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Pricing and Process Innovation Strategies and Performance of Insurance Companies in North Central Nigeria

[1]James Ilesanmi, [2]Barnabas Barde and [3]Dr. Dannap Nanzing Edmond

[1]Department of Business Administration, Faculty of Administration, Bingham University, Karu
Corresponding author's E-mail:ilesanmijk@yahoo.com
[2]Department of Business Administration, Faculty of Administration, Bingham University, Karu
E-mail:barnabas@yahoo.com
[3]Department of Business Administration, Faculty of Administration, Bingham University, Karu
E-mail: eddydannap2011@gmail.com

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This study holds significant importance for the insurance industry by empirically demonstrating the differential impact of various innovation strategies on firm performance. The objective of this paper was to examine the relationship between pricing and process innovation strategies and performance of insurance companies in North Central, Nigeria. An explanatory research design and quantitative research was adopted. The population is of this study is made up of 550 employees from insurance companies in the North Central Nigeria, which was determined using Krejcie and Morgan (1970) sample table. Structured questionnaire was adapted and administered to 304 respondents being the sample size, and 291 copies of questionnaire were returned representing 96% response rate. A stratified sampling technique was used. Partial Least Square-Structural Equation Modeling (PLS-SEM) was employed as technique for data analysis. This study found that both pricing and process innovation had a significant effect on performance of insurance companies. It was recommended that the management of insurance companies should ensure the development and implementation of pricing strategies that go beyond traditional cost-plus or competitor-based approaches such as premium pricing, discount pricing, psychological pricing and bundle pricing. The management should creatively structure prices to capture greater customer value, enhance customer relationships, optimize revenue and profitability, and differentiate from competitors. They should significantly improve methods, techniques, or workflows to enhance efficiency, effectiveness, and overall performance. The management should involve making changes to how work is performed, the sequence of activities, the utilization of resources, and the overall structure of processes.

Keywords: Innovation Strategies, Pricing Innovation, Process Innovation, Performance of insurance companies

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Introduction

In today's competitive insurance market, companies that can effectively innovate gain a significant advantage. This research identified the key innovation strategies that drive performance, enabling insurance companies to differentiate

themselves and achieve sustainable competitive advantage. Innovation has emerged as a critical driver of success for businesses across various sectors, including the insurance industry (Smith & Jones, 2024). In the face of increasing competition, evolving customer expectations, and rapid technological advancements, insurance companies must continuously innovate to remain competitive and achieve sustainable growth. However, the extent to which these strategies impact financial performance remains a subject of on-going research and debate. While some studies suggest a positive correlation between innovation and performance (Simon *et al.,* 2022), others highlight the complexities and challenges associated with implementing and measuring the effectiveness of innovation initiatives within the insurance sector.

As firms strive to improve their performance, revamping the entire operations of the firm becomes an almost inevitable process and the insurance industry is not any different. The process of revamping mainly takes the form of introducing innovative approaches in the business models with the aim of enhancing better performance of the firm. This transformative era has revolutionized how firms in the insurance industry carry out their operations. This era is characterized by new ideas, new competitors, new challenges, and new technological opportunities. These factors have challenged the form in which conventional insurance firms conduct their operations and have significantly necessitated for the wide embracement of innovation. Thus, the current trends in the insurance market inductively imply that high performing insurance companies highly incorporate innovation strategies in their operations (Mwaura, 2016). This postulation notwithstanding, it is still not very clear how and to what extent innovation strategies and performance of insurance firms relate. Insurance has existed in the world for a significantly long period and is used by parties as a contract to mitigate them against losses.

A wide range of specialist financial services are available, including risk underwriting and the mobilization of huge sums of money for long-term investments (Nyongesa, 2017). In the case of a loss, enormous quantities of money are gathered by insurance companies for the purpose of paying out claims from customers. The value of individual enterprises, the expansion of industry, and the general macroeconomics of a country are all influenced by the success of insurance companies. As a result, policyholders, shareholders, potential investors, workers, and other interested parties are directly impacted by insurers' performance (Öner Kaya, 2015). Despite elaborate innovations in the insurance sector, insurance companies continue to post poor financial performance. Low penetration rates, cryptic and complex products, a high cost of doing business as an insurer and a slowdown in the economy are among the challenges the sector faces, according to Deloitte (2020). By addressing this research gap, this study examined pricing and process innovation strategies and the performances of insurance companies in North Central Nigeria.

The objective of this study is to examine the effect of pricing and process innovation strategies on the performance of insurance companies in North Central Nigeria. The specific objectives were to:

i) investigate the effect of pricing innovation on the performance of insurance companies in North Central Nigeria.
ii) examine the effect of process innovation on the performance of insurance companies in North Central Nigeria.

The following null hypotheses were formulated in this study and tested:

Ho_1: There is no significant relationship between pricing innovation and performance of insurance companies in North Central Nigeria.
Ho_2: There is no significant effect of process innovation on performance of insurance companies in North Central Nigeria.

Literature Review

Innovation Strategies

Innovation strategy encompasses the structured approach an organization employs to foster creativity, develop new ideas, and translates them into successful products, services, or processes (Tidd et al., 2019). Established organizations often have ingrained cultures that resist change and innovation. This can manifest in risk aversion, fear of failure, and a preference for maintaining the status quo. Resources may be allocated to projects that are not aligned with the organization's overall strategy or that have a low probability of success (Ali & Essien, 2023).

According to Baik and Kang (2020), a firm's success in innovation is determined by its effectiveness in translating innovation activities into market triumph. Some studies like Chattergee *et. al.,* (2024) show that a firm’s data-driven culture impacts its product and process innovation, which in turn improves its performance and provides better competitive advantage in the business environment. An innovation strategy is a deliberate and systematic approach that

guides an organization in identifying, developing, and implementing novel ideas that create significant value for customers and the organization itself. It serves as a roadmap for innovation efforts, ensuring they are aligned with the overall strategic objectives of the business. By embracing a comprehensive and well-defined innovation strategy, organizations can unlock their full potential, achieve their strategic objectives, and thrive in today's rapidly evolving business landscape.

Pricing Innovation

Price innovation in the insurance industry refers to the development and implementation of pricing strategies that go beyond traditional cost-plus or competitor-based approaches. It involves creatively structuring prices to capture greater customer value, enhance customer relationships, optimize revenue and profitability, and differentiate from competitors (Smith & Jones, 2022; Patel & Chen, 2021). While this definition provides a general framework, specific examples and applications of price innovation within the insurance industry may vary depending on the specific market, product, and competitive landscape. Further research and analysis are needed to fully understand the impact and effectiveness of different price innovation strategies in the insurance sector.

Pricing innovation refers to the "development and implementation of creative and unconventional pricing strategies that go beyond traditional cost-plus or market-based approaches (Reinartz et al., 2021). It involves rethinking the value proposition, exploring new pricing models, and leveraging customer data to optimize revenue and profitability.

Process Innovation

Process innovation in the context of insurance companies refers to the development and implementation of new or significantly improved methods, techniques, or workflows to enhance efficiency, effectiveness, and overall performance. It involves making changes to how work is performed, the sequence of activities, the utilization of resources, and the overall structure of processes (Githua et al., 2023). The definition is concise and easy to understand. It highlights key elements of process innovation, such as improved methods, techniques, and workflows. It correctly emphasizes the goal of enhancing efficiency, effectiveness, and overall performance.

Process innovation refers to the development and implementation of new or significantly improved methods, techniques, or workflows within an organization to enhance efficiency, effectiveness, and overall performance. It involves making changes to how work is performed, the sequence of activities, the utilization of resources, and the overall structure of processes. By implementing process innovation strategies, insurance companies can improve operational efficiency, reduce costs, enhance customer satisfaction, and gain a competitive advantage in the marketplace (Miles et al., 2020).

Performance of insurance companies

Performance is defined as its ability to compete effectively, efficiently, and profitably thanks to the efforts of its management, economics, and marketing departments (Taouab & Issor, 2019). As a result of the company's operations and plans, a firm's performance is determined. When companies do well, the whole industry in which they operate grows, and this leads to greater economic success for everyone (Cekrezi, 2015). When a firm does well, it affects the expansion and consolidation of its market, which in turn affects the economy as a whole, as a result of this. This applies to all sorts of enterprises, including insurance firms, which play a role in the economy by transferring risk and providing a mechanism to encourage savings and investment. Meher and Zewudu (2020) argued that insurance firms must make a profit while also fulfilling their social and national obligations as a provider of risk savings for insurable risks. A company's performance is measured by its ability to achieve both internal and external goals (Zagorchev & Gao, 2015). Different organizations use different methodologies to gauge their success based on their specific objectives. Performance could be measured using financial and non-financial metrics. Often used measures include profitability, output, growth, organisational success, market dominance, and competitive environment (Kaydos, 2020).

Operational efficiency refers to the ability of an organization to maximize output while minimizing wasted resources such as time, money, and effort (Lee, 2024; Pöhler *et al.,* 2024; Wang, 2024; Walter, 2024). It involves optimizing workflows, reducing costs, and enhancing productivity without compromising quality. An overemphasis on efficiency can lead to short-term gains at the expense of long-term innovation and growth. By focusing solely on reducing costs and increasing output, companies may neglect research and development, strategic planning, or investing in human capital.

Empirical Review

Mwangi (2023) examined the effect of business innovation strategies on performance of insurance companies in Nyeri County, Kenya. The study was anchored on the diffusion of innovation, resource based view and profit maximization theories. The study was descriptive in nature. The target population for this study comprised insurance companies in Nyeri County. Heads of departments was the respondents in the study. A census of all 28 insurance companies in Nyeri was conducted. Purposive sampling was used to sample respondents in the study. In the study the researcher purposively sampled 5 managers including the branch managers, operation mangers, finance managers, marketing managers and information and communication technologies (ICT) managers. The study therefore had 140 respondents. For data collection, a questionnaire was used. Face, content and construct validity were ensured in this study. Descriptive statistics and multiple regression analysis were used in analysis of data using SPSS. Tables were used to display results. Business innovation strategies were strongly correlated with performance of insurance companies whereby 52.7% of the performance of insurance companies could be attributed to business innovation strategies. Regression analysis also showed that market innovation and process innovation were significant. It was concluded that business innovations strategies have a positive influence on performance through market and process innovations.

Olofin and Olaniyan (2024) investigated the impact of pricing innovation on the profitability of Insurance Companies in Nigeria. The study makes use of cross-sectional survey design, convenience sampling, questionnaires from 25 insurance companies. Data was analysed using multiple regression. Findings showed that pricing innovation has a significant positive impact on the profitability of Nigerian insurance companies. Potential for common method bias due to the use of self-reported data.

Agboola and Owolabi (2022) assessed the effect of pricing innovation on customer satisfaction and financial performance of Insurance Companies in Nigeria. The study adopted cross-sectional survey design, with convenience sampling. Data was collected through questionnaire from 25 insurance companies, while Structural equation modeling (SEM) was used for data analysis. Findings showed that pricing innovation has a significant positive impact on customer satisfaction and financial performance of Nigerian insurance companies. The study did not investigate the moderating effect of market competition on the relationship between pricing innovation and performance.

Ozcan and Demir (2023) assessed the effect of agile process innovation on the performance of Insurance Companies in Turkey. The study adopted mixed methods, purposive sampling, 15 Insurance Companies, 120 respondents, questionnaire, interviews, regression analysis and content analysis. Agile process innovations significantly impact financial performance and customer satisfaction. Limited exploration of the impact of agile process innovation on employee satisfaction and organizational agility. Potential for researcher bias in qualitative data analysis and limited generalizability.

Theoretical Framework

Theory of Diffusion of Innovations

Communication theorist, Everett Rogers (1962), coined this theory to explain behavioral change in society with respect to how they embrace new ideas and technology. According to this theory, there are various psychosocial factors that influence how people adopt new concepts. Based on these factors, persons are likely to accept, reject, or take time before fully having an opinion about new ideas. The theory is lauded for being realistic and relevant in explaining innovation in different fields. The most significant instance that supports this theory is the spread of Facebook. This social platform grew from a product made for students and tutors in learning institutions to a global social site for the general public. The adoption spread slowly from one group to another and with more testing came more adoption. This theory establishes relevance to this study because it can help understand how pricing and process innovation strategies influence the adoption of insurance products. This can be in terms of usage-based insurance, digital claims processing, cost savings and convenience.

Methodology

Explanatory research design was employed because it is aimed at understanding the underlying causes and effects of phenomena. This study adopted a quantitative research. The population of this study comprised Five Hundred and Fifty (550) staff of insurance companies (Human Resource Department, 2024). This study employed sample size of 304

employees of insurance companies in the North Central Nigeria. The unit of analysis for this study is employees at the individual level because individual-level data provide detailed insights into employee perceptions, attitudes, behaviors, and experiences. This study employed a stratified sampling technique with the use of primary source of data collection. The questionnaire was structured questionnaire to elicit responses from respondents on a five-point Likert-type scale that applies to them 5 to 1 where 5= Strongly Agree 4=Agree 3= Neutral, 2= Disagree 1= Strongly Disagree for each of the respective statement.

Partial Least Square Structural Equation Modeling (PLS-SEM) was adopted to process the data collected from the respondents. Partial Least Square Structural Equation Modeling (PLS-SEM) prioritizes predictive accuracy and maximizing the explained variance in the data. Deals with both reflective (indicators reflect the latent variable).

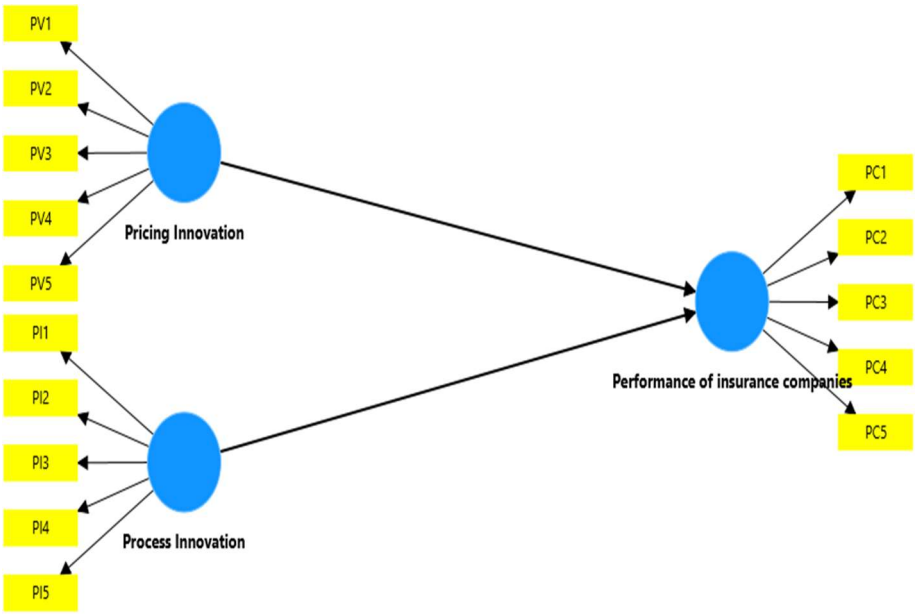

Figure 1: ***Model Specification***
Source: ***Smart PLS Output Version (v) 4.1.1.1***

A model specification in Figure 1 showing the direct relationship between the study variables. Where: PV = Pricing Innovation, PI = Process Innovation and PC = Performance of insurance companies.
This study tested the research hypotheses by rejecting the null hypothesis (HO) when p-value < 0.05 significance level and failing to reject the null hypotheses (HO) when p-value > 0.05 significance level.

Data Analysis and Results

Table 1: Discriminant Validity using Fornell-Larcker criterion

Variables	**1**	**2**	**3**
1. Performance of insurance companies	0.829		
2. Pricing Innovation	0.406	0.842	
3. Process Innovation	0.652	0.391	0.948

Source: *SmartPLS v. 4.1.1.1 Output (2025)*

Fornell-Larcker criteria of discriminant validity established discriminant validity among constructs at a point where the squared AVE in the diagonal in Table 1 is greater is higher than the correlation with other constructs (Fornell & Larcker, 1981).

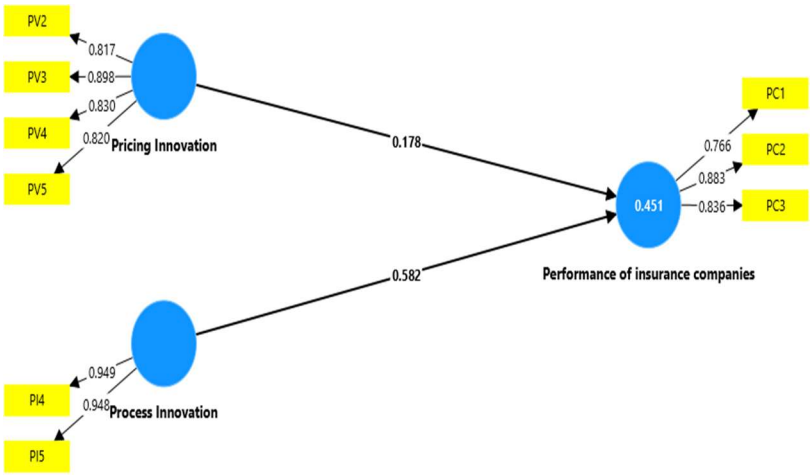

Figure 2: ***Structural Model***
Source: *SmartPLS v. 4.1.1.1 Output (2025)*

Factor loading show how well an item represents the underlying construct. According to Hair *et al.* (2014) indicators loading must be at least 0.708. Figure 2 showed the retained indicators of three constructs of pricing innovation, process innovation and performance of insurance companies.

Table 2: Assessing Path Coefficient and Hypotheses Testing

Research Hypotheses		Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Decision
HO1	Pricing Innovation -> Performance of insurance companies	0.178	0.181	0.049	3.634	0.000	Reject the null hyp.
HO2	Process Innovation -> Performance of insurance companies	0.582	0.582	0.042	13.956	0.000	Reject the null hyp.

Source: *SmartPLS v. 4.1.1.1 Output (2025)*

Test of Research Hypotheses

Test of Hypothesis One

The result from the path coefficient Table 2 revealed that pricing innovation had a probability value (p-value) of 0.000 < 0.05 which implies that pricing innovation had a significant effect on the performance of insurance companies in the North Central Nigeria. Therefore, the null hypothesis is rejected.

Test of Hypothesis Two

The result from the path coefficient Table 3 showed that process innovation had a probability value (p-value) of 0.000 < 0.05 which implies that process innovation had a significant effect on the performance of performance of insurance companies in the North Central Nigeria. Therefore, the null hypothesis is rejected.

Table 3: Coefficient of Determination (R^2)

Variables	R-square	R-square adjusted
Performance of insurance companies	0.451	0.448

Source: *SmartPLS v. 4.1.1.1 Output (2025)*

The results in Table 3 revealed that coefficient of determination (R^2) value of 45.1% variance in performance of insurance companies are explained by pricing innovation and process innovation. According to Cohen (1988), R^2 values of 0.02, 0.13, and 0.26 are considered weak, moderate and substantial respectively. This means the variance in performance of insurance companies is substantial.

Table 4: Collinearity Statistics- Variance Inflation Factor (VIF)

Independent Variables	Variance Inflation Factor (VIF)
Pricing Innovation	1.181
Process Innovation	1.181

Source: *SmartPLS v. 4.1.1.1 Output (2025)*

There is no multicollinearity in the data analysis of statistics showed that this assumption has been met as, VIF scores in Table 4 were well below 3.3 (Statistics = 1.181 and 1.181) for pricing innovation and process innovation respectively. Variance Inflation Factor (VIF) value should be ≤ 3.3 (Diamantopoulos & Siguaw, 2006).

Table 5: Predictive Relevance (Q^2)

Dependent Variable	Q^2predict	RMSE	MAE
Performance of insurance companies	0.438	0.755	0.608

Source: *SmartPLS v. 4.1.1.1 Output (2025)*

The rule of thumb indicated that a cross validated redundancy or blindfolding $Q^2 > 0.5$ is regarded as a predictive model (Chin, 2010). Table 6 revealed that that there is predictive relevance because Q^2 value of 0.827 for performance of insurance companies is > 0.5. A higher Q^2 indicates better predictive accuracy of the model.

Table 6: Model Fit

Model Fit	Saturated model	Estimated model
SRMR	0.071	0.071
d_ULS	0.297	0.297
d_G	0.172	0.172
Chi-square	313.279	313.279
NFI	0.784	0.784

Source: *SmartPLS v. 4.1.1.1 Output (2025)*

Table 6 showed the result of the model goodness of fit. This study used the standardized root mean square residuals (SRMR). The choice of this index was based on the fact that the SRMR provides the absolute fit measure where a value of zero indicates a perfect fit. The study adopted Hu and Bentler's (1998) suggestion that a value of less than 0.08 represents a good fit while applying SRMR for model goodness of fit. The study result indicates an SRMR value of 0.071 which is less than 0.08, therefore indicating the fitness of the model of this study as suggested by Hu and Bentler (1998); Ringle *et al.* (2019).

Discussion of Findings

A bootstrapping command was carried out and the result displayed the path coefficient and the p-value in Table 3 based on the direct relationships on two-tailed tests at 95% level of significance as postulated in the hypotheses. The results showed that there is a positive and significant relationship between pricing innovation and performance of insurance companies because the p-value of 0.000 was found to be less than threshold of 0.05. This study is consistent with the study conducted by Agboola and Owolabi (2022). Pricing innovation has a significant positive impact on customer satisfaction and financial performance of Nigerian insurance companies.

Pricing innovation is the least contributor to performance of insurance companies with Beta value of 0.178. Process innovation revealed a positive and significant effect on performance of insurance companies because the p-value of 0.000 was found to be less than the threshold of 0.05. This study is agreed with the study conducted by Ozcan and Demir (2023). Agile process innovations significantly impact financial performance and customer satisfaction. Process innovation is the highest contributor to performance of insurance companies with Beta value of 0.582.

Conclusion and Recommendations

i. The findings of this paper concluded that pricing innovation led to improvement in performance of insurance companies.
ii. The study concluded that process innovation led to increase in performance of insurance companies.

The following recommendations are made in line with the conclusions:

i. The management of insurance companies should ensure the development and implementation of pricing strategies that go beyond traditional cost-plus or competitor-based approaches such as discount pricing, premium pricing, psychological pricing and bundle pricing. The management should creatively structure prices to capture greater customer value, enhance customer relationships, optimize revenue and profitability, and differentiate from competitors.
ii. The management of insurance companies should significantly improve methods, techniques, or workflows to enhance efficiency, effectiveness, and overall performance. The management should involve making changes to how work is performed, the sequence of activities, the utilization of resources, and the overall structure of processes.

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