$$W_2 = W_0 - pI - C - x + I \quad (2)$$

Equation (1) and (2) indicate that insurance decision depends on the risk appetite and attitude towards the individual's risk. Thus, one can represent the individual's preference by the utility function. The individual is assumed to maximize the expected utility function below:

$$EU(I) = (1 - q)U(W_1) + qU(W_2) \quad (3)$$

The maximized utility function further gives:

$$EU(I) = (1 - q)U(W_0 - pI - C) + qU(W_0 - pI - C - x + I) \quad (4)$$

Equation (4) provides the necessary conditions for an individual to buy the insurance product and find the optimal coverage to optimize his welfare. The individual will



buy insurance products if his welfare level is greater than not buying and vice versa. This situation is represented by:

$$EU(0) = (1 - q)U(W_0) + qU(W_0) \quad (5)$$

Equation (5) indicates the welfare level of not opting for insurance products. Thus, the consumer's expected utility of buying an insurance product will be higher than otherwise for the individual who opts for an insurance product, therefore.

$$EU(I) > EU(0) \quad (6)$$

This scenario shows that the demand for an insurance product is an implicit function of wealth, cost of the insurance product, compensation rate, degree of risk aversion and the proportion of wealth at risk. If equation (6) is satisfied, a concave utility function characterizes a risk-averse individual. Suppose we assume that the price of the insurance product is such that the risk of losing his wealth is equal to the amount received in the event of the accident ( $q=p$ ). In that case, the unit price of the insurance product is the same as the actuarial price. Thus, the individual buys a complete coverage ( $I=x$ ), and the welfare becomes:

$$EU = U(W_0 - qx - C) \quad (7)$$

Suppose the ( $q>p$ ) the individual prefers to be over-insured. However, when  $q<p$ , the individual buys no insurance product or partial insurance coverage. Thus, at whatever cost, the welfare level is lower than when  $p=q$ . Following the same thought process, a risk-loving individual faces a convex utility function and therefore buys full insurance if the unit price is lower than the actuarial price and does not buy any insurance product if otherwise (Corcos et al., 2017).

Furthermore, consumer theory posits that knowledgeable households make product choices based on price and budget constraints (how much of their income they are willing to part with at any given point in time). Consequently, households are price and income-sensitive, making a change in market price or household income reflect a change in consumption pattern. Some empirical studies have confirmed this intuition by providing evidence that shows that the willingness to take up insurance depended on the affordability of insurance policies (Cole et al., 2013; Atreya et al., 2015; Kusi et al., 2015; Levine et al., 2015). Alhassan and Biekpe (2016) have also shown that insurance demand is income elastic, especially in developing countries. A situation that means an increase in income would result in an increased willingness to purchase insurance. Although some findings align with the consumer theory's



theoretical deductions, some empirical findings gave contrary views that insurance is not price or income-sensitive in some countries (He & Chou, 2018; Kotoh et al., 2018). Therefore, the expected utility and consumer theories of insurance demand that jointly relate demand for insurance to individuals' attitudes towards risk, knowledge and awareness, price, and income sensitivities provide the theoretical undergirding for this study. Our study draws from the tenets of these theories. Furthermore, it extends its applications to the demand for home and property insurance in Lagos, Nigeria.

### **Price and Insurance Demand**

Based on the traditional law of demand, a converse relationship exists between the price of commodities and the quantity demanded. Consequently, many insurance studies have investigated the impact of price changes on demand for insurance products (Cole *et al.*, 2013; Levine *et al.*, 2016; Atreya *et al.*, 2015; Kusi *et al.*, 2015; Hill *et al.*, 2016; He & Chou 2018). Atreya *et al.* (2015) investigated the influential factors in Georgia homeowners' purchasing flood insurance coverage. The research revealed that the price of flood insurance correlated negatively with its demand.

Similarly, Cole *et al.* (2013) study on barriers to household risk management in India identified price as inversely related to the demand for rainfall insurance. Specifically, declining insurance prices resulted in a 10.4% to 11.6% increase in its demand in India. Correspondingly, Kusi *et al.* (2015) reported that health insurance affordability was a significant determinant of Ghana's insurance purchase. In the findings of Saltzman (2019), health insurance coverage in California and Washington were premium sensitive. Therefore, increasing health insurance prices reduces their demand, especially amongst young adults. Levine *et al.* (2016) also found that price reduction increased health insurance uptake in Cambodia. Hill *et al.* (2016) studied whether insurance demand in India reported a significant relationship between its price and demand with an estimated negative price elasticity of 0.58.

Conversely, He and Chou (2018) study on the demand for long term care (LTC) insurance in Hong Kong discovered no statistically significant association between price changes and the demand for LTC insurance. The majority of the studies were unanimous in their conclusion that the price of insurance products significantly influences the demand for the product. However, there are exceptions in abnormal insurance demand (Kalelkar & Nwaeze, 2015).



### **Income and Insurance Demand**

The level of household income is a significant determinant of demand. The existing consumer behaviour theory states that an increase in income level will result in a willingness to buy more items (Moreno *et al.*, 2017; Kueng, 2018; Orzan *et al.*, 2018). The decision to purchase insurance products is also associated with the product-income relationship. According to Alhassan and Biekpe (2016), the income elasticity of demand for insurance is more significant in the global south countries than in the global north. In the same vein, Cole *et al.* (2013) insurance studies in India revealed that families with higher disposable income have a higher take-up of rainfall insurance. Despite the theoretical deduction about the income effect, some recent studies have reported a mixed and negative relationship between income and demand for insurance. For example, Ciumas and Coca (2015) reported mixed findings in their study. Their study revealed that some high-income homeowners are more willing to purchase catastrophe insurance. Simultaneously, some homeowners prefer to be uninsured because of the perception that their current resources can serve as a form of relief when a casualty occurs. Also, studies have shown that an increase in income may not necessarily result in insurance purchases (Kotoh *et al.*, 2018).

### **Risk Aversion and Insurance Demand**

The fear of uncertainty and risk aversion is one of the reasons identified in studies why individuals purchase an insurance product (Platteau *et al.*, 2017; Salleh *et al.*, 2018). Insurance is seen as an anti-disaster measure that individuals take to reduce exposure to risks and uncertainty or prepare for future casualties. Against the expected utility model assumptions, some studies have shown a negative relationship between risk aversion and insurance purchase decisions (Cole *et al.*, 2013; Robinson & Botzen, 2018; Nam & Hannah, 2019).

### **Non-performance and Basis Risk and Insurance Demand**

Non-performance risk is the likelihood that an insurance company will not fulfil its obligations due to contract exclusions, bankruptcy, and other related factors (Eling *et al.*, 2014). In contrast, basis risk in insurance arises when insurance payments do not sufficiently cover the losses incurred by the policyholder (Clement *et al.*, 2018). Studies have observed that consumers' high expectations of non-performance and basis risk significantly reduced the trust and demand for insurance products (Clarke, 2016; Elabed & Carter, 2015; Jensen *et al.*, 2018). According to Platteau *et al.* (2017), insurance understanding and trust in the insurer are highly correlated. Basis





risk is a crucial property that influences the trust in insurance products. For example, an insurance policy might be considered low quality and not trustworthy when frequently incurred losses occur and no indemnity payment is received (Platteau *et al.*, 2017). Experience with the institution, the involvement of known and trusted individuals, trust in the institution's management, and other external factors are also vital properties that influence insurance policies' demand. Moreover, experiencing a payout seems essential in renewing insurance policies (Cole *et al.*, 2014).

### **Religion and Insurance Demand**

There is a significant conflict between religious beliefs and life insurance demand. The conflict is due to the bias of insurance by religion as a proponent of distrust in God's care (Yaari, 2009). Many studies reported very religious persons owning fewer or no insurance policies than non-religious individuals (Benabou *et al.*, 2015; Souiden & Jabeur, 2015). In addition, insurance penetration is considered low among the Muslim population. As a result, their demands for life, property, and savings insurance is limited (Al Nemer & Ansari, 2016; Souiden & Jabeur, 2015). Sihem (2019), examining the determinant of agricultural insurance, observed religion to be an essential determinant in the multidimensional function of agricultural insurance.

### **Education and Financial Literacy and Insurance Demand**

Education and financial literacy play a significant role in the demand for insurance products. Generally, educated and financially literate households will demand more insurance products (Eling *et al.*, 2014). Financial literacy measures include questions on households' knowledge of interest rate compounding, inflation, and risk diversification (Lusardi & Mitchell, 2014). Although financial literacy and education are dissimilar, education has often been used as a proxy for financial literacy when measures do not exist (Lusardi & Mitchell, 2014). Empirical evidence has revealed a significant positive relationship between financial literacy and insurance demand (Bannier & Neubert, 2016; Uddin, 2017). The survey participant has often disclosed a lack of product understanding as a significant barrier to the demand for insurance products (Al Nemer & Ansari, 2016; Jensen & Barrett, 2017). In contrast, recent studies have also provided inconclusive evidence on the influence of education on insurance demand. Some studies revealed that highly educated individuals purchased insurance products (Atreya *et al.*, 2015; Shao *et al.*, 2017). Others reported no relationship with individuals' education and risk threshold (Robinson & Botzen, 2018).





### **Quality of Service and Insurance Demand**

There is comprehensive coverage of the impact of the quality of service on demand for insurance in health insurance literature. Empirical evidence has shown that the quality of service provided by health centres influences the choice to purchase health insurance (Basaza *et al.*, 2008; De Allegri *et al.*, 2009; Dong *et al.*, 2009; Jehu-Appiah *et al.*, 2011; Nguyen & Knowles 2010; Abass & Oyetayo, 2016). For example, Basaza *et al.* (2008) found that health centres' poor service quality was why people were not taking up insurance in Uganda. De Allegri *et al.* (2009) suggest that the decision to purchase health insurance in West Africa correlates positively with the quality of services rendered by the health centres. According to Dong *et al.* (2009), quality of care is a significant determinant of insurance take-up, including health needs and demands. In Vietnam, Nguyen and Knowles (2010) found that hospital services' distance to quality directly linked households' health insurance purchase decisions.

Similarly, Jehu-Appiah *et al.* (2010) found that health workers' attitudes in providing care can also influence people's decision to enrol in health insurance in Ghana. Using the SERVQUAL model, Poor, Poor, and Darkhaneh (2013) observed that service quality impacts the willingness of insurance makers. Employing a similar model, Abass and Oyetayo (2016) on the importance of service quality on Insurance demand in Nigeria using the insurance industry as a case study suggests that insurance companies should employ various service quality measures that will improve customer service loyalty and retention. Al-Rawashdeh (2016) and Ishfaq, Qadri, Abusaleem, and Al-Zyood (2016) also found service quality significant.

### **Risk of Exposure and Insurance Demand**

The results of past studies on the effect of exposure to shocks on demand for insurance is mixed. For example, Cole *et al.* (2014) found no link between the risk of exposure and the demand for insurance. However, Cai and Song (2017) substituted real experience with hypothetical experience in a game setting. They found that playing an insurance game increases the real insurance take-up rate by 9.1 percentage points, a 46% increase relative to the baseline take-up rate of 20%.



### **Age and Insurance Demand**

In most studies, the relationship between age and insurance demand enters as a control variable and not so much a crucial variable (Eling et al., 2014). Age, in most cases, links exposure to past shocks, risk aversion, and the satisfaction derived from purchasing decisions (Eling *et al.*, 2014). The findings on the impact of age on insurance demand are inconclusive. Some studies have found a positive impact (Cao & Zhang, 2012), while some have found no impact on insurance demand (Cole *et al.*, 2013; Gamage & Li, 2016).

### **Gender and Insurance Demand**

Studies have identified that people with low-risk tolerance are more likely to purchase insurance products (Eling *et al.*, 2014; Mishra, 2018; Rabbani *et al.*, 2019). However, empirical evidence on the influence of gender on insurance demand is still inconclusive. Ampaw *et al.* (2018) suggested that female heads of married households with a more significant number of dependants have a higher marginal propensity to buy life insurance policies. Meanwhile, some studies have revealed that the feminine gender of households does not have a positive effect on insurance demand.

### **Mandatory Purchase Requirements and Insurance Demand**

Insurance uptake can either be voluntary or mandated by regulatory interventions. For example, compulsory housing insurance provisions by the government obligate individuals and corporate entities to take insurance cover on buildings against catastrophes. Studies have shown that mandatory insurance purchase requirements influence insurance demand and a joint demand for other complementary insurance products (Boes & Gerfin, 2013; Pendzialek et al., 2016; Indaco & Ortega, 2019;). However, it has been suggested in recent studies that insurance providers take advantage of the mandatory purchase requirements to inflate the prices of insurance policies. Consequently, this reduces the willingness to pay for mandatory insurance. In addition, compulsory insurance cover is taken not because of the perceived risk identified by consumers but because consumers want to obey regulatory orders. This situation sometimes leaves room for exploitation as buyers may not show up to make claims in the event of the risk occurring. Furthermore, Djahini-Afawoubo & Ataken's (2018) study on mandatory health insurance in Togo revealed that the health insurance scheme is mandatory for employees with stable income streams.



## **Hypotheses Development**

The hypotheses are tested using the maximum likelihood model estimation technique. The decision is that the model is significant if the p-value falls within a 90% confidence interval, implying a 10% significance level. In contrast, the model is insignificant if it falls outside the 90% confidence interval, which implies above 10% significance level. The hypotheses to be tested are stated below:

$H_0^1$ : Economic factors do not significantly affect home and property insurance in Nigeria

$H_0^2$ : Risk factors do not significantly affect home and property insurance in Nigeria

$H_0^3$ : Quality of service, culture and financial literacy do not significantly affect home and property insurance in Nigeria

## **3. METHODOLOGY**

The data for the study was obtained through a well-structured questionnaire. The study focuses on the city of Lagos as the study area because Lagos's metropolis. It has the highest records and incidences of flooding, building collapse, fire and epidemic/pandemic outbreaks. The city is, thus, the country's worst-hit metropolis recording over 135 cases of building collapse and 700 casualty rates even in the presence of a low insurance penetration rate (Omenihu et al., 2016). The respondents consist of 500 legal tenants and landlords randomly selected from the major strata divisions of Lagos, the commercial hub of Nigeria. These strata include Mainland, Island, Gated Estate, Non-gated Estate, Urban setting, Rural setting and outskirts. The questions were coded with numerical values and measured on a five-point Likert Scale. Five hundred fifty questionnaires were administered randomly across the strata, out of which 450 were retrieved, but 339 were suitable for analysis.

### **Model Specification**

The study adopts the positivist paradigm, a methodological philosophy in quantitative research (Kahlke, 2014). We modelled an insurance demand function using a binary regression. The regression function predicts the probabilities of insurance demand purchase influenced by various determinants. Each training data-point has vector characteristics  $x_i$  and a class  $y_i$ . Representing home and property insurance demand determinants and the decision to purchase insurance products, respectively. The class probability is either  $y_i=1$  or  $(1-p)$  if  $y_i=0$ . Where 1 is the

decision to buy and 0 otherwise. The analysis is an empirical investigation; thus, using the sample of the legal tenants and landlords, we estimate the Binary Logit model below following Akotey, Osei, and Gemegah (2011):

$$\text{Logit}(p) = \log\left(\frac{p}{1-p}\right) \quad (8)$$

Assuming that Y is the dependent variable and X is the independent variable, equation (8) becomes:

$$p = E\left(Y - \frac{1}{X}\right) = \frac{1}{1+e^{-(\gamma_0+\sum_i^n \gamma_i X_i)}} \quad (9)$$

$$\text{prob}(\text{event}) = p(X) = \frac{e^{(\gamma_0+\sum_i^n \gamma_i X_i)}}{1+e^{(\gamma_0+\sum_i^n \gamma_i X_i)}} \quad (10)$$

Therefore, the logit is shown in equation (11), thus;

$$\log\left(\frac{p}{1-p}\right) = \gamma_0 + \gamma_1 X_1 + \dots + \gamma_n X_n \quad (12)$$

We further stipulate the functional and econometrics model of the logit regression. Since the objective is to observe how economic factors, risk, non-basis performance risk and basis risk, quality of service from the insurance company, culture and belief, and education and literacy influence the demand for home and property insurance products in Lagos. We present the functional and the econometrics representation in equations (13) and (14), respectively.

$$DEMAND_{hpi} = f(EF, RF, CB, EL, QS, NPB) \quad (13)$$

$DEMAND_{hpi}$  is insurance demand for home and property, with the possible outcome of either having a property or home insurance package (INSD=1) or not sure/otherwise (INSD=0). Moreover, EF is an economic factor. RF is the risk factor, CB is culture and belief, EL is education and literacy, QS is quality of service, while NPB is the non-performance risk and basis risk. Econometrically, the equation (13) becomes:

$$DEMAND_{hpi} = \gamma_0 + \gamma_1 EF + \gamma_2 RF + \gamma_3 CB + \gamma_4 EL + \gamma_5 QS + \gamma_6 NPB + \varepsilon \quad (14)$$

Since the dependent variable is discrete, the suitable analysis technique is the maximum likelihood method (MLE). The MLE is the standard approach for estimating a discrete choice such as the Probit and Logit model (Akotey, Osei, & Gemegah, 2011). For a Binary logistic function, the likelihood function is:

$$L(\beta_0, \beta_1) = L = \prod_{i=1}^n p(x_i)^{y_i} [1 - p(x_i)]^{1-y_i} \quad (15)$$

The log-likelihood changes the product to sum, thus:

$$\begin{aligned} \text{Log(L)} &= \sum_{i=1}^n y_i \log p(x_i) + (1 - y_i) \log [1 - p(x_i)] \\ &= \sum_{i=1}^n -\log p(1) + e^{(\beta_0 + x_i \beta_1)} + \sum_{i=1}^n y_i (\beta_0 + x_i \beta_1) \end{aligned} \quad (16)$$

We further employ descriptive statistics through frequencies and percentages to describe the data.

We present further information on the measurement of the variables and a priori expectations in table 1.

**Table 1**  
**Variable Description and Expected Sign**

Variable	Data	A prior expectation	Measurement parameters
$DEMAND_{hpi}$	Home and property insurance demand	NA	Is your home insured (Yes=1; Not sure or No=0).
EF	Economic factors	Negative	Cost of home and property insurance High inflation Administrative charges Affordability Income level
RF	Risk factors	Positive	Susceptibility to flood Susceptibility to fire Quality of home construction Fear of disasters Risk appetite
CB	Culture and Belief	Positive/Negative	Safety of relative Alignment of insurance product and cultural belief



EL	Education and Literacy	Positive	The decision to buy insurance based on trust in God Financial literacy Level of education
QS	Quality of Service	Positive	Information exposure Poor quality service Narrow coverage Lack of suitable insurance product to needs Lack of transparency and accountability Poor attitudes Long customer queue Poor internet service Poor customer care
NPB	Non-performance risk and Basis Risk	Negative	Lack of trust for insurance companies Difficulty in obtaining claims High probability of payment default Claim received may be insufficient Difficulty in obtaining the police report Difficulty in obtaining a fire

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Source: Author's Compilation

#### **4. RESULTS AND DISCUSSION**

This section presents the study's result, including descriptive statistics, regression estimation, and robustness check. Subsequent sub-sections provide more information on the results.

##### **Descriptive Statistics**

Table 2 shows the insurance purchase patterns of the surveyed households. Concerning purchasing home insurance, 67.8% of respondents are non-subscribers of home insurance, 10.9% have home insurance, and 21.2% do not know the insurance status in their homes because some of the respondents live in family or rented homes. In addition, a significant number of the respondents did not subscribe for insurance because they believed in God (40.9%), 23.9% were aware but not interested, 16.5% were not aware of home insurance policies, and 16.5% revealed no

insurance person had sold home insurance to them. The table shows that home insurance subscribers purchased the insurance cover for accidental loss or damage to property (72.9%) and content (27.1%). Subscribers attributed their reasons for purchasing home insurance to flood (29.7%), fire outbreak (10.8%), protection of valuables at home (40.5%) and cover for domestic staff in case of injury (2.7%). In addition, 16.2% of households selected others and indicated further that purchasing home insurance provides them with a sense of security in the case of unforeseen circumstances.

**Table 2**  
**Insurance Purchase Patterns of Surveyed Households**

Is your home insured?	Frequency	Percentage	Total
Yes	37	10.9%	
No	230	67.8%	
I do not know the status	72	21.2%	339(100%)
If No, Why?			
God is my insurer	94	40.9%	
I am not aware of any insurance policy	38	16.5%	
No insurance salesperson has sold to me	43	19%	
I am aware, but I am not interested	55	23.9%	230 (100%)
If yes, home insurance policy cover?			
Accidental loss or damage to the property itself	27	72.9%	
Accidental loss or damage to the contents of the property	10	27.1%	37 (100%)
Reasons for purchasing home insurance			
To provide cover against flood	11	29.7%	
To provide cover against fire outbreak	4	10.8%	
To protect valuables kept at home	15	40.5%	
To provide cover for domestic staff in case of injury	1	2.7%	
Others	6	16.2%	37 (100%)

Source: Author's Analysis (2022)



## Correlation Results

The correlation statistics are presented in table 3. This is used to test the collinearity status among the variables. All the explanatory variables show little correlation at a 10% significance level. The highest coefficient is 0.696 between the quality of service and non-performance and basis risk. Furthermore, the table shows the potential predictive variables of the model estimation. Other variables show a negative correlation coefficient aside from risk factors and education and literacy, showing a positive and significant correlation with demand for home and property insurance. However, culture and belief are not significant at the 10% level.

**Table 3**  
**Correlation matrix for the variables used in the study (Obs=339)**

	<i>DEMAND<sub>hpi</sub></i>	EF	RF	QS	NPB	CB	EL
<i>DEMAND<sub>hpi</sub></i>	1						
EF	-0.188***	1					
RF	0.191***	0.078	1				
QS	-0.259***	0.380***	-0.057	1			
NPB	-0.345***	0.346***	-0.149***	0.696***	1		
CB	-0.057	0.342***	0.135**	0.165***	0.196***	1	
EL	0.165***	-0.101*	0.088	0.069	-0.125**s	-0.207***	1

Source: Authors' analysis (2022)

*Note:* \*\*\*, \*\*, and \*: Correlation is significant at the 0.01, 0.05, and 0.1 levels (two-tailed) respectively.

## Regression Analysis

The result of the logistic model is presented in table 4. The diagnostic tests indicate that the block zero or beginning block shows that if there are no predictive variables available, the overall predictive ability is 87.9%. Therefore, the model without the predictors would predict who will buy a home and property insurance 87.9% of the time. However, the model with the predictive variables shows an overall percentage of 90%, which suggest that the model with predictive variables would predict who buys home and property insurance 90% of the time. The logistic regression model is



good since adding the predictive variables increases the overall percentage. Therefore, the predictive variables would do an excellent job of predicting the demand for home and property insurance. The omnibus test of model coefficients and Hosmer and Lemeshow Test further shows this diagnostic result. With the chi-square statistics of 57.09 and p-value of 0.000 implying significance at 1% level, the omnibus test shows that model is significant. Besides, the Hosmer and Lemeshow Test chi-square statistics is 5.931. The p-value of 0.655 shows that the test accepts the goodness of fit null hypothesis at a 10% significance level. Also, the predictive variables jointly account for 30% of the variance in demand for home and property insurance, going by the R-squared.

The coefficient of the economic factor is -0.066, with a p-value of 0.159, showing that the higher the economic factor, the less likely home and property owners would buy an insurance product, but this is not statistically significant. On the other hand, the risk factor and education and literacy coefficient are 0.101 and 0.200, respectively, significant at 1% and 5% significance levels. This result indicates that the higher the risk factor and education and literacy, the more potential property and homeowners buy insurance products. The odd ratio of risk factors and education and literacy further shows that buying insurance products is higher than 1, which shows an increase in the odds of people buying insurance products than people not buying due to the risk factors and education and literacy. Culture and belief also recorded the same coefficient in magnitude and sign but insignificant at a 10% significance level, which indicates an insignificant likelihood of people purchasing insurance products the more religious and culturally inclined they are. However, the likelihood of buying is higher than the likelihood of not buying.

Moreover, quality of service recorded a coefficient of -0.014 but not significant at a 10% level of significance, implying that the higher the quality of service, the less likely they would buy insurance products. Non-performance risk and basis risk shows a coefficient of -0.185 significant at 1% level, implying that the more the non-performance risk and basis risk, the less likely people would purchase property and home insurance. The odds ratio is less than one, reflecting that the probability of buying a home and property insurance due to non-performance risk and basis risk is less than the probability of not buying, which is significant.

**Table 3**  
**Results of the Maximum Likelihood Logistic Regression**

Variables	Expected Signs	Coefficients	Standard Error	P-value	Odds Ratio
Economic factor	-	-0.066	0.047	0.159	0.936
Risk factor	+	0.101***	0.035	0.004	1.107
Quality of Service	+	-0.014	0.064	0.831	0.986
Non-performance and Basis Risk	-	-0.185***	0.062	0.003	0.831
Culture and Belief	+/-	0.101	0.096	0.296	1.106
Education and literacy	+	0.200**	0.088	0.023	1.222
Constant	?	-1.973	1.615	0.222	0.139
Overall Percentage(H0)		87.9			
Overall Percentage (H1)		90.0			
Omnibus test		57.091***			
Observations		339			
R-squared		0.297			
Hosmer and Lemeshow Test		5.931			

Source: Authors' analysis (2022)

**Note:** \*\*\*, \*\*, and \* is significant at the 0.01, 0.05, and 0.1 levels (two-tailed) respectively.

### Discussion of Results

This study has shown that economic factors insignificantly and negatively influence demand for home and property insurance because the p-value is greater than 10%; thus, reducing premium and other economic factors is not likely to change insurance purchase decisions. The position of this study is in agreement with existing studies (Cole *et al.*, 2013; Kusi *et al.*, 2015; Saltzman, 2019) on the influence of price or high premium on the demand for insurance demand, but contradicts the position of He and Chou (2018) which reported that price and insurance demand are unrelated as reported in the literature. Further, concerning the income of surveyed households and insurance purchase decisions, a more significant number revealed that they could afford a home insurance policy. This result is in line with Kotoh *et al.* (2018) study, which explained that an increase in income might not necessarily result in insurance purchase, revealing that insurance purchase decision is not sensitive to an increase in surveyed households' income.

The study has shown that the higher the risk factors positively and significantly influence home and property insurance demand. This is so because the p-value is less



than 10%, implying that the null hypothesis that the risk factors do not significantly determine the demand for home and property insurance is rejected at a 10% significance level. This means that the people are more likely to buy homes and property insurance, the higher the risk factors. Therefore, the probability of buying an insurance policy is significantly higher than the likelihood of not buying. Moreover, fear of uncertainty and risk aversion is often associated with individuals purchasing insurance.

The regression result has shown that the probability of people buying insurance products due to the quality of service is lower than the probability of not buying, although it is not significant. Additionally, there is a negative and insignificant relationship between the quality of service and home and property insurance demand. This means the null hypothesis is rejected at a 10% significance level. Moreover, previous studies have shown that poor service quality is associated with low insurance take-up in Africa (Basaza *et al.*, 2008; De Allegri *et al.*, 2009). Although a significant percentage strongly agreed to the poor quality of insurance services in Lagos, Nigeria, many respondents do not have a home insurance policy due to low insurance penetration. Therefore, they have not experienced the quality-of-service insurance companies provide.

Further, this study has shown that Non-performance risk and basis-risk such as trust in insurance companies concerning the payment of claims determine insurance purchase significantly. Most of the respondents have high expectations of non-performance risk and basis risk. This study's high expectation of non-performance risk and basis risk aligns with empirical backing in the literature (Elabed & Carter, 2015; Clarke, 2016; Jensen *et al.*, 2018). Empirical validation through the logistics regression has shown that the probability of home and property owners purchasing insurance products is lower than the probability of not being willing to purchase due to the non-performance and basis risk, which is significant at a 1% level of significance. Moreover, the more the non-performance and basis risk, the lower the likelihood of home and property owners buying insurance products.

Furthermore, the study has revealed that culture and beliefs influence insurance take-up among surveyed households insignificantly. Empirically the study has also shown a higher likelihood for home and property owners to buy insurance products than otherwise due to the culture and belief of the people, although this is not significant. The regression results suggest a significant influence of education and literacy on the purchase of insurance products. The higher the education and literacy, especially as



touching insurance and insurance policies, the higher the likelihood of home and property owners purchasing insurance products. The result supports previous studies such as Bannier and Neubert (2016); Uddin (2017) that reported a positive relationship between education, financial literacy, and insurance demand. It also improved the submissions of studies such as Atreya *et al.* (2015); Shao *et al.* (2017), previously inconclusive in this research space. Ultimately, the result refused to lend credence to Robinson and Botzen (2018) works, which documented the absence of a relationship between individuals' education and risk threshold.

## **5. CONCLUSION AND RECOMMENDATIONS**

This study provides insight into the demand for home and property insurance. This paper aims to determine the demand factors for home and property insurance in Nigeria. Using the responses of 399 legal tenants and landlords from different strata in Lagos and a logit model for the empirical investigation, the study established that the demand for home and property insurance is significantly influenced by risk factors, non-performance and basis risk and education and literacy. The findings of the study have significant implications. First, this study's practical implication challenges insurance practitioners, regulators and policymakers in the insurance sector to stand up to the expectation of ensuring that insurance companies address the issue of generally poor awareness level of the insurance products and policies. Second, there is insufficient awareness about citizens' need for insurance policy patronage. Insurance companies should communicate regularly with consumers through TV, radio, and newspaper advertisement design innovative products that address customer-specific needs, expectations, desires, and unique circumstances, invariably promoting customer attraction, satisfaction, and retention. Third, the insurance industry captains must critically evaluate the challenge of service quality in the industry. The various touchpoints of insurance policy consumers, such as filling proposal forms, request for insurance coverage, policy renewals, complaint lodgement, and claims request, should be addressed adequately and genuinely. Fourth, insurance firms should embrace transparency and accountability in their service delivery foundationally. Management's service quality improvement should extend beyond improving customer satisfaction and customer perception of service quality. Furthermore, IT facilities should be frequently deployed and encouraged to maintain and manage customers' relationships, retention, and value creation. Most house owners and legal tenants embrace various insurance products in a society where education and financial literacy are high; however, the reverse is the case. The implication of low acceptance of insurance products stems from the people's poor



perception of the insurance industry's overall operations. Therefore, practitioners, on the one hand, and regulators, on the other hand, should formulate policies and programs that could reform all segments of the industry and ultimately transform consumers' perceptions.

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