Int Journal of Social Sciences Management and Entrepreneurship 8(4): 507-519 2024

ISSN 2411-7323

www.sagepublishers.com

STRATEGIC INNOVATIONS AND PERFORMANCE OF NATIONAL HOSPITAL INSURANCE FUND IN KENYA

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ABSTRACT

Companies across the world are turning to strategic innovation as a reaction to the growing volatility and complexity of the business environment they are facing. The primary goal of this research is to determine the impact of strategic innovations on the organizational performance of the National Health Insurance Fund (NHIF) in chosen counties in Kenya's northern region. According to the specific objectives, this investigation examined the impact of process re-engineering and product innovation on the organizational performance of the National Health Insurance Fund (NHIF) in the selected counties in Kenya's northern region. Both system dynamic theory and knowledge-based theory served as the theoretical foundations for this investigation. For the purpose of collecting data, a descriptive survey research design was used, which included the utilization of both primary and secondary data sources. Primary data was collected via the use of structured questionnaires. The study's target group was made up of 64 NHIF workers who work in the chosen county offices, according to the researchers. It was necessary to conduct a census in order to determine the sample size of all 64 workers, and a random sampling method was utilized in order to ensure that each participant has an equal chance to participate in the research. The gathered data was examined with the help of SPSS in order to identify the connection between the various research factors. Graphs and pie charts were used to illustrate the findings, as well as frequency tables and graphs. Ethical considerations were taken into account, such as obtaining permission from the organization and ensuring that the information provided by the respondents is kept private. Descriptive and inferential statistics were used in analyzing the data and a multiple regression model was applied to establish the relationship amongst the studied factors. The study concludes that process re-engineering has a positive and significant effect on the organizational performance of the NHIF in Northern region Kenya. In addition, the study concludes that there is a positive and significant effect of product innovation on the organizational performance of NHIF Northern Region Kenya. Based on the findings, the study the government should implement policies that enable the NHIF to develop and innovate its products but at the same time protect the interests of the members so as to enhance its performance. The study recommends that the government should ensure that NHIF innovative processes are undertaken in the rightful ways to ensure its efficiency and the performance of the fund is optimal.

Key Words: Strategic Innovations, Process Re-Engineering, Product Innovation, Performance of National Hospital Insurance Fund in Kenya

Background of the study

A healthy country is a prosperous one, and Kenya has already made significant steps toward achieving 'wealth' via provisions in the constitution and the Vision 2030 plan that address health-related issues. In the years following 2004, debates have increased over the best way to attain Universal Healthcare Coverage (UHC) in order to guarantee that all Kenyans have access to high-quality and inexpensive health care, regardless of whether such services are offered in the private or public sectors. Health insurance is a kind of health financing system that is intended to pool money in order to give all people, regardless of their socioeconomic position, with access to high-quality, inexpensive personal health care based on their health requirements. In many countries, like as the United States, it is mandated by legislation as part of a larger healthcare reform initiative. The government, the private sector, or a hybrid of the two may be responsible for its administration. The insurance's funding methods may differ depending on the program and the country in which it is offered. National or statutory health insurance in the United States of America (USA) does not always imply government-run or government-financed health care, but is instead created by national law in most cases. (New York Times, 2012). The Beveridge and the Bismarck models of national health insurance are the two most often used models of national health insurance today. The model was named after William Beveridge, a strong social reformer who was instrumental for the establishment of the United Kingdom's National Health Service (Hennock, 2007). (Hennock, 2007). According to this system, health care is provided and paid for by the government via taxes, just as the police force and the public library are both supported by the federal government through taxation. Government-owned hospitals and clinics are common in this nation, but not all of them are. Some physicians are government employees, but there are also private doctors who take payment from the government for their services. Doctor's bills are never provided to people under this kind of system. Because the government, as the only payer, has complete control over what physicians may perform and how much they can charge, the systems tend to have low costs per capita. (Leichter, 2005,).

It is adopted in a number of nations, including its origin, Great Britain, Spain, the bulk of Scandinavia, and New Zealand. The Beveridge plan, or variations on it, was developed in the United Kingdom. Because the people of Hong Kong simply refused to give up their Beveridge-style health care when the Chinese took over the former British colony in 1997, Hong Kong has continued to offer its own Beveridge-style health care to the public since that time. With Cuba, the Beveridge method is taken to its logical conclusion; it is probably the purest example of complete government control over health care anywhere in the world (Leichter, 2005). The majority of individuals who pay for national health insurance will, of course, also join in the insurance program, which is a fact that is widely accepted in practice. If a person decides to participate in more than one insurance fund under the national health insurance system, the rates of contributions may differ depending on which insurance fund the person chooses to participate in under the national health insurance system. Following passage of the Patient Protection and Affordable Care Act, the United States has a "health insurance mandate". As a result, the federal government of the United States has been engaged in the sponsorship of numerous multi-state insurance programs (New York Times, 2019).

Health insurance, according to the World Health Organization (WHO), is a potential method of attaining universal health coverage (World Health Organization; 2019). There are a number of poor and middle-income nations working on creating national or social health insurance programs, including the Philippines, Thailand, and Vietnam (SHI). Those who are insured by different types of health insurance have varied levels of impact on the individuals who are covered by those plans. For example, whereas PHI is typically characterized as serving mostly the wealthy parts of a community, CBHI is often characterized as a health

Kirabo, Namusonge and Iravo (2020) in Rwanda found that strategic innovation measurers had strong effect on the performance of telecommunication firms in Rwanda. The company is

always looking for innovative ways to improve on the Service delivered to our customers, The company has a process of introducing new and cost effective ways of doing things that create new demands and new market space , The company is always investing in new and modern infrastructures to improve on the Service delivered to our customers, The firm is quick to adopt new Technological advancements in the market, The company always use internet and social media platforms to attract potential innovative man power in the firm and A plan made by an organization to encourage advancements in either technology or service usually by investing in research and development activities.

An act of parliament in 1966 created the National Health Insurance Fund (NHIF), which is a department under the Ministry of Health. Its mission is to provide health insurance solely and mandatorily for people employed in formal employment (Edna 2019). In 1972, an amendment was passed to enable people working in informal jobs to volunteer for the organization. The fund was converted into a state company in 1998 by an act of parliament, known as the National Health Insurance Fund Act No. 9 of 1998. (Deloitte, 2019). The NHIF's mandate includes the registration of members, the receipt of fund contributions and payments, the disbursement of funds to declared hospitals, the establishment of criteria for hospital declaration and accreditation, the regulation of contributions payable to the fund, the regulation of benefits and other payments made out to the fund, the protection of the interests of fund contributors, and the provision of advice to the government on national policy in relation to national health insurance, among other things (Deloitte, 2019). The fund fulfills its mission via two main agents, namely, employer payments to the fund on a monthly basis and declared hospitals that provide medical services on credit to NHIF members and subsequently collect reimbursements through hospital claims (Deloitte, 2012).

Statement of the Problem

Strategic innovation has been shown to be associated with better performance in studies (Walker, 2019). Strategic innovation improves a company's worldwide competitiveness, total productivity, and ability to maximize shareholder value. When it comes to innovation, there are many unknowns and uncertainties to contend with. Both incremental innovations, such as updated versions or expansions of existing goods and processes, as well as radical innovations, which are based on the creation or implementation of new concepts and novel technology, are examples of what is meant by innovation (Dewar and Dutton, 1986). In the process of creating an innovation inside a business, there is a certain amount of uncertainty. Both market and technical uncertainty have an impact on an organization's attitude toward innovation as well as the activities that take place when the innovation is being implemented. NHIF operates in a highly regulated environment that necessitates a certain level of consistency in the delivery of services to its members on the part of the organization. For survival and the enhancement of organizational performance, NHIF must have adaptation competencies in response to constant change, hyper competitiveness, changing demographics, and changing consumer requirements (Lilly & Juma, 2022).

NHIF coverage is low in Isiolo County outside of the formal employment sector, and as a result, many poor and vulnerable households are more likely to engage in risky behaviors such as self-medication, irrational use of over-the-counter antibiotics, or the use of unqualified medical practitioners such as herbalists to treat their ailments (traditional "doctors"). Furthermore, when illness and sickness strike uninsured families in Isiolo County, there is a widespread propensity for poor and vulnerable rural households to turn to fundraising or the sale of family goods, including restricted assets, in order to cover the expenses of health treatment. Because of the changing competitive environment, the large National fund has adopted innovative methods of conducting business that not only provide added value to clients, but also earn them a premium on their investments. Strategic innovation is done both for the sake of survival and for the sake of sustainability.

Firms in the Kenyan health insurance sector have seen their performance fluctuate, in part due to the instability that defines environmental variables in this industry, as has been highlighted before (Bett, Obura & Oginda, 2018). In spite of the fact that it is the sole national health insurance in Kenya, the National Health Insurance Fund (NHIF) has not been exempted from the volatility of the insurance sector and the resulting problem of predictability of performance. In order to retain its dominant position in the Kenyan health insurance market, the National Health Insurance Fund (NHIF) must continue to innovate (Wanjiru 2019).

The organization has made substantial investments in information and communications technology (ICT) to reach its members and support the delivery of its mandate. This includes the introduction of electronic funds transfer (m-pesa) for contributions, Swipe Cards, and Point of Sale (POS) systems, which have shortened the time it takes to process a claim from a month to 14-21 days. The NHIF network's increasing number of accredited institutions has resulted in an increase in the amount of money that may be saved on its inpatient package. National Hospital Insurance Fund (NHIF) is the nation's largest insurer, with about 645 health facilities in its network accounting for 44,299 beds out of a total of 49,000 accessible beds throughout the country, according to the National Hospital Insurance Fund (NHIF) (MOH, 2010). Despite the fact that the National Hospital Insurance Fund (NHIF) has expanded hospital coverage and membership over the past decade, an estimated 82 percent of Kenyans do not have access to any kind of health insurance. As a consequence, the article tries to evaluate and identify the variables that have contributed to the NHIF's improved but still sluggish growth throughout the last decade and beyond. The goal of this study was to look at the effect of new techniques on the National Hospital Insurance Fund's improved performance in Kenya's northern regions, namely in the counties of Embu, Tharaka Nithi, Meru, and Isiolo.

Objectives of the Study

The study was guided by the following objectives;

General Objective

The general objective was to establish the relationship between strategic innovations and performance of National Hospital Insurance Fund in Kenya

Specific Objectives

The study was guided by the following specific objectives

i. To examine the effect of process re-engineering on performance of performance of National Hospital Insurance Fund in Kenya.

ii. To establish the effect of product innovation on performance of National Hospital Insurance Fund in Kenya

Theoretical Review

Systems Dynamic Model

Known as system dynamics (SD), it is a methodology and mathematical modeling approach that is used to fram a complicated issue or problem, comprehend it, and debate it. System dynamics was first created in the 1950s to assist business managers in improving their knowledge of industrial processes. Today, it is utilized in both the public and commercial sectors for policy analysis and design, and it is becoming more popular. Many businesses claim that their "employees are their most valuable assets." People are the sole assets that generate revenue in the public service sector, such as NHIF. It is frequently necessary to manipulate qualitative/soft factors like as morale, productivity, and work quality in order to drive value creation via management decisions, depending on the issues that the company wishes to solve (Zack, 2021).

In order to handle the dynamic complexity that defines many public health problems, system dynamics is a systems modeling approach that is ideally adapted for the job. Using the system dynamics method, models of accumulation and feedback are developed and evaluated in a systematic manner in order to identify policies that are successful in overcoming policy opposition (Richardson, 2019). A lively debate erupted among academics and professionals working in the field of System Dynamics Modelling despite the controversy surrounding the use of qualitative variables. Questions about attractiveness multipliers, human behavior in systems dynamic models (SDM), idea mapping, and soft variables, among other topics, sparked lively debate among academics and professionals working in the field of System Dynamics Modelling (Homer, 2023).The systems modeling technique of system dynamics is typically seen as a workable solution to challenges of dynamic complexity in public health. To begin utilizing the method, you must first create causal diagrams and policy-oriented computer simulation models tailored to each problem setting (Sterman, 2021).

Knowledge Based Theory

Methods for managing intangible assets aim to promote knowledge transfer across three types of intangible assets in order to improve people's ability to operate both within and outside the business. External structure, internal structure, and individual competency are the three types of intangible assets that may be classified as such. The phrase "knowledge capital" refers to a mix of internal structure and human competency (Syed & Kaushar, 2020).

NHIF members, the public and private hospital system, employers, and NHIF fund recipients all make up part of the NHIF fund's external structure, which may be thought of as a family of intangible networks. The worth of external connections for a company is defined by the company's capacity to manage customer issues, which may be unpredictable. Reputations and relationships may be positive or negative, and they can change through time as a result of people's actions (Alavi & Leidner, 2021). The internal structure of a business is made up of the following elements: Patents, model templates, computer systems, and other more or less explicit administrative tools and processes are examples of internal directed activities that have the overall effect of establishing internal networks and structures inside the business. These are the results of the workers' efforts and are property of the company in question. The NHIF system incorporates the skills of employees from throughout the fund's several divisions, including Human Resources (HR), Information Technology (IT), Management, and more. Some of the company's internal and external infrastructure will survive even if it’s most vital personnel leave, providing a foundation for a fresh start (Sveiby & Lloyd, 2019).

Conceptual Framework

The conceptual framework depicts the relationship between the independent variables, which in this case are process engineering and product innovation and the dependent variable, which in this case is the organizational performance of the National Health Insurance Fund in four selected counties in Kenya's Northern region

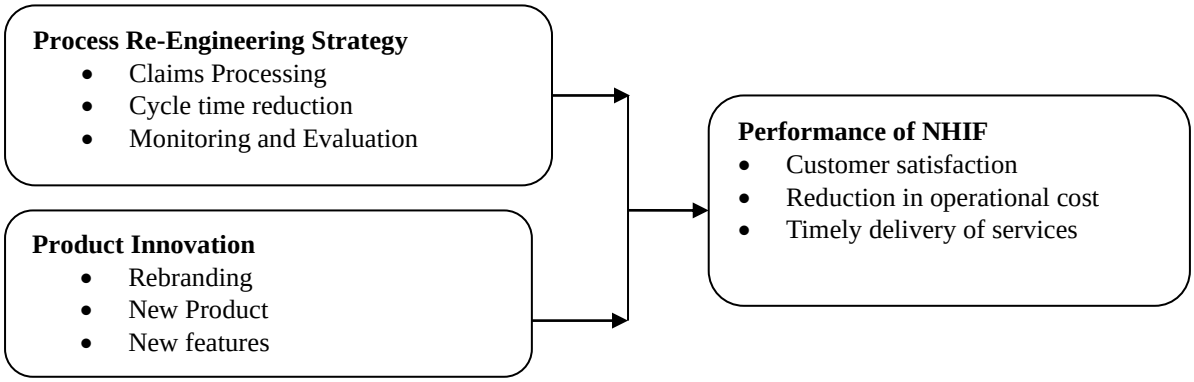

Figure 2.1: Conceptual Framework

Process Re-Engineering Strategy

Process Re-engineering Strategy refers to the systematic approach of analyzing and redesigning business processes to achieve significant improvements in performance, efficiency, and quality. The goal is to rethink and radically redesign workflows and processes to enhance service delivery, reduce costs, and improve customer satisfaction (Forrester and Seng, 2021). Claims processing is a critical function in industries such as insurance, healthcare, and finance, where organizations handle numerous claims from customers daily. This process involves receiving, reviewing, and resolving claims submitted by clients, ensuring that they are valid and meet the necessary criteria for approval. Effective claims processing is essential for maintaining customer satisfaction, as timely and accurate resolution directly impacts client trust and loyalty. Streamlining this process can involve implementing automated systems to manage submissions, using data analytics to identify common issues, and providing staff training to enhance efficiency. By optimizing claims processing, organizations can reduce errors, minimize fraud, and ultimately improve their bottom line (Wolstenhome, 2022).

Cycle time reduction refers to the practice of shortening the duration required to complete a process from start to finish. In various industries, long cycle times can lead to inefficiencies, increased costs, and frustrated customers. By analyzing the workflow, organizations can identify bottlenecks, redundancies, and delays, allowing them to implement changes that streamline operations. Techniques such as Lean methodology, Six Sigma, or automation can be employed to eliminate waste and enhance productivity. Reducing cycle time not only speeds up service delivery but also enhances the organization's ability to respond to market changes and customer demands, ultimately providing a competitive advantage (Syed & Kaushar, 2020).

Monitoring and evaluation (M&E) are essential components of any process improvement strategy, ensuring that the changes made yield the desired results. M&E involves regularly tracking key performance indicators (KPIs) and metrics to assess the effectiveness of newly implemented processes. By establishing a robust M&E framework, organizations can gather data on performance, identify areas for further improvement, and make informed decisions based on real-time insights. This continuous feedback loop helps organizations adapt their strategies as needed, ensuring that they remain aligned with their goals and responsive to stakeholder needs. Ultimately, effective monitoring and evaluation not only support accountability but also foster a culture of continuous improvement within the organization (Alavi & Leidner, 2021).

Product Innovation

Product innovation refers to the development and introduction of new or significantly improved goods or services that meet customer needs or create new market opportunities. This can involve enhancing existing products, creating entirely new offerings, or incorporating advanced technologies and features that provide added value (Sveiby & Lloyd, 2019). Rebranding involves a comprehensive strategy to change the corporate image of an organization or its products. This process may include altering the name, logo, design, or overall messaging to better align with current market trends, consumer preferences, or the company’s strategic goals. Rebranding can be a response to various factors, such as a shift in target audience, negative perceptions, or the need to distinguish from competitors. Successful rebranding can revitalize a company’s image, attract new customers, and re-engage existing ones. It requires careful planning and execution to ensure that the new brand identity resonates with the intended audience while maintaining brand equity (Carrin, Desmet & Basaza, 2019).

Introducing a new product is a key aspect of business growth and innovation. It involves developing a novel offering that addresses unmet needs in the market or enhances existing

solutions. This process typically begins with thorough market research to identify opportunities and assess consumer demands. Following this, organizations engage in design, testing, and marketing efforts to ensure that the product meets quality standards and resonates with consumers. A well-executed new product launch can create buzz, drive sales, and solidify a company's reputation as an industry leader. Furthermore, continuous feedback and iteration are crucial for refining the product post-launch and ensuring its long-term success in the marketplace (Chacha, 2019).

Adding new features to existing products is an effective way to enhance their value and maintain customer interest. This can involve incorporating innovative technology, improving usability, or addressing specific customer feedback. By continuously updating products with relevant features, companies can differentiate themselves from competitors and keep pace with changing consumer expectations. New features not only improve user experience but also provide opportunities for upselling and cross-selling, as customers may be more inclined to upgrade to access enhanced functionalities. Moreover, effectively communicating these new features through marketing and customer support is essential for ensuring that users understand and appreciate the added value, ultimately leading to higher satisfaction and loyalty (Deloitte, 2019).

Empirical Literature

Process Re-Engineering Strategy and Organization Performance

The National Hospital Insurance Fund (NHIF) intends to utilize case-based reimbursement for inpatient treatments to a larger degree than it has in the past. A consequence of recent Gazette Amendments, the National Health Insurance Fund (NHIF) will be extending the scope of its benefits package to include coverage for outpatient medical care. The main form of funding would be capitation payments to long-term care facilities and nursing homes. Over-servicing and supplier-induced demand are exacerbated by fee-for-service systems, which have been highlighted as a significant driver of rising health care prices (NHIF, 2008). Since the great majority of NHIF-reimbursed services are delivered by private facilities (as opposed to public institutions), this suggests a preference for private providers among paid workers (who make up the large majority of individuals covered by the NHIF) (NHIF, 2009).

Even though health centers and basic care units provide for the vast majority of services, secondary and tertiary care providers in Kenya account for over 70% of total health expenditures. When compared to the cost of supplies, equipment, and drugs, the cost of employing a healthcare workforce is quite high (accounting for about 50 percent of the budget). More than 48% of the overall expenditure goes for curative therapy at the Ministry of Health (MOH, 2007). Payments to health-care facilities are also made by the Ministry of Health (MOH), which provides funds to county- and national-level hospitals, as well as private hospitals. As indicated in the chart below, regional and county health institutions and dispensaries get line-item budget allocations, while national level hospitals receive global budget allocations. Compensation is provided to workers by the Ministry of Health in the form of salary payments. The Kenya Medical Suppliers Agency (KEMSA) also purchases drugs on a national level and distributes them to county and municipal level institutions throughout the country, as well as to international organizations. The slowness with which monies are distributed at the local level also creates uncertainty for providers, makes it difficult for them to plan ahead, and encourages county level administrators to wait for cash before purchasing services, resulting in an incentive to under-serve their clients (MOH, 2017).

Product Innovations and Organization Performance

Njagi (2016) studied the effect of product innovation on the performance of private manufacturing firms in Nairobi County. The variables for the study were new Product development, quality Improvement and technical Specifications Descriptive research design

was used and primary data was collected using questionnaires. The study found a positive and significant correlation between product innovation and return on assets (ROA). The study concluded that product innovation has positive effects on profitability. Hence, recommended that manufacturing companies should invest more on product innovation practices as it improves financial performance and their competitive advantage. A gap exists as the above study context was private manufacturing firms while the current study focuses on National Health Insurance Fund in Kenya.

Muigai (2019) used both primary and secondary data to study the effect of product innovation on performance of commercial banks in Kenya. The variables for the study were self-service account opening, saving innovations products, loans innovations product and payment innovations products. Descriptive statistics such as mean, standard deviation and frequency distribution were used to analyse the data. Data presentation was done using percentages and frequency tables. From the study findings, it can be concluded that product innovation impacts on customer satisfaction and that the reputation in the market makes the bank stand out. Therefore, commercial banks should aim at product innovation to enhance customer satisfaction. A gap exists as the above study context was in the banking sector while the present study focuses on product innovations at NHIF in Kenya.

RESEARCH METHODOLOGY

Research Design

This study was based on descriptive survey research. The primary rationale for using a survey design for this research is that it allowed for the cross-referencing of answers from many respondents who have completed the survey instrument in the same manner. In order to investigate correlations between variables measured quantitatively and evaluated using a variety of statistical methods, the methodology is used (Kothari, 2014).

Target Population

It was anticipated that the population for this research consisted of 64 NHIF workers from counties in the northern area that have been chosen

Sample size and Sampling Procedures

The study's sample frame was derived from a list of all NHIF workers in the four target counties, which was collected from the regional office in Meru County. The researcher compiled an exhaustive and accurate list after acquiring the lists from each county office, and then use this list to draw a sample of people to interview for the study. Since we want to give everyone an equal shot at taking part in the research, we used a simple random selection method.

This research only looked at four National Health Insurance Fund (NHIF) offices in Kenya's northern region, which have a total of 64 NHIF workers (regional office Meru 2011). As a result, a census was considered to be the most suitable technique of investigation. A census necessitates the full enumeration of the whole population under investigation. In addition, it is more time-consuming yet results in a greater degree of precision (Mugenda & Mugenda, 2013).

Data Collection Instrument

The study used questionnaires to collect primary data. Both closed-ended and open-ended questions were used. Questionnaires were used because they are easy to administer and evaluate, they were also cost-effective in terms of time and money. Open-ended questions were preferred because they give exhaustive facts (Kombo & Tromp, 2011).

Data Collection Methods

Primary and secondary data was collected as part of the research. Primary data was collected via the use of a questionnaire that covers all of the relevant variables in the sample. As a

result, all questions or comments were delivered to all respondents with the same phrasing and in the same sequence as the questions or comments in the previous round of the survey. Using a structured questionnaire, the researchers may narrow down the number of respondents to just those who are interested in certain elements of the variables under investigation. There were both open-ended and closed-ended questions and statements in the questionnaire. The open-ended section provided respondents with the opportunity to express their opinions more pragmatically, allowing us to get their free opinions on the variables. The closed section, on the other hand, required respondents to provide specific answers, which were evaluated using a five-point Likert-type measuring scale created specifically for the questionnaire (Mugenda & Mugenda, 2014). Using both qualitative and quantitative strands of data is justified by the fact that a mixed strategy offers more thorough evidence for examining and a fuller grasp of a research issue than each method taken on its own. It also contributes to the development of improved measurement techniques, which assist to guarantee that complementary results are achieved by using the strengths of one approach to enhance the weaknesses of the other (Creswell, 2013; Plano Clarke, (2011) on the other hand, Saunders and colleagues (2009) argue that it allows for triangulation to occur, which increases the importance of outcomes interpretations and the cooperation of findings. Secondary data was collected from existing theoretical and empirical sources that have been determined to be trustworthy via the examination of the literature. The secondary data that was gathered consisted of items that are current, accurate, adequate, and relevant. These items were gathered from the library's textbooks, internet/e-resources, and magazine collections

Pilot Study

It was necessary to conduct pilot research in order to assess the validity and reliability of the data collection instrument, as well as to establish the logistics of data collection. In the pilot research, a tenth of the total sample size of 64 respondents was utilized, representing a 10% sample. The pilot sample consisted of six NHIF workers who work at the Nanyuki office in Laikipia County and were not included in the current research.

Data Analysis and Presentation

Quantitative data was examined using descriptive statistics and inferential analysis via the use of the Statistical Package for Social Sciences (SPSS) version 24. Frequencies, percentages, means, and standard deviations were provided via descriptive analysis, which gave concise summaries of the sample data and provide quantitative descriptions in a digestible format (Mugenda & Mugenda, 2014). By using regression analysis, the researchers were able to obtain ANOVA results at the specified degrees of freedom, as well as the F-statistic at the specified degrees of freedom and the t-statistic for the coefficients of the relationship between the independent variables and the dependent variable.

Furthermore, in addition to these basic regression equations, the following multivariate regression equation will be utilized to examine the combined impact of the independent factors on the dependent variable:

=µ0+µ1X1+µ2X2+ +€ were

Where: ¥= Organizational performance

µ0 = constant or the intercept of the regression line

µi = Regression coefficient of variables (for i = 1, 2,)

X1= Process re- engineering

X2 = Product innovation

= Error term.

RESEARCH FINDINGS, ANALYSIS AND PRESENTATION

Descriptive Statistics

Process Re-Engineering and organizational performance

The first objective of the study was to examine the effect of process Re-Engineering on organizational performance of NHIF in Northern region, Kenya. The respondents were asked to indicate their agreement level on the statements that relate to the effect of process re-engineering on organizational performance of the NHIF in Northern region, Kenya. The results are presented in Table 4.1.

Table 4. 1: Statements on Process Re-Engineering

Statements	Mean	Std. Dev
Our firm has invested in process re- engineering	3.971	0.971
Process re-engineering decreases cost of operations of our firm	3.707	0.919
Process re-engineering enhance quality of products and services of our firm	4.012	0.942
Process re-engineering enhance business processing reengineering of our firm	3.886	0.898
Process re-engineering enhance employee participation and commitment of our firm	3.953	0.913
Process re-engineering enhance product innovation of our firm	4.001	0.887
Process re-engineering enhance competitiveness of our firm	4.033	0.604
Process re-engineering increase the market share of our firm	4.133	0.986
Process re-engineering enhance customer loyalty of our firm	4.035	0.904
Aggregate	**3.897**	**0.867**

Findings from Table 4.1 shows that the respondents agreed that process re-engineering increase the market share of the firm as illustrated by a mean of 4.13. The responses had a low variance as shown by a standard deviation of 0.98 which is less than 1. The respondents agreed that process re-engineering enhances competitiveness of their firm as demonstrated by a mean of 4.03. The responses had a standard deviation of 0.60 which is lower than 1 implying a low variance. The respondents agreed that process re-engineering enhances customer loyalty to their firm as depicted by a mean of 4.03 and a standard deviation of 0.90 indicating a low variance. The respondents also greed that process re-engineering enhances the quality of products and services, product innovation of their firm and that their firm has invested in process re-engineering as supported by (Mean=4.01, Std Dev=0.94), (Mean=4.00, Std Dev=0.88) and (Mean=3.97, Std Dev=0.97) respectively. Respondents agreed that process re-engineering enhances employee participation and commitment to their firm as shown by a mean of 3.95 and a low standard deviation of 0.91 which implies that the responses had a low variance.

Further, the respondents agreed that process innovation enhances business processing reengineering of their firm as illustrated by a mean of 3.88 and a low standard deviation of 0.89 indicating a low variance of the responses. The respondents agreed process re-engineering decreases the cost of operations of their firm as shown by a mean of 3.70 and a low standard deviation of 0.91 implying a low variance in the responses. These findings were similar to Omesa (2019) that process re-engineering improves the products and service quality of the firm and also decreases the cost of operations of the firm.

Product innovation and Organizational Performance

The second objective of the study sought to establish the effect of product innovation on organizational performance of NHIF in Northern region, Kenya. The respondents were asked to indicate their agreement level on the statements that relate to the effect of product

innovation on organizational performance of the NHIF in Northern region, Kenya. The results are presented in

Table 4. 2: Statements on Product Innovation

Statements	Mean	Std. Dev
Our firm has introduced new services in the insurance sector	4.100	0.830
Our firm has introduced new products in the insurance sector	4.110	0.890
Product innovations enhance cost savings of our firm	4.190	0.910
Product innovations attract diverse customers with varied needs of our firm	4.120	0.710
Product innovation provides the most obvious means for generating revenues of our firm	3.760	1.080
Product innovation provides the means for improving quality of our firm	4.030	1.100
Product innovation enhances the competitiveness of our firm	4.120	0.570
Aggregate	**4.061**	**0.870**

Findings in Table 4.2 indicate that respondents agreed that product innovations enhance cost savings of their firm as supported by a mean of 4.19 and a standard deviation of 0.91, indicating that the responses had low variance. The respondents agreed that product innovations attract diverse customers with varied needs of their firm as demonstrated by a mean of 4.12 and responses had less variance as shown by a standard deviation of 0.71. The respondents agreed that product innovation enhances the competitiveness of our firm as shown by a mean of 4.12 and a standard deviation of 0.57 indicating a low variance in the responses. The respondents also agreed that their firm has introduced new products in the insurance sector as demonstrated by a mean of 4.11 with a standard deviation of 0.89. In addition, the respondents agreed that product innovation provides the means for improving the quality of their firm and that product innovation provides the most obvious means for generating revenues for their firm as shown by a mean of 4.03 and 3.76 and standard deviations of 1.10 and 1.08 respectively. The standard deviations are above 1 depicting a high variance in the responses. Similar findings were established by Muigai (2021) that product innovation attracts the customer and creates a competitive advantage for the firm and Omesa (2019) that process innovation improves the products and service quality of the firm and decreases the cost of operations of the firm.

Correlation Analysis

This section presents the results for correlation analysis that was conducted to test the nature and strength of the association between independent and dependent variables. Table 4.9 presents the correlation matrix.

Table 4. 3: Correlation Coefficients

		Organization Performance	Re-Engineering	Product Innovation
Organization Performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	56		
Re-Engineering	Pearson Correlation	.805**	1	
	Sig. (2-tailed)	.003		
	N	56	56	
Product Innovation	Pearson Correlation	.815**	.297	1
	Sig. (2-tailed)	.000	.060	
	N	56	56	56

From the results, there was a very strong relationship between re-engineering and performance of National Hospital Insurance Fund in Kenya (r = 0.805, p value =0.003). The relationship was significant since the p value 0.003 was less than 0.05 (significant level). The

findings are in line with the findings of Forrester and Seng (2021) who indicated that there is a very strong relationship between re-engineering and performance of NHIF.

Moreover, there was a very strong relationship between product innovation and performance of National Hospital Insurance Fund in Kenya (r = 0.815, p value =0.000). The relationship was significant since the p value 0.000 was less than 0.05 (significant level). The findings are in line with the findings of Sveiby and Lloyd, (2019) who indicated that there is a very strong relationship between product innovation and performance of NHIF.

Regression Analysis

Multivariate regression analysis was used to assess the relationship between independent variables (re-engineering and product innovation,) and the dependent variable (performance of National Hospital Insurance Fund in Kenya).

Table 4. 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.877[a]	.769	.768	.10412

a. Predictors: (Constant), re-engineering and product innovation

The model summary was used to explain the variation in the dependent variable that could be explained by the independent variables. The r-squared for the relationship between the independent variables and the dependent variable was 0.769. This implied that 76.9% of the variation in the dependent variable (performance of National Hospital Insurance Fund in Kenya) could be explained by independent variables (re-engineering and product innovation).

Table 4. 5: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	102.028	2	51.014	197.73	.002[b]
	Residual	13.653	53	.258		
	Total	115.681	55			

a. Dependent Variable: performance of National Hospital Insurance Fund in Kenya

b. Predictors: (Constant), re-engineering and product innovation

The ANOVA was used to determine whether the model was a good fit for the data. F calculated was 197.73 while the F critical was 2.553. The p value was 0.002. Since the F-calculated was greater than the F-critical and the p value 0.002 was less than 0.05, the model was considered as a good fit for the data. Therefore, the model can be used to predict the influence of re-engineering and product innovation on performance of National Hospital Insurance Fund in Kenya.

Table 4. 6: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.335	0.085		3.941	0.000
re-engineering	0.345	0.088	0.344	3.920	0.001
product innovation	0.361	0.092	0.362	3.924	0.000

The regression model was as follows:

$$\mathbf{Y = 0.335 + 0.345X_1 + 0.361X_2 + 0\varepsilon}$$

According to the results, re-engineering has a significant effect on performance of National Hospital Insurance Fund in Kenya β_1=0.345, p value= 0.001). The relationship was considered significant since the p value 0.001 was less than the significant level of 0.05. The

findings are in line with the findings of Forrester and Seng (2021) who indicated that there is a very strong relationship between re-engineering and performance of NHIF.

The results also revealed that product innovation has a significant effect on performance of National Hospital Insurance Fund in Kenya, β1=0.361, p value= 0.000). The relationship was considered significant since the p value 0.000 was less than the significant level of 0.05. The findings are in line with the findings of Sveiby and Lloyd, (2019) who indicated that there is a very strong relationship between product innovation and performance of NHIF.

Conclusions

The study sought to examine the effect of process Re-Engineering on organizational performance of NHIF in Northern region. The study found a moderate positive relationship between process re-engineering and organizational performance of the NHIF in Northern region Kenya. In conclusion, therefore process re-engineering has a positive and significant effect on the organizational performance of the NHIF in Northern region Kenya. Process re-engineering enhances competitiveness, product innovations, business processing reengineering, quality of products and services as well as customer loyalty to the firm.

The study sought to establish the effect of product innovation on organizational performance of NHIF in Northern region. The study found a positive association between product innovation and organizational performance. The study thus concludes that there is a positive and significant effect of product innovation on the organizational performance of NHIF Northern Region Kenya. Product innovations enhance cost savings, attract diverse customers with varied needs, and competitiveness and also introduce new products in the insurance sector.

Recommendations

The study recommends that the government should implement policies that enable the NHIF to develop and innovate its products but at the same time protect the interests of the members so as to enhance its performance. The study recommends that the government should ensure that NHIF innovative processes are undertaken in the rightful ways to ensure its efficiency and the performance of the fund is optimal.

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