

MOTOR INSURANCE POLICIES’ UNDERWRITING FACTORS: EXPLORATORY ANALYSIS FROM MOTOR INSURANCE PROVIDERS IN NIGERIA

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Cite as: Isimoya, O.A., Ajemunigbohun, S.S., & Osasona, A.V. (2022). Motor insurance policies’ underwriting factors: exploratory analysis from motor insurance providers in Nigeria. Ekonomicko-manazerske spektrum, 16(2), 1-17.

Available at: [dx.doi.org/10.26552/ems.2022.2.1-17](https://doi.org/10.26552/ems.2022.2.1-17)

Received: 16 July 2022; Received in revised form: 5 September 2022; Accepted: 26 October 2022; Available online: 30 December 2022

Abstract:

Research background: Motor insurance is designed as a risk management instrument to guarantee policyholders' peace of mind. It plays a crucial role in safeguarding policyholders from financial losses that motor vehicles can cause ranging from loss of property, medical bills, legal fees, to loss of income.

Purpose: This study evaluated motor insurance underwriting factors, with specific reference to the perceptions of motor insurance providers in Lagos, Nigeria.

Methods: The study adopted a cross-sectional survey research design. The study sampling frame consisted of 43 motor insurance companies, out of which 30 motor insurance companies were accessed, as recorded in the 2020 insurance digest provided by the Nigeria Insurers Association. A structured questionnaire was employed for data gathering. A targeted population of 300 respondents was selected with the adoption of convenience and purposive sampling techniques. With this, 287 copies of the questionnaire retrieved were used for the data analysis. Thus, the data procedural technique employed were simple frequency percentages and Friedman’s rank test statistical method.

Findings & Value added: This study confirms the importance of motor insurance providers attached to motor insurance underwriting factors in Nigeria. This study recommended that motor insurance providers should prioritise fascinating underwriting risk factors in order to boost the confidence level of the motoring communities. Regulators should take proactive steps in monitoring possible defaults that can disrupt the underwriting processes of motor insurance policies. Given the implications of this study, research work is thus encouraged to look at the nexus between motor insurance pricing and rating techniques that influence behavioural attitudes of motor users in Nigeria.

Keywords: underwriting factors, motor insurance, motor insurance providers, Nigeria

JEL Classification: G20, G22, L91, M20

1. Introduction

Motor insurance, being one of the transportation insurance modes, is designed as a risk management instrument to guarantee policyholders' peace of mind. It plays a crucial role in safeguarding policyholders from financial losses that motor vehicles can cause ranging from loss of property, medical bills, legal fees, to loss of income (Abdalla & Enaji, 2014; Gage, Bishop, & Morris, 2015). Historically, the appearance of motor vehicles on the road can be dated back to the year 1880s. The initial motor insurance policy emerged during the year 1890s (Ellis, 1983). Its emergence was after the failure of enacted regulation to control accidents of motor vehicles on the road. Motor insurance compensates victims who sustained bodily injuries and/or are obliged to repair motor vehicles damaged by the risk of collision and other third-party liability risks (Johnston, 2020).

Motor insurance is basically designed to guarantee policyholder's peace of mind. It plays vital role in protecting policyholders from pecuniary losses that motor vehicles can cause ranging from loss of property, death, legal cost, medical bills to loss of income (Aduloju & Ajemunigbohun, 2020; Ajemunigbohun & Oreshile, 2019; Epetimehin & Akinselure, 2016; Segovia-Vargas, Camacho-Minano, & Pascual-Ezama, 2015). In Nigeria, mandatory motor insurance has become one of the dominant type of non-life insurance policies, hence it contributes an appreciable value into the premium income portfolio (Nigerian Insurers Association, 2020). However, the premium income is somewhat adversely affected by possible risk exposures facing motor users ranging from repair cost to motor vehicles on the occurrence of an accident, procurement cost on newer vehicles because of destruction beyond economic maintenance, or theft, to illegal claims against motor vehicle users due to third-party damage (Soye & Momoh, 2021; Uruakpa, 2019). Central Bank of Ireland (2017) opines that the effective performance of motor insurance policies is hinged upon its attention to areas such as the three major losses which include losses for injury to parties other than the policyholder; losses to the policyholder involving fire, theft, and property damage; and losses for property damage to others, and necessary underwriting process taken.

Underwriting capacity of any insurance company is the financial ability of that company that determine the limit its risk shouldering. Financial capital is of essence in any viable business but the peculiar nature of insurance business requires more capital in the context of underwriting capacity (Ishtiaq, & Ahmad, 2019). Epetimehin, (2013) noted that these processes involved in underwriting is a risk management which integrates identification of risk, risk assessment, developing strategies to manage it and mitigation of risk using managerial resources. Risk management is the process of identification, analysis and either acceptance or mitigation of uncertainty in investment decision making. Essentially, risk management occurs anytime an investor or fund manager analyses and attempts to quantify the potential for losses in an investment and then takes the appropriate action given their investment objectives and risk tolerance.

Statement of the Problem

Incidences of motor accidents occur everywhere even with the best mechanisms of road traffic control. However, serious evaluation of motor mishap rates indicates two possible proximate factors, which include the number of the motor vehicles on the road and the probability of road mishap per vehicle (Oluwaseyi & Gbadamosi, 2017; Rolison, Regev, Moutari, & Feeny, 2018). Studies (such as Erena & Heyi, 2020; Nangana, Monga, Ngatu,

Mbelambela, Mbutshu, & Malonga, 2016; Yan, Chen, Wang, Zhang, & Zhao, 2021) noted the chances of high road accidents rate due to stability in frequency per vehicle and increase in the number of vehicles per inhabitant. These problems regarding the frequency, number, and severity of road accidents will be unresolved and continually lingered if appropriate measures of loss reduction technique (such as motor insurance) is not adopted.

However, risk underwriting factors become necessary for motor insurance providers to be able to address some critical road accidents by creating economic and financial succour for victims of motor-related incidences. Some of the underwriting factors, as noted by various scholars, include age of the proposer, sex of the proposer, address of the proposer, marital status of the proposer, driving history/experience of the proposal, insurance claims history of the proposal, financial interest/ownership of the proposal, use and distance to be covered by the motor vehicle, and particulars of the motor vehicle (Akpan, Nnamseh, Etuk, Edema, & Ekanem, 2020; Anderson, Mostert, & Mostert, 2014; Magri, Farrugia, Valletta, & Grima, 2019; Soye & Adeyemi, 2018; Tomaszewska, 2019). Therefore, the study intends to analyse the perceived opinions of motor insurance providers on the underwriting factors in motor insurance policies

Objectives of the Study

The specific objectives of this study therefore include identification of the underwriting factors necessary for motor insurance policies among motor insurance providers; evaluation of the importance of motor insurance underwriting factors among motor insurance providers; and determination of the rank test analyses of motor insurance underwriting factors among motor insurance providers in Nigeria.

2. Literature Review

Conceptual Review

Underwriting and Motor Insurance

Underwriting involves the process of examining the risk brought before the insurer, whether to accept, moderate before acceptance or reject the risk. If to accept, at what rate of premium to be accepted, or if to be accepted with moderate, the necessary risk control measures will be applicable (Soye & Adeyemo, 2018). The process is incomplete until necessary underwriting documents are applicable for proper risk documentation, such as medical reports that show the health condition of the proposer, bills that show the value of property to be insured. The underwriter can also make use of past relevant risk data that can provide relevant information to the statistical possibility of certain type of risk. Underwriting is the assessment of hazards attributed to the subject matter of insurance, and to determine whether the risk in question associated with the subject matter is to be accepted or rejected (Anderson, Mostert, & Mostert, 2014). Underwriting is defined as a process whereby the underwriter analyses, accepts or rejects risks for insurance (reinsurance) businesses. This process also involves assessing, classifying and selecting the insurable and noninsurable risks, setting the insurance periods, terms and conditions as well as liability limits and calculating the premium rates (Akpan et al., 2020).

Underwriters are trained insurance professionals who mitigate the effects of adverse selection of risks by carefully accepting the applications whose loss exposures are very minimal, that are good risk for insurance coverage with the intention of charging premium that is accurately reflecting the loss exposures in the pool of fund, take proper care of the applications, and monitoring the risk account book carefully (Angima & Mwangi, 2017). An insurance underwriter is a professional that has the ability to understand the risks to which the underwritten object is exposed to before accepting it. This ability can be achieved through both

theoretical studies applied to the risk, and the result of years of experience dealing with similar risks and paying insurance claims on those exposures (Morara & Sibinsi, 2021).

Motor insurance is said to protect insurers' risk of financial loss against an accident (Olowokudejo, Aduloju, & Ajemunigbohun, 2020). According to Zerou (2016), it is a contract between the insured and the insurer, in which the insured agrees to pay premium and the insurer, agrees to pay losses as per the policy. It was further simply put as the protection to risk of accident on property (covering accident damage on the motor and theft), liability (covering third-party legal responsibility to others' property damage or bodily injury) and medical coverage and death (takes care of emergency medical expense, cost of funeral or the agreed sum insured life in case of death).

According to Onafalajo, Abass, and Dansu (2011), motor insurance is said to make provisions for coverage against loss or damage to the third-party arising from the use of a vehicle. It is always grouped according to the vehicles usage; that is, private cars, commercial vehicles, passenger carrying vehicles, goods carrying vehicles, public authorities' vehicle, agricultural and forestry vehicles and mechanical plants of special design (Ngwuta, 2007). Thus, some of the general regulations, according to Akintayo (2004), are said to include: value of vehicles, period of insurance, policies cancellation, no claim discount, vehicles paid-up and vehicle hire under contract for not less than twelve months and not being for hire purchase contract.

Motor Risk Underwriting Factors and Motor Insurance

A motor vehicle is delineated as a four-or-more-wheel vehicle using an engine that carries a small number of passengers. It exempts three-wheel motor cars or motorcycles. It further excludes bicycles because they are propelled mechanically (Aduloju, 2008). Motor insurance emerged to protect motorists from potentially incurred pecuniary loss while operating a motor vehicle. Motor insurance safeguards motorists from multiple risks. Motor insurance is purposely designed to help mitigate the severity of risks that motor users or owners are confronted with; and other third-party related liabilities that may arise from the motor operators or owners (Basse, 2018). Awunyo-Victor (2012) sees motor insurance as an integral facet of an insurance contract in relation to motor vehicle use. It is an equitable transfer of motor risk events from motor owners or operators to an insurance company in exchange for an equitable price, which guarantees compensation for any destructive loss or theft. Outreville (2014) reiterates that motor insurance's existence guarantees safety for motorists against potential financial losses arising from operating such motor vehicle.

Motor insurance safeguards motorists' risks of pecuniary loss against accidental motor risk events. According to Salaton and Kiragu (2019), it serves as a contractual nexus between the insurance companies and the insureds. The former concurs to remit payment in the event of loss occurrence in exchange for premium agreed upon by the latter (the insured). However, Nigeria's motor tariff provides standardised guidelines for adequately underwriting motor risks, and the entire regulatory exercise applicable to different motor-related risks (Akintayo, 2004; Epetimehin & Akinselure, 2016). Due to the rising medical costs, motor insurance policy provides control over high-level motor vehicle repair expenses, high cost of court cases, motor vehicle liability cases or situations, insurance abuses, and fraud (Salaton & Kiran, 2019). Motor insurance policy is offered on the bases of specific ratings factors for the determination of its premium and purpose of procurement, to different classes, to include insured's age, sex, location, driving experience, insurance history, marital status, financial interest in the subject matter, and motor vehicle use and distance (Conrad, Mostert, & Mostert, 2009; Ilona, 2019; Magri, Farrugia, Valletta, & Grima, 2019).

Asymmetry and Motor Insurance Providers

Insurers are not oblivious of information failures or problems that subsist on either side of their relationship with insurance consumers. Siegelman (2015) declares that there are knowledge limitations on the insurers' parts in relation to those seeking insurance purchases, and difficulties in monitoring behavioural insurance consumptions of such individuals. Cohen and Siegelman (2010) earlier submitted that individuals seeking insurance seem to be susceptible to wrong selection (adverse selection problem). Once they are able to procure such insurance, they care less of their effort to avert losses further as they already would have had insurance not been in force (moral hazard problem). According to Harrison (2019), economics of information is created to cater for the information problem in the insurance companies. He remarked further that private information of an insurance purchaser regarding his/her risks leads to adverse selection. Kunreuther and Pauly (2015) stress that insurance companies' incapacities to monitor customers' behavioural attitude having procured insurance most times lead to moral hazard. Therefore, insurers' information problems or inefficiencies offer parsimonious and real-life situational explanations of relationships in the insurance market space.

Two main mechanisms or devices had been insinuated to assist in managing moral hazard, according to Baker and Siegelman (2015a), to include cost-sharing arrangements and insurance contract design. Firstly, cost sharing arrangements (like co-payment – coinsurance or deductibles give insured certain “skin in their game” by leaving the insureds with certain potential losses which their behavioural attitude might have caused. Secondly, insurance contract design clearly creates exclusion for certain intended or deliberate kinds of losses by the policyholders. They reiterated further that insurance companies most time get involved in pre-contract underwriting that attempts to understand insured's prudence, honesty, and trustworthiness and possibly refute insurance cover from those who slightly meet basic requirements.

Insurance companies manage situational events that must have given rise to adverse selection devices via an array of identical mechanisms. These devices include risk classification, terms of the contract, schedule of insurance policies, and underwriting (Baker & Siegelman, 2015b). For risk classification, verifiable techniques that correlate with the risks are employed to set insurance premiums. The terms of contract often stimulate long-term nexus between insurance companies and policyholders. While the schedule or menu of an insurance policy will help in consonance with the riskiness of their identical situational events, underwriting helps the insurer comprehend the degree of the riskiness of an insurance policy to reduce the advantageous information edge of the policyholder.

Theoretical Review

Ruin Theory

Ruin theory, also known as collective risk theory, is an area of actuarial science that uses models in mathematics to illustrate an insurer's exposure to insolvency. The theory was introduced by Lundberg (1932) but although still young and developing, it has become one of the building blocks of the theory of stochastic processes. The ruin model describes the stability of an insurer. It deals with questions like underwriting premium rates to charge so that there are enough reserves to cover the future claims, the expected amount of claims, the underwriting risks, and how much of the company's reserves should be invested (Kaas, Goovaerts, Dhaene, & Denuit, 2008).

Ruin occurs if a company's income given its initial wealth, fails to cover expenses (Wuthrich, 2015). According to Buhlman (1970) as cited Kasumo (2019), most insurance companies aim to make profit from the underwriting risk and would like the ruin probabilities to be zero. To model the underwriting risk in non-life insurance (such as motor insurance),

claim severity and frequency are considered by making necessary assumptions and adopting various methodologies in probability theory. At the point, the insurer may premium to charge while focusing shifts to its long-life exposures to insolvency hinge upon numerical representations. Stochastic processes assist observation of the insurer's financial surplus through time, and then ruin theory is initiated to evaluated the prospects that the insurer would attain insolvency given the underwriting model (Dickson, 2017; Promislow, 2011).

The ruin theory is of great essence of risk management techniques in non-life insurance (e.g. motor insurance) observing the success in the long run by calculating the probability of claims so as to attend to insurer's exposure to bankruptcy (Devolder & Lebegue, 2016; Sukono, Riaman, Lesmana, Wulandari, Napitupulu, & Supian, 2018). This, therefore, applies to issues in respect of underwriting premium, anticipated claims frequency, and severity, claim reserves, and underwriting risks which usually showcase in haphazard incidents leading to changes in the underwriting risk processes of the insurers. All these activities invariably lead to risk control efforts to minimising underwriting risk as it links to lifelong financial performance of an underwriter.

Empirical Review

Several surveys have been devoted both in Nigeria and other countries of the world to identify with motor insurance underwriting and premium income in insurance and how they are in relations to motor insurance policies (e.g. American Academy of Actuaries, 2021; Gatzert & Osterrieder, 2019; Gurung, 2016; Islam & Hossain, 2018; Segovia-Vargas, Camacho-Minano, & Pascal-Ezama, 2013).

Assessment of employee perceptions on the purchase of motor insurance was conducted by Epetimehin and Akinselure (2016). A survey research approach as adopted with sample size of 250 participants. The study employed simple frequency percentages and Chi-square statistical technique in the data analysis. The study affirmed significant relationship between perception of employee in Joseph Ayo Babalola University and purchase of motor insurance. The study recommended that employees should consider consulting an insurance professional whenever they seek to purchase motor insurance.

Angima and Mwangi (2017) examined the relationships between *underwriting and claims management and the financial performance of property and casualty insurance companies in East Africa*. The study adopted descriptive research design. The study employed both primary and secondary data. While questionnaire survey was as a primary source for collection of data from 82 property and casualty firms' members of staff, the secondary data was procured from yearly financial report for the period 2010 to 2014. To analyse the data, a linear regression model was exerted in the research outcome. The study confirmed and established significant relationships between the variables.

Soye and Adeyemo (2018). Studied on nexus between underwriting capacity and income of insurance companies, with Nigeria as case. The study employed expo-facto design cum inferential statistics. The variables of interest comprised investment income, shareholder's fund, earning asset ratio, underwriting profit and income of insurance companies, with secondary data extracted from the financial reports of selected non-life insurance companies from 2006 to 2015. The findings showed that all independent variables impacted positively on income (dependent variable) of selected insurance companies. The study recommended efficient management of company's assets in order to boost their earning capacities.

Oyetayo and Abass (2020) assessed the relationships that subsist between underwriting capacity and financial performance with non-life insurance companies in Nigeria as specific focus. The study adopted correlational design, with a census of 41 non-life insurance companies operating businesses in Nigeria at 2019. The study took cognisance of a ten-year period between

2008 and 2017. The study adopted variables such as reinsurance, reserves, and shareholders' funds as underwriting capacity measure, with relationship to liquidity, solvency, and profitability as financial performance indicators. This study confirmed that all underwriting capacity metrics as having joint significant effects on non-life insurers. This study suggested spread of underwriting tentacles when assuming risks from the insuring populace.

Abass, Dansu, and Oyetayo (2021) evaluated the effects of the technical characteristics of insurance operations on financial performance of non-life insurance companies, with Nigeria as case. The study used descriptive and depend upon secondary data from non-life insurance companies from 2006 to 2019. The findings established a significant effect of underwriting capacities and other technical operational metrics on the financial performance of the various non-life insurance companies. The study insinuated that regular attention being paid to the underwriting capacity, increased shareholder's fund, growing portfolio capacity will engender improved financial performance.

3. Methodology

This study adopted survey design pedestaled on numeric method to provide an improved perception of necessary resolutions for motor insurance underwriting factors. This design thus helped to map out and accomplish the study in a fashion to derive predetermined outcomes and generated an association with the factual world scenario (Creswell & Creswell, 2018; Gray, 2017). The aggregate members comprising the totality of subjects for the study consisted of 43 insurance companies who provided motor insurance policies (Nigerian Insurance Association, 2020). These motor insurance providers were selected from Lagos state. The choice of Lagos because it housed the highest number of motor insurance providers in Nigeria in terms of volume of businesses, premium income generated, total claims incurred and many other indexes recorded from 2016 to 2020 (Nigerian Insurers Association, 2020). The sampling method adopted were purposive and convenience in nature. A sample size was determined with the extraction of 30 motor insurance companies from the above stated sampling frame; which recorded 70% response rate. With this, 287 questionnaires were judged to be necessary for data analysis out of the 300 distributed copies of questionnaires.

The data collection instrument selected for this study was a questionnaire, being a primary source method. The choice of the survey method was due to its suitability to the chosen research design, its costless nature, huge sample coverage, and its simplicity in distribution (Cooper & Schindler, 2014; Kothari & Garg, 2016). The study perceived measurement of validity as consisted of construct, logical, and criterion-related. While construct validity was structured in line with older studies, logical validity was cognizant of the instrument's content, and criterion-related took correctness from findings of other studies (Booth, Colomb, Williams, Bizup, & Fitzgerald, 2016). Also, the reliability test was conducted with a Cronbach alpha above the standard 0.7 for the motor insurance underwriting factors. These outcomes were in line with statistical inferences of the validity of the scale, and the sacrosanctity of the internal consistency.

4. Results and Discussion

Descriptive Analysis of Participants Responses

Table 1: Participants' Opinions of Motor Insurance Underwriting Factors

*Motor Insurance Policies' Underwriting Factors:
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Insurance Providers in Nigeria*
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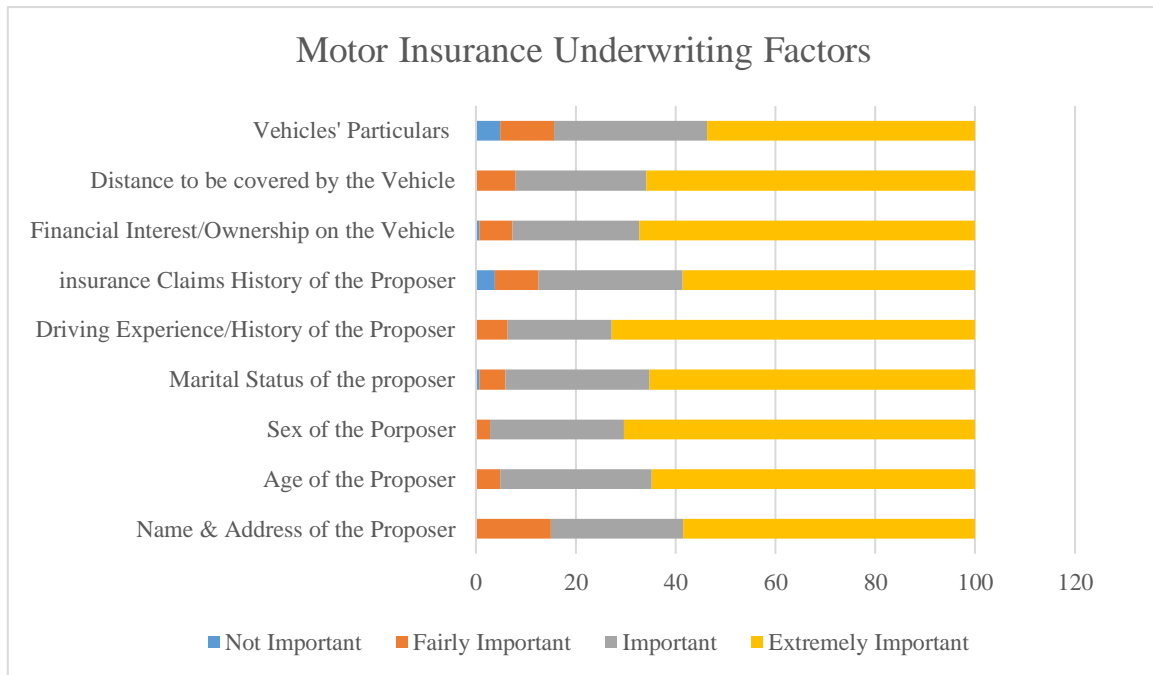
Variables	Response Label	Frequency	Percentages
Name an Address of the Proposer	Not important	00	0.0
	Fairly important	43	15
	Important	76	26.5
	Extremely important	168	58.5
Age of the Proposer	Not important	00	0.0
	Fairly important	14	4.9
	Important	87	30.3
Sex of the Proposer	Extremely important	18	64.8
	Not important	00	0.0
	Fairly important	08	2.8
Marital Status of the Proposer	Important	77	26.8
	Extremely important	202	70.4
	Not important	02	0.7
Driving experience/history of the Proposer	Fairly important	15	5.2
	Important	83	28.9
	Extremely important	187	65.2
Insurance claims history/experience of the Proposer	Not important	00	0.0
	Fairly important	18	6.3
	Important	60	20.9
Financial interest/ownership on the Vehicle	Extremely important	209	72.8
	Not important	11	3.8
	Fairly important	25	8.7
Distances to be covered by the Vehicle	Important	83	28.9
	Extremely important	168	58.6
	Not important	02	0.7
Vehicle's particular	Fairly important	19	6.6
	Important	73	25.4
	Extremely important	193	67.3
	Not important	00	0.0
	Fairly important	23	8.0
	Important	75	26.1
	Extremely important	189	65.9
	Not important	14	4.8
	Fairly important	31	10.8
	Important	88	30.7
	Extremely important	154	53.7

Source: Field Survey, 2022

Table 1 above revealed the participants' attributable responses about their level of importance attached to the motor insurance underwriting factors. For *name and address of the proposer*, 58.5 percent of participants see it as extremely important, 26.5 percent attached some level of importance, 15 percent and no percent fairly important and not important respectively. For *age of the proposer*, 64.8 percent account for extremely important and 30.3 percent important. While 4.9 percent fairly important, zero percent did not see it as important. For *sex of the proposer*, 70.4 percent of the entire motorists see it as extremely important, 26.8 percent account for some level of importance. While just 2.8 percent see it as fairly important, none of the motorists see it as important. For *marital status of the proposer*, 65.2 percent of the entire participants see it as extremely important, 28.9 percent account for its importance. While just 5.2 percent see it as fairly important, only 0.7 percent never saw it as important. For *driving experience/history of the proposer*, 72.8 percent of the entire participants see it as extremely important, 20.9 percent account for its importance. While 6.3 percent see it as fairly important, none of the participants saw it as important. For *insurance claims history*, 58.6 percent of the entire participants see it as extremely important, 28.9 percent account for its importance. While 8.7 percent see it as fairly important, 3.8 percent did not see it as important. For *financial interest/ownership on the vehicle*, 67.3 percent of the entire participants see it as extremely important, 25.4 percent account for its importance. While 6.6 percent see it as fairly important, 0.7 of the participants saw it as not important. For *distances to be covered by the vehicle*, 65.9

percent of the entire participants see it as extremely important, 26.1 percent account for its importance. While 8.0 percent see it as fairly important, none of the participants ever saw it as important. For *vehicles' particulars*, 53.7 percent of the entire participants see it as extremely important, 30.7 percent account for its importance. While 10.8 percent see it as fairly important, only 4.8 percent never saw it as important. The choices of adopted factors are consistent with studies (such as Conrad et al., 2009; Magri et al., 2019; Segovia-Vargas et al., 2015; Ugwuanyin, Onwuegbuchunam, Bartholomew, & Anikpe, 2021) regarding motor insurance.

Figure 1. Motor Insurance Underwriting Factors



Source: Researchers' Computations (2022)

Friedman's Rank Test

For the Friedman's two-way analysis of variance by rank, the null hypothesis stipulates that K repeated measures or matched groups come from an identical population or populations with the same median (Eisinga, Heskes, Pelzer, & Grotenhuis, 2017). The Friedman's test, under a null hypothesis, presumes that the response variable has an identical underlying continuous distribution. It thus requires at least ordinal measurement of the variable. The data are usually casted in a two-way tabular representation comprising n rows and K columns. While the rows are representation of the individuals/blocks or matched sets of individuals, the column is representing the numerous treatments/conditions.

The data of the tests are ranked (R_{ik} , $i=1, \dots, n$; $k=1, \dots, k$) of the conditions by blocks; so, $1 \leq R$; $k \leq K$, $i=1, \dots$). In situation of ties, average ranks are adopted. The underlying presumptions of Friedman's test are (Conover, 1999 as cited in Pereira, Afonso, & Medeiros, 2015):

- The n K -variate random variables are mutually independent, i.e., the results within one row do not influence the results within the other rows;
- The observations in each row can be ranked separately according to some criterion of interest.

Friedman's test (Table 2) determines if the rank totals for each of the treatments/conditions conducted are different significantly from the values which could be anticipated by chance (St. Laurent & Turk, 2013).

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Table 2: Results of Friedman's Rank Test on Motor Insurance Underwriting Factors

S/N.	Survey Items	Mean Rank	Rank
1.	Name and Address of the Proposer	3.41	4
2.	Age of the Proposer	4.02	1
3.	Sex of the Proposer	3.91	2
4.	Marital Status of the Proposer	3.73	3
5.	Driving Experience/history of the Proposer	3.17	6
6.	Insurance claims experience of the Proposer	3.21	5
7.	Financial interest/ownership on the vehicle	3.09	8
8.	Distance to be covered by the Vehicle	3.13	7
9.	Vehicles' particulars	3.03	9

Source: Authors' Computations, 2022

Table 3: Test Statistics

N	287
Chi-Square	211.370
D.f.	8
Asymp. Sig.	0.000

Source: Authors' Computations, 2022

The results of the Friedman Test (Table 3) indicated that there is a statistically significant difference in motor insurance providers across the nine selected underwriting factors in motor insurance (age, sex, marital status, name & address, insurance claims history, driving experience/history, distance to be covered by the vehicle, financial interest/ownership on the vehicle, vehicles' particulars, $X^2 (2, n=287) = 211.370, p < 0.05$). Thus, taking critical inspection of the mean values showed a descending layer in providers' perceptions from age of the proposer (M= 4.02) to sex of the proposer (M=3.91) to marital status of the proposer (M=3.73) to name and address of the proposer (M=3.41) to insurance claims history of the proposer (M=3.21) to driving experience/history of the proposer (M=3.17) to distance to be covered by the vehicle (M=3.13) to financial interest/ownership on the vehicle (M=3.09), and a further decrease to vehicles' particulars (M =3.03). The importance of these various underwriting factors characterising motor insurance were significantly ranked to justify the above explanations.

Discussion

This study confirms motor insurance providers' perceptions for underwriting factors in motor insurance policies in Nigeria.

The result shows that age of the proposer is ranked first which noted the highest perceived importance attributed by the providers of motor insurance in Nigeria. This result corroborates earlier study of Shahriari and Shahriari (2016) which proposed age factor as critical element in the consideration for insurance patronage of life insurance product. Further studies (such as Aregbeshola & Khan, 2018; Hagos & Kebede, 2019; Zhang, 2022) suggested age as critical components in underwriting of and the demand for insurance products of any kind. The result is supported by Sorsa (2018) findings noting that age factor influences behavioural patterns of insurance purchase from individual business owner.

The results further show that sex of the proposer is perceived as important by the motor insurance providers hence it is ranked second. The result is supported by recent studies (such as Alaka, Ajemunigbohun, & Mustapha, 2021; Mulenga, Mulenga, Musonda, & Phiri, 2021;

West, 2013) who noted the significant contribution of gender in the selection and consideration of underwriting risk. Boateng and Awunyor-Vitor (2013) earlier noted the significant determinant of an individual insurance status where female genders were said to be significantly more likely to renew their health insurance as compared to male respondents

The results thus established that marital status of the proposer is critical to the underwriting process of motor insurance hence it was ranked third. The studies of Nebolsina (2020) and Shahriari and Shahriari (2016) pinpointed at marital status as required determining variable for underwriting insurance policies.

The results further proved that the name and address of the proposer is important to the motor insurance providers in being able to underwrite motor insurance policies hence it is ranked fourth. This result is in consonant with recent studies (such as Dash, 2018; Jurek & Wolanska, 2021; Peprah, Koomson, & Forson, 2017) who affirmed the significant essence of residential places in the underwriting of an insurance policy. Earlier submission by Lee, Kwon, and Chung (2010) posited that place of resident is enormously related to people's willingness to purchase insurance.

The results affirmed that insurance claims experience of the proposer is ranked fifth among the underwriting process considered by the respondents for motor insurance. The result supported recent studies (such as Central Bank of Ireland, 2017; Oyetunji, Adepoju, & Oladokun, 2021; Yusuf, Ajemunigbohun, & Alli, 2017) who noted that aside claims costs, reporting claims experience can help to prevent unwarranted conflicts among insurers during the underwriting process of an insurance policy. Recent submission by Ajemunigbohun (2018) confirmed the motor insurance policyholders' experiences with respect to their claims settlement methodologies.

The results ranked driving experience of the proposer, among the various underwriting process of motor insurance, as sixth. The result supported studies of Ajemunigbohun and Oreshile (2014); Cohen (2005); and Magri et al. (2019), who all agreed that driving experience is a condition for motor insurance underwriting process. Blesa, Iniguez, Moreno, and Ruiz (2020) supported the idea of driving experience or history in the rating processes of motor insurance policies.

The results affirmed that distance to be covered by the vehicle is ranked seventh among the underwriting process considered by the respondents for motor insurance. The result supported earlier and recent studies (such as Conrad et al., 2009; Boucher, Cote, & Guillen, 2017; Rejikumar, 2013) who noted vehicle usage as a clear risk factor describing accidental events, and thus probability of insureds' driving as indications to extent of vehicle usage. Ayuso, Guillen and Nielsen (2017) added that distance driven is an exposure variable that should be considered in the modelling process of motor insurance policies.

The results, among other things, ranked financial interest/ownership in the motor insurance underwriting processes, as eighth. The result supported earlier submission of Conrad et al. (2009), who mentioned financial interest or ownership as critical element in the underwriting processes of motor insurance policies.

Lastly, vehicle's particular was taken by the respondents as the ninth. The result supported earlier submission of Conrad et al. (2009), who mentioned vehicle's particular as critical element in the underwriting processes of motor insurance policies.

5. Conclusion and Recommendations

Findings from the study have obviously shown the significance of providers' perceptions of different underwriting processes involved in motor insurance policies. It proved further that age

in the underwriting process is the most important risk factor in motor insurance policies, followed by proposer's sex/gender, marital status, name and address, insurance claims experience, driving experience, distance to be covered by the vehicle, financial interest on the vehicle, and vehicle's particular. Imperatively, structuring the underwriting processes of motor insurance policy in the most scientific and acceptable manner will attract highly preferred value among motor insurance providers. Therefore, embracing the appropriate underwriting process provided for in this study and their ranking will upscale policyholders' desires for motor insurance policies in a bid to imbibe insurer's trust, confidence, honesty, reliability and competence in the heart of the insuring public.

To properly justify the results of this study, the following recommendations were highlighted:

- i. Motor insurance providers should prioritise fascinating underwriting risk factors in order to boost the confidence level of the motoring communities;
- ii. Regulators should make proactive steps in monitoring possible default that can disrupt underwriting processes of motor insurance policies;
- iii. Government should rejuvenate and empower motor insurance public complaint commission to address issues relating to motor insurance underwriting process of both parties in the motor insurance contract.

Contributions to Knowledge and Suggestions for Future Research

This study contributes to knowledge in that it sensitises the motor insuring public of the importance of ensuring that underwriting rating factors are taken seriously and handled passionately when dealing with their motor insurance providers. This study will benefit the motor insuring communities in terms of increase in confidence level, effective service delivery, and the likes. It further avails the regulators the opportunity to come up with regulatory measures at better enhancing rating techniques in motor insurance underwriting for claims adequacy, transparency, speediness, and easy contact with provider anytime.

The study suggests that further research works should focus attention on nexus between motor insurance pricing and rating techniques that influence behavioural attitudes of the motor users in Nigeria. Research work is thus encouraged to look at telematics-based mechanisms on motor insurance effectiveness among motor insurance providers in Nigeria. Lastly, future research work could direct attention at premium rating and profitability of motor insurance providers in Nigeria.

Author contributions: All authors mentioned above have contributed substantially, directly and intellectually to the work, and thus, received approval for its publication.

Funding: The research received no funding either externally or internally .

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Acknowledgments: Various participants, who duly and genuinely provided responses to our research instrument are hereby acknowledged for the successful completion of his work.

Conflicts of Interest: The authors announce non-existence of conflicts of interest.

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*Motor Insurance Policies' Underwriting Factors:
Exploratory Analysis from Motor
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Ajemunigbohun, Adedeji .V. Osasona

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