Financial Re-Engineering Impact on Organisational Capacity of Poultry Business in Nigeria

Dada Samuel Olajide, Akintoye Ishola Rufus, Alawode Olufemi Peter

Department of Accounting, Babcock University, Ilishan-Remo, Nigeria

Email address:
dadas@babcock.edu.ng (Dada Samuel Olajide), inakintoye@yahoo.com (Akintoye Ishola Rufus), Olufemi.alawocome@gmail.com (Alawode Olufemi Peter)

To cite this article:

Received: December 29, 2022; Accepted: January 25, 2023; Published: March 15, 2023

Abstract: The Nigerian poultry industry, with a net worth value of 1.875 trillion naira, comprises approximately 180 million birds and produces 454 million tons of meat and 21 billion eggs per year. Yet, local production only meets 30% of the demand for chicken eggs and meat, thus exposing the investment potentials and performance associated challenges at boosting the poultry industry that has emerged as the most dynamic, developed, commercialized and fastest growing livestock sub-sector in the country. Thus, this study examined the impact of financial re-engineering on organisational capacity of the poultry business in Nigeria. The study adopted survey research design. The population of the study were 4,324 active farmervs and support services of the key poultry business stakeholders in the six geo-political zones of Nigeria. The sample size of 450 was determined using Taro Yamane sample size formula. Strata random sampling technique were used to select the respondents from the geo-political zones. A structured and valid questionnaire were administered to the respondents with a response rate of 84%. The Cronbach’s alpha reliability coefficients for the constructs ranged from 0.87 to 0.95. Descriptive and inferential (multiple regression) analysis was used to analyse the data at 5% level of significance. The findings revealed that financial re-engineering had a significant effect on organisational capacity (learning and growth performance) (Adj. R2 = 0.607 F (5,379) = 118.008, p < 0.05). The study concluded that financial re-engineering has significant effect on organisational capacity of poultry business in Nigeria. The study recommended that the numerous agricultural institutions should prioritise the training of skilled professionals and workers at all levels running short-term developmental programmes, adapting the school curriculum to teach current trends in the livestock business, research into new methodologies of skills development as a tool for building capacity with the workforce and drive all other performance indices.

Keywords: Business Strategy, Balanced Scorecard, Corporate Performance, Financial Re-Engineering, Organisational Capacity, Organisational Structure

1. Introduction

1.1. Background to the Study

The recession in the Nigerian economy affects all sectors, albeit to varying degrees, and the government has undertaken a number of reforms with the aim of revitalizing the struggling industries in collaboration with the private sector, with the Central Bank of Nigeria playing a leading role in the agricultural sector, which, according to Netherlands Enterprise Agency and PwC contributes an average of 6% to 8% to the GDP [61, 81]. The awareness of the appropriate performance assessment systems that are accessible and that these firms may use is one of the numerous reasons contributing to the poor corporate performance, some of which require adoption or adaptation from the developed economies.

Performance management is now a legal necessity for organizations in both the private and public sectors. The need for correct information to prevent choices from being based on assumptions and emotions cannot be overstated. Managers suffer a lack of balanced instruments to measure and manage public and private service delivery properly. Intangible assets like employee knowledge and skill levels, relationships with customers and suppliers, and an innovative culture are crucial in modern business models for giving the company the much-needed cutting-edge, and this is where tools like the balanced scorecard method have value for the company.

From the perspective of business process re-engineering,
Performance management is a planned and comprehensive strategy to improve the success of the organisation, departments, and individuals to ensure the long-term success of variety of businesses. In order to achieve success, performance management employs a variety of models, techniques, and methods, some adapted from other systems and improved, and others developed entirely from scratch, with a focus on strategy and distinguishing characteristics that provide a significant competitive advantage, the balanced scorecard as one of the tools or methods of performance was focused in this work and the beneficial consequence particularly to the poultry sector as a sub-set of agricultural business in Nigeria.

There is scarcity of, tested, standard business process system in the Poultry Industry today in Nigeria, an industry worth NGN1.875trillion according to Central Bank of Nigeria [20] Though the stock and assets management of the industry is covered by the IAS 41 on Biological Assets but there is the need for a workable business process or the re-engineering of any existing system in the face of the challenges of the economy as driven by technology. The leading Livestock companies are all being managed as a trading company or livestock services company and not quoted on the Nigerian Stock Exchange.

As a concept widely acknowledged in the big firms and multi-nationals with results, it would be interesting to see if success perspective can be created with the investment of time, knowledge and money by the small and medium enterprises. Thus, the importance of re-engineering in an era of increasing globalization and economic instability is the essence of this research work which is aiming at investigating how the management of financial re-engineering as a business processes management is done within a sector that is predominantly SMEs to explore which elements need attention to obtain better business performance.

Thus, this work explored the impact of financial re-engineering programmes on the organisational capacity (learning and growth performance) of the Poultry industry in Nigeria, this was done in asking to what extent do financial re-engineering impact on the learning and growth performance in the poultry business in Nigeria?

1.3. Hypotheses of the Study and Rationale for Hypotheses Development

H0: financial re-engineering has no significant impact on the organisational capacity (learning and growth performance) of the poultry business in Nigeria.

The poultry industry in Nigeria is worth NGN1.875trillion according to LiveGAPS and Mba and the most capitalised in the agricultural sector [52, 54]. Hitherto, it is an industry that is more of family funded or informal funding system but is enjoying government attention resulting from the diversification policies targeting revenue from non-oil sector and the employment generation ability of the poultry industry. There are many formal funding programmes coming from both the private sector (majorly money-deposit banks and other financial institutions) and the public sector as championed by the Central Bank of Nigeria through institutions like BOA, NIRSAL, BOI, BOD and SMEDAN [4, 6, 72]. The following hypotheses showing that financial re-engineering does not impact on the corporate performance of the poultry business in Nigeria were tested for the study.

The learning and growth perspective is concerned with the jobs (human capital), the systems (information capital), and

financial re-engineering may be described as the basic rethinking and drastic rebuilding of company processes to produce substantial improvements in crucial, contemporary performance indicators. The examination and restructuring of firm processes are known as business process re-engineering. Business Process Re-engineering is classically not downsizing, reorganization, automation, restructuring, new technology, but it is rather a dramatic change in the overall organisational processes and structures, management systems, employee responsibilities and performance measurements, incentive systems, skill development, and the use of information technology so that the processes support the organization to realize its goals, a system right from basic planning to achievement measurement. [65].

In the identification of the various threats to corporate performance and with particular reference to the agricultural sector that covers the poultry sub-sector, it is also imperative that options are considered in getting optimal solutions to these performance issues and one of the ways that was considered vital for the purpose of this study is the adoption of balanced scorecard measurement system through financial re-engineering focusing on particular business-related strategy, the available business systems and technology, organisation structure and culture as a wholesome solution to performance management. The poultry industry is a huge business with sometimes overly complex business structure but also simple to operate. The business can be viewed from three basic business category, namely, the primary poultry producer who are into servicing of the farmers with biological inputs like day old chicks (DOC), parent stock, hatch able eggs, point of cage/lay, and post-brooding birds. The second category of poultry business are the secondary producers who are producing for food and not for re-generation having almost same output as the primary producers but for consumption. The third category of farmers are service providers supplying all forms of inputs including logistics, veterinary services, feed supply, drugs and vaccination and other inputs. The poultry subsector is the most commercialised and capitalised of all the four main sub-sectors of the Nigerian agricultural sector [61, 64]. The rate of return on agricultural investments is equally competing with other high-yielding sectors and thus the allocation of resources will be a dynamic function of optimal profitability [19, 80]. These specific links which are camouflaging the challenges of corporate performance as earlier highlighted can be resolved or improved with financial re-engineering and adopting one or a mix of the various performance measurement systems.

1.2. Statement of the Problem

Performance management is a planned and comprehensive strategy to improve the success of the organisation, departments, and individuals to ensure the long-term success of variety of businesses. In order to achieve success, performance management employs a variety of models, techniques, and methods, some adapted from other systems and improved, and others developed entirely from scratch,
the climate (organization capital) of the enterprise. These three factors according to Kaplan and Norton (2004) is the infrastructure that is needed to enable ambitious objectives in the other three perspectives to be achieved. The essence of this understanding is that the foundation of the business process re-engineering is contained in these three key resources and thus the study will want to assess if it can combine to give the desired significant improvement in the corporate performance of the poultry industry.

There are many factors in human capital that are considered affected by the organizational structure and organizational culture, and it was interesting to see how these two will combine with technology, processes and broad business strategy to determine how the organizational capacity of the poultry business can be sustainably improved. This will entail understanding the operations environment scrutiny even the corporate governance system in place and reviewing the organisation chart to see how effective the lines of command are and how they should be.

Pramesthi, Bowo & Setyonugroho identified culture, organization, and managerial practices as key issues that prevent organizations from developing satisfactory system performance and productivity, claiming that this is incompatible with a competitive business because operating practices are not based on cost or sound financial principles [79]. Several specific reasons why organizations have not been active or successful in this sector include a lack of expertise in a competitive context, low employee engagement, particularly among key professionals, and difficult to assess services supplied. As a result, numerous performance analysis techniques were examined before settling on the balanced scorecard approach, which saw the observed shortcomings as financial re-engineering concerns.

There are also studies on the combination of financial and business process re-engineering impact on learning and growth perspective globally, cutting across developing and developed economies but none specifically as it affects the poultry business in a developing economy like Nigeria. These studies include that of [7, 12, 13, 74, 93].

2. Literature Review

2.1. Conceptual Review

Traditionally, organisational or corporate performance is tilted towards financial measurement, however, there is now a growing emphasis towards measuring both the financial and non-financial performance which is broader and sustaining and strategically throws more light on the financials. The current performance and long-term performance criteria are the true measure of performance as they are inter-dependent.

The financial management literature had previously emphasized the use of financial performance metrics to improve organizational strategy and assess managerial performance [82, 83]. Using new technology has led to many changes and developments, including the adoption of total quality management and a just-in-time procurement system, as well as the rise of today's highly competitive business environment. These changes have led to a need for better performance measures to sustain a continuous improvement process in a competitive environment with low profit margins [8, 14, 67]. Additionally, the increasing demand and exploration for the utilisation of non-performance measures such as quality and customer satisfaction have necessitated that both financial and non-financial performance measures are considered in the totality of measuring corporate performance [73, 75].

2.1.1. Organisational Capacity (Learning and Growth Performance)

Organisational capacity is synonymously the learning and growth performance and is concerned with the enterprise's jobs (human capital), systems (information capital), and climate (organization capital). When designing objectives and measures for the learning and growth viewpoint, these are three crucial topics to consider: information capital - evaluating the capacity to offer the tools (most commonly technology) the team needs to execute the adopted strategy, human capital - ensuring the team has the skills and knowledge they need to excel. and organizational capital - represents people's "hearts and minds" and records an organization's potential to change and grow, assuring today's success while also insuring long-term prosperity [29, 71, 73, 93].

According to Kaplan and Norton learning can be described as the detection and correction of errors that integrate organizational learning theories with HR Management practices, as first instance subjects of organizational learning [46]. The learning and growth viewpoint seeks to be a tool of presenting and spreading new organizational concepts, therefore these activities are created on four levels. Second, the perspectives of the Balanced Scorecard support team development by ensuring that feedback from strategy implementation difficulties reflects their cross-functional nature, emphasizing the importance of cross-functional cooperation for problem analysis and resolution. The next step is for feedback to demonstrate fresh learning opportunities. Finally, the match between the people and the organization's processes must result in values, as well as a climate as an organizational system made up of meanings, suppositions, and values as viewed by the employees [17, 34, 70, 74].

Dynamic organisations are focusing on human capital as the basis of development and as the only repository of knowledge remains the main issue in a technological driven age and industry. Learning goes beyond training but includes mentorship and tutoring on best practices evolving round internal skills and capabilities required to create best practices. The learning and growth objective is to create a focus on skills (technical, analytical and others), culture, and organisational capacity in multi-dimensional ways particularly within defined technological innovations. The learning and growth perspective is emphasizing three cardinal points which are the human capital (the jobs),
information capital (the systems), and organization capital (the climate) of the organisation [23, 63].

There are many indices of measuring the perspective and some of them are around personnel, innovation process, and quality management while some specific key performance indicators can be the investment rate, illness rate, internal promotions percentage, employee turnover and gender/racial ratios. The learning and growth perspective is usually employee denominated and thus human capital development and retention will remain at the fulcrum of this perspective. Kaplan & McMillan demonstrated that a company's innovative ability, learning, and growth perspective examines employee ability proxied by skills, talents, knowledge, and training; the quality of information systems captured by systems, databases, and networks; and the effects of organizational alignment proxied by culture, leadership, alignment, and teamwork in supporting the achievement of organizational objectives [45]. In essence, we can see learning and growth through the development and effective use of human capital made up of social capital, and intellectual capital.

According to Akintoye, Adegbie & Bello the term "Intellectual Capital" was coined by John Kenneth Galbraith in 1969, but it is widely accepted that the term "Intellectual Capital" in its organizational sense was coined by Thomas Stewart's "Brainpower" article in June 1991, where intellectual capital was described as a source of competitive advantage for management and the sum of what employees know [10]. Stewart also defines Intellectual Capital as "intellectual material that can be used to create wealth," which includes knowledge, intellectual possession, and experience. Stewart concluded by recognizing three elements of intellectual capital as comprising of human capital, structural capital, and customer capital. Hugh McDonald defines Intellectual Capital in the context of modern re-engineering as knowledge that can be used to create extra advantages in an institution, in other words, the sum of knowledge of people in a firm that provides a competitive advantage, whereas in the work of Zhang & Phromphitakkul, intellectual capital was defined as intellectual material that is formalized, acquired, and activated to produce a more valuable asset [97]. This definition aligned with the study of Sulastri, Fitria & Andriani and Tarighi, Salehi, Moradi & Zimon [89, 90].

The purpose of going over the definitions is to highlight the key characteristics of intellectual capital as knowledge, skills, experience, and information that influence the current and future success of the business and establish its rank in comparison to other firms. In the information age, knowledge is the determining factor of production. Knowledge has evolved into the primary component of all goods and services manufactured, sold, and purchased. Finding, developing, retaining, and managing knowledge has thus become the most important economic duty of individuals, businesses, and even nations. Businesses are increasingly investing in intellectual products such as education, patents, copyright, know-how, trade secrets, knowledge, knowledge processing, and creativity rather than machinery, buildings, and unqualified labor force. In summary, Intellectual Capital can be defined as "an organization's knowledge value" or, according to another definition, "registered knowledge in a business with intangible assets and employee knowledge, skills, and experience in the business."

According to Sánchez-Arrieta, González, Cañabate, & Sabate, social capital was introduced by Bourdieu (1989) in an article titled The Forms of Capital, and it is explained and converted to other capitals such as economic capital and cultural capital, but it is conceptualized as consisting of two key elements: relationships and networks [85]. Social capital possesses two characteristics: it is a component of the social structure, and it facilitates individual actions within the social structure. In this sense, forms of social capital such as obligations and expectations, information potential, effective norms and sanctions, authority relations, and social organization can be used appropriately to give birth to a social contract. According to Poceze & Strauss social capital is primarily embedded in social networks and interactions that provide information and mutual support, and social capital is a value of mutual trust in the life of society and the state with pillars composed of networks, norms, and social trust that encourages social collaboration for the common good. [78]

Social capital is the sum of the quality and quantity of a society's social connections, and it is required for the society to develop economically and sustainably. It is the factor that binds society to work together for the overall development of society. Refers to the network of relationships and social connections that provide additional opportunities or resources for individuals who are members of the group and provides employees with access to resources through whom they already know in a specific section or through their familiarity with the management and the organization [85].

Human interaction results in the formation of social capital. The positive outcome could be tangible or intangible, such as useful information, innovative ideas, or future opportunities. In business, social capital refers to the contribution to an organization's success that can be attributed to personal relationships and networks both within and outside the organization. The term social capital is also used to describe personal relationships within a company that help to build trust and respect among employees, resulting in improved company performance [36].

A detailed examination of approaches to defining social capital aids in distinguishing its key components, which include informal social relations, participation in social networks, civic engagement (voluntary service), participation in the life of communities and organizations, social trust, and norms of reciprocity. As a result, social capital represents the social relationships, connections, shared values, and mutual trust that enable individuals and social groups to collaborate and achieve their goals. In other words, these are an individual's abilities to participate in and cooperate within social groups, organizations, and various types of social institutions to achieve common goals [9, 16].
2.1.2. Financial Re-Engineering – Business Process Re-Engineering

There are many words used interchangeably to describe financial re-engineering and for the purpose of this work are taking to be the same. These names are business process re-engineering; core process redesign; new industrial engineering; working smarter core process redesign, ‘new industrial engineering’ or ‘working smarter; Strategic Business Process Re-engineering; Business Re-engineering; Business Process Redesign; Business Process Improvement and financial process re-engineering. Business Process Re-engineering is a management practice that aims to improve the efficiency of the business process. Re-engineering is a fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in cost, quality, speed, and service. Michael Hammer defined Business Process Re-engineering as the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed [25]. Fundamental, radical, dramatic and processes are the four key words emanating from the definition of Hammer and will need to be focused [60].

![Figure 1. Business Process Re-Engineering.](image)

McAdam's concluded his work by stating that small businesses engage in business process re-engineering using practical ideas called "phenomenological" instead of theoretical idea tagged "positivistic" and this way of adapting the usage of re-engineering phraseology is very much in line with small business practice when it comes to trendy innovations, which is picked based on environmental assessment of workability of these phenomena [55].

2.1.3. Poultry Industry

The agricultural industry continues to be the backbone of the Nigerian economy, despite the country's heavy reliance on the oil industry. In 2008, the agricultural sector generated 22% of Nigeria's GDP [59]. Since agriculture employs more than 70% of the rural labor force and is the second-largest export earner after crude oil, it is a significant driver of economic growth and the eradication of poverty. Crops, livestock, fisheries, and forestry make up the four subsectors of Nigeria's agricultural sector [58, 59, 95].

The Nigerian poultry industry, with a net worth value of 1.8trillion naira, comprises approximately 180 million birds and produces 454 million tons of meat and 21 billion eggs per year [56]. Yet, local production only meets 30% of the demand for chicken eggs and meat, thus exposing the investment potentials and performance associated challenges at boosting the poultry industry that has emerged as the most dynamic, developed, commercialized and fastest growing livestock sub-sector in the country.

The Nigerian poultry industry has been rapidly expanding in recent years and is therefore one of the most commercialized (capitalized) subsectors of Nigerian agriculture [53]. The popularity of poultry production can be explained by the fact that poultry has many advantages over other livestock. Poultry birds are good converters of feed into usable protein in meat and eggs. The production costs per unit remain relatively low, and the return on investment is high. Therefore, farmers need a relatively small amount of capital to start a poultry farm. Furthermore, poultry meat is tender and the acceptability to consumers is high, regardless of their religious beliefs. Also, the production cycle is not long, so capital is not tied up over a long period. Eggs, as one of the major products of poultry production, are more affordable for the common person than other sources of animal protein [39].

The profitability and diversity of poultry business income is science and technological dependent. A sound knowledge and logical management skill combined will contribute significantly to economic sustainability of the business. Thus, when evaluating the relevance of farm management, poor growth, and obstacles in poultry industry, it is critical to assess and comprehend the current state of managerial abilities, as well as the elements that influence them [24]. It is also an industry that involves a huge and significant number of individuals, packers, supplier, distributors, retail grocers and food service operators in its value chain [22].

2.2. Theoretical Framework

The theoretical consideration was used based on the main variables formed from the fundamental basis of the research objectives, research questions, and the research hypotheses of the study. The two theories used in support of this study were the balanced scorecard (BSC) and business process re-engineering. The balanced scorecard (BSC) supports the dependent variable, organisational capacity while the business process re-engineering theory supports the independent variable, financial re-engineering.

The balanced scorecard (BSC), which in a book in 1996, can be traced to Dr Robert Kaplan and Dr David Norton as a framework for measuring organisational performance beyond the traditional short-term financial performance as a measure of success. BSC is a measurement system that is usually deployed to communicate what they are trying to accomplish, align the day-to-day work that everyone is doing with
strategy, prioritize projects, products, and services; and measure and monitor progress towards strategic targets. It involves considering strategic measures as an additional tool to the traditional financial measures with the perspective of a more balanced measure of performance [37, 45, 46].

The balanced scorecard as a measurement instrument provides management with the tool to measure the accomplishment of their mission, strategy and objectives and in four basic perspectives to assure all round competitive edge. Balanced Scorecard is based on two key words of drivers and outcomes as spanning the entire length and breadth of an organisation. It describes the organisation strategy, measures the organisation strategy and track the actions needed to optimize performance. The balanced scorecard is evolving from its early usage and adaption from a simple performance measurement framework to a full strategic planning and management system. It transforms an organisation strategic and medium-term plan from a planning toll into an implementation tool by identifying what need be measured, what should be done to measure and control such actions [66].

The balanced scorecard as a bridge to performance measurement can be viewed with four traditional perspectives and provide answers to four questions of how do customers see us? (Customer perspective), how do we look to shareholders? (Financial perspective), what must we excel at? (Internal perspective) and can we continue to improve and create value? (Innovation and learning perspective).

![Balanced Scorecard Summary](image)

This theory of Business Process Re-engineering was popularized in 1996 by Michael Hammer who focused on re-engineering of business processes as a strategic decision hitherto called re-organisation [86]. In his article, “Re-engineering Work – Do not Automate, obliterate” Hammer emphasised that organisations are fond of believing that automation is the solution to a system that is not working instead of outright elimination that is more likely to add value. Aziz and Bhaskar stated that though the basic components of business process re-engineering will remain the same however the SMEs specific related issues and challenges like cost, resistance, communication and poor design need be incorporated in their BPR decision making [21, 27]. Business process re-engineering is the method of improvising the operation of a business on a broad scale with the aim of cutting down redundancies and minimize organisation operational costs in all dimensions. This process is not limited to any aspect of an organisation and can also be a combination of change management, customer focus, business process mapping and any other optimization measures [87, 88].

2.3. Empirical Review - Financial Re-Engineering and Learning and Growth Performance

Learning and growth performance is mainly related to human capital, organization capital and system capital.

In the study to examine the effect of financial re-engineering on human capital which also can be viewed from the three aspects of employees' performance (knowledge, skill, and attitude), Al-Fawaeer, Ridha, Sattar & Yousif and Ridha & Al-Fawaeer adopted a descriptive research design administering questionnaires to all managers in 14 Jordanian companies. The study revealed that there is a positive, strong, and significant relationship and effect between the BPR dimensions and employee performance [12, 84]. Ridha & Al-Fawaeer concluded by recommending that companies should maintain a sustainable acquisition of an updated infotech means and systems by adopting a regularly-based business re-engineering policy that will assure a continuous improvement in their employee’s performance, a high level of efficiency, good return and strong competitive advantage [84]. Akam, Okeke, Kekeocha & Onuorah carried out a study on the effect of Business Process Re-engineering (BPR) resources on the performance of brewing firms in Nigeria and concluded that the three variables of financial, human and technological resourcing positively affect performance [7]. There are other studies that showed BPR as a veritable tool to enhancing employee satisfaction, teamwork and cooperation, quality of service delivery as well as attainment of organizational strategic goals organisations both local and global [1, 26, 29, 74, 93]. The work of Kwarbai and Akinpelu also buttressed the significant contribution of human capital efficiency linked to some fundamentals of economics and firm performance and the need to explore the human capital growth to significantly contribute to increased performance of the organisation [50].

Ikon and Onwuchekwa investigated the effect of how organizations will implement re-engineering to stem the tide of recession and remain competitive in Nigeria and discovered that there exists a significant positive relationship between management commitment and innovative strength and recommended that management support and drive will be needed to get employee support to buy into the re-engineering process [41]. The business strategy is also a strong factor affecting employees’ innovations generally and centred mainly on the internal skills and capabilities that are required to support the value-creating internal processes and these are the views of Daniel and Vătămănescu, Mitan, Cotîrlet & Andrei [32, 94]. According to the Kruzkhova, Ruschitskaya study, intellectual
development in recent decades has facilitated the emergence of new technologies in the field of enterprise knowledge management, such as crowdfunding, crowdsourcing, crowdfunding, the use of workforce reliability programs, foresight programs, and blockchain technology. These are procedures that need a thorough overhaul or the development of new systems and policies in order to maximize and efficiently use organizational capacity, which will ultimately convert to the profit level of impacted firms [48].

Alsabbagh and Khalil discussed the concepts of organizational culture, organizational learning and the effect of organizational culture on organizational learning public institutions with a conclusion that organisational culture has a significant impact on organisational learning showcasing the importance of a good working environment [15]. Several other studies also viewed the two sides of organisational culture as either a barrier or promoter depending on the usage of hierarchical or advocacy structure [18, 42, 91]. The objective of Akpa, Asikhia and Nneji study is to determine the influence of organizational culture on organizational performance focusing on Schein's theory of organizational culture, Denison organizational culture model and theory of organizational excellence by Thomas Peters and Robert Waterman and this led to a conclusion that if organizations employees have clear spelt out work ethics, are like-minded and hold similar beliefs and values, guided by values of consistency, adaptability and effective communication system then it will result into giving such group of employees a sense of identity which will increase their commitment to work and ultimately lead to better performance. [11]

Memon and Baladi worked on the effect of learning and growth on employee performance as a tool overall business performance [57]. Bako and Banmeke examined the Impact of Business Process Re-engineering (BPR) has on Organizational Performance focusing on Commercial Banks and Micro-finance Banks with a streamlined focus on how BPR can help to effect innovative and strategic changes in the organization and sampled 124 respondents using multinomial regression analysis and concluded that there is a positive impact of BPR on innovations and other strategic changes in the organisation and recommended that incentive and reward system should be changed with consideration for benefits in respect of salary increment, promotion, empowerment and compensation [23]. Oladimeji, Akingunola & Sanusi in the study on effect of business process re-engineering (BPR) on organizational performance in Nigerian Deposit Money Bank using ex post facto research secondary data using financial statements and annual reports of various issues of the sampled banks. The study concluded that there exists a significant difference in the pre-BPR and post-BPR profitability performance of banks and highlighted the importance of integrated information systems and recommended to top management to see integration of information technology resources as a necessity in the transformation programmes of the banking industry. [69]

### 2.4. Researcher’s Conceptual Model

![Organizational Structure](Source: Researchers Concept 2022)

**Figure 3. Researcher’s Conceptual Model.**
3. Methodology

This chapter discusses the research design, study population, sample size and sampling technique, determination of sample size, method of data collection, research instrument, pilot study, validity and reliability of research instrument, methods of data analysis, researcher’s conceptual model, model specification, a priori expectation, and ethical considerations. The justifications for using each approach, as well as their relevance to the current investigation, was presented.

Sample Size and Sampling Technique

This study used data collected from the Nigeria Poultry Show to choose a sample size of 450 active farmers to survey using a combination of stratified, purposive, and random selection techniques. The six geopolitical zones of the nation served as the strata from which samples of different poultry farmers were taken based on their level of activity, or more specifically, whether they were active or inactive. This sampling process was then carried out further to ensure that the target population as shown in Table 1 below was as broadly reached as possible. This strategy is thought to be appropriate because all sample units were contacted, and the questionnaire was distributed physically or electronically, resulting in a highly thorough data reach and a satisfactory representation of diverse subgroups within the population. The Poultry Network trained Interns on farms across geopolitical zones to serve as Research Assistants in administering an online questionnaire that was centrally harvested.

The Taro Yamane formula was used to estimate the sample size for this investigation. This is the classic method of randomization, and it identifies the margins of error for the most important questions in the survey. The Taro Yamane formula was also adopted by similar studies like [43] and because it is considered the most appropriate for a finite population that is not too large. This aided in obtaining the sample and the results needed to make data-driven sampling decisions.

The formula of \( n = \frac{N}{1 + N(e)^2} \) resulted in a sample size of 450 including the provision for margin of error and effect of online distribution of questionnaires as contained in the Table 1 below following the farmers population in the various zones.

<table>
<thead>
<tr>
<th>S/No</th>
<th>Geo-Political Zone</th>
<th>Population Size for each Division</th>
<th>Total Study Population</th>
<th>Sample Size</th>
<th>Proportionate Sample Size</th>
<th>Sample Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SW - South West</td>
<td>1954</td>
<td>4324</td>
<td>450</td>
<td>200</td>
<td>44.4%</td>
</tr>
<tr>
<td>2</td>
<td>SE - South East</td>
<td>280</td>
<td>4324</td>
<td>30</td>
<td>6.7%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>SS - South South</td>
<td>260</td>
<td>4324</td>
<td>30</td>
<td>6.7%</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>NW - North West</td>
<td>680</td>
<td>4324</td>
<td>70</td>
<td>15.6%</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>NE - North East</td>
<td>610</td>
<td>4324</td>
<td>60</td>
<td>13.3%</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>NC - North Central</td>
<td>540</td>
<td>4324</td>
<td>60</td>
<td>13.3%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>4324</td>
<td>450</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Researcher’s Computation (2022)

The sample size for each of the regions and states is taken as a function of poultry production capacity as indicated by the Poultry Association of Nigeria based on data submitted to the Federal Government of Nigeria on Palliatives Distribution in year 2020, statistics from the Nigerian Poultry Show [31, 52]. With the three top producing states of Ogun, Lagos and Oyo States all from the Southwest of Nigeria.

Model Specification

The variables for this study were operationalized thus:

\[ Y_i = f(X) \]

Where \( Y = \) Corporate Performance (CPF)

\[ Y = (y_1, y_2, y_3, y_4) \]

\[ y_1 = \text{Organisational Capacity - Learning and Growth Performance (LGP)} \]

Independent Variable is denoted as \( X = \) Financial Re-engineering (FIRE)

\[ X = (x_1, x_2, x_3, x_4, x_5) \]

\[ x_1 = \text{Business strategy (BSTR)} \]

\[ x_2 = \text{Business processes and systems (BPAS)} \]

\[ x_3 = \text{Business technology (BTEC)} \]

\[ x_4 = \text{Organisation structure (OSTR)} \]

\[ x_5 = \text{Organisational culture (OCUL)} \]

Main Hypothesis

\[ Y = f(x_i) \]

\[ \text{LGP}_i = \beta_0 + \beta_1 \text{BSTR}_i + \beta_2 \text{BPAS}_i + \beta_3 \text{BTEC}_i + \beta_4 \text{OSTR}_i + \beta_5 \text{OCUL}_i + \epsilon_i - \text{Main Model} \]

Where \( \beta_0 = \) the constant of the equation

\( \beta_1, \beta_2, \beta_3, \beta_4, \beta_5 = \) the coefficient of variables in the equations.

\( \epsilon_i = \) the stochastic function that accounts for the errors that may arise in the equation.

4. Discussion and Analysis

4.1. Demographics Characteristics of Respondents

This section delved into the background information of the respondents in terms of age, highest academic qualification, location, size and area of operation.
### Table 2. Descriptive Statistics of Respondents’ Age.

<table>
<thead>
<tr>
<th>Respondents Characteristics</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than 28 years</td>
<td>49</td>
<td>12.9</td>
</tr>
<tr>
<td>29-39 years</td>
<td>101</td>
<td>26.6</td>
</tr>
<tr>
<td>40 - 49 years</td>
<td>172</td>
<td>45.4</td>
</tr>
<tr>
<td>50-59 years</td>
<td>50</td>
<td>13.2</td>
</tr>
<tr>
<td>60 years above</td>
<td>7</td>
<td>1.8</td>
</tr>
<tr>
<td>Total</td>
<td>379</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2022

The findings in Table 2 showed that majority of the respondents who participated in this study, 53.7% were aged between 31-40 years, followed by 32.4% aged between 21-30 years, 13.7% aged between 41-50 years, while 0.2% were those more than 61 years. This is an indication that respondents were well distributed in terms of their age and shows that the productive years is similar to the general economic distribution of productive years.

### Table 3. Descriptive Statistics of Respondents’ Highest Educational Level.

<table>
<thead>
<tr>
<th>Respondents Characteristics</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic qualification:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WASC</td>
<td>192</td>
<td>50.7</td>
</tr>
<tr>
<td>BSc/HND</td>
<td>145</td>
<td>38.3</td>
</tr>
<tr>
<td>MSc/MBA/DVet</td>
<td>35</td>
<td>9.2</td>
</tr>
<tr>
<td>PhD</td>
<td>7</td>
<td>1.8</td>
</tr>
<tr>
<td>Total</td>
<td>379</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2022

### Table 4. Descriptive Statistics of Respondents’ Zone.

<table>
<thead>
<tr>
<th>Respondents Characteristics</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>South West</td>
<td>148</td>
<td>39.1</td>
</tr>
<tr>
<td>North Central</td>
<td>59</td>
<td>15.6</td>
</tr>
<tr>
<td>North West</td>
<td>78</td>
<td>20.6</td>
</tr>
<tr>
<td>North East</td>
<td>24</td>
<td>6.3</td>
</tr>
<tr>
<td>South South</td>
<td>40</td>
<td>10.6</td>
</tr>
<tr>
<td>South East</td>
<td>30</td>
<td>7.9</td>
</tr>
<tr>
<td>Total</td>
<td>379</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2022

### Table 5. Descriptive Statistics: What describes the size of your farm.

<table>
<thead>
<tr>
<th>Respondents Characteristics</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro Scale (&lt;500 birds)</td>
<td>18</td>
<td>4.7</td>
</tr>
<tr>
<td>Small Scale (500 – 5000 birds)</td>
<td>114</td>
<td>30.1</td>
</tr>
<tr>
<td>Medium Scale I (5001 – 10000 birds)</td>
<td>105</td>
<td>27.7</td>
</tr>
<tr>
<td>Medium Scale II (10001 – 30000 birds)</td>
<td>112</td>
<td>29.6</td>
</tr>
<tr>
<td>High Scale (≥ 31,000 birds)</td>
<td>30</td>
<td>7.9</td>
</tr>
<tr>
<td>Total</td>
<td>379</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2022

The national spread of the respondents showed in Table 4 that South West states had 38% of the respondents, with North West having 20.8%, closely followed by North Central with 15.6% while South East, South South and North East regions have 11.1%, 7.9% and 6.1% respectively. This reflects the even spread of participation in agricultural business in Nigeria with the economic capital of the country together with the South West states of Nigeria dominating the production figures.

From Table 5, 30.1% of the respondents are managing between 500 and 5000 birds which is considered to be the small size business according to FAO distribution. 57.3% of the respondents are managing or owning the medium sized farms and this constitute the majority of the responses received while large-scaled farms accounts for 7.9% with another 4.7% from the micro-sized farms which is more of the peasant farms whose position may not be representative enough [28, 92].

### Table 6. Descriptive Statistics: Area of Operation.

<table>
<thead>
<tr>
<th>Respondents Characteristics</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egg Producer</td>
<td>247</td>
<td>65.2</td>
</tr>
<tr>
<td>Meat Producer and Processor</td>
<td>85</td>
<td>22.4</td>
</tr>
<tr>
<td>Hatchery/Breeding Farms</td>
<td>18</td>
<td>4.7</td>
</tr>
<tr>
<td>Poultry/Veterinary Services</td>
<td>18</td>
<td>4.7</td>
</tr>
<tr>
<td>Poultry Supplies</td>
<td>11</td>
<td>2.9</td>
</tr>
<tr>
<td>Total</td>
<td>379</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2022

In Table 6 the majority of the respondents at 87.6% are the egg and meat producers which are complimentary in most cases and this category is being serviced by other services where the respondents were 4.7%, 4.7% and 2.9% for breeding farms, veterinary services and supplies, respectively. This 87.6% are in the driver’s seat and this homogeneous group makes conclusions easy for extrapolation.

### Distribution of Questionnaire

The researcher distributed 450 copies of questionnaire, out of which 379 copies were received from the field. This represented an overall successful response rate of 84.22%. The rest 71 (15.78%) of the copies consisted of those questionnaires that were never returned. According to [40], the average response rate to online survey as at 2020 stood at 68% and thus will be considered as the benchmark for this work as acceptable for self-administered questionnaire. It guarantees accuracy and minimizes bias. Based on this high value of response rate, the 84.22% achieved was adequate for drawing conclusions on the study objectives. Therefore, the researcher used the questionnaire copies collected for analysis and reporting. Table 7 presents results of the response rate.

### Table 7. Questionnaire Administration Response Rate.

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely filled and returned</td>
<td>379</td>
<td>84.22%</td>
</tr>
<tr>
<td>Non-response</td>
<td>71</td>
<td>15.78%</td>
</tr>
<tr>
<td>Total</td>
<td>450</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Field Survey, (2022)

4.2. Regression Analysis for Test of Hypothesis

Research Objective: Assess the impact of financial re-engineering on the learning and growth performance in the poultry business in Nigeria.
Research Question: To what extent do financial re-engineering impact on the learning and growth performance in the poultry business in Nigeria?

Research Hypothesis (H₀): financial re-engineering has no significant impact on the learning and growth performance in the poultry business in Nigeria.

Table 8. Regression Estimate.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>t-stat</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td></td>
<td>0.299</td>
<td>0.219</td>
<td>1.362</td>
<td>0.174</td>
</tr>
<tr>
<td>D1-BSTR-Business Strategy</td>
<td></td>
<td>0.219</td>
<td>0.064</td>
<td>4.649</td>
<td>0.000</td>
</tr>
<tr>
<td>D2-BPAS-Business Processes and Systems</td>
<td></td>
<td>0.025</td>
<td>0.061</td>
<td>0.495</td>
<td>0.621</td>
</tr>
<tr>
<td>D3-BTEC-Business Technology</td>
<td></td>
<td>-0.088</td>
<td>0.071</td>
<td>-1.496</td>
<td>0.136</td>
</tr>
<tr>
<td>D4-OSTR-Organisational Structure</td>
<td></td>
<td>0.421</td>
<td>0.060</td>
<td>6.971</td>
<td>0.000</td>
</tr>
<tr>
<td>D5-OCUL-Organisational Culture</td>
<td></td>
<td>0.299</td>
<td>0.050</td>
<td>6.575</td>
<td>0.000</td>
</tr>
<tr>
<td>r</td>
<td></td>
<td>0.663</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td></td>
<td>0.613</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td></td>
<td>0.607</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-Stat</td>
<td></td>
<td>118.008</td>
<td>(0.000)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: Learning and Growth Performance * significant at 5%

Model

The predictive and prescriptive multiple regression models are thus expressed:

\[
LGP = f(BSTR, BPAS, BTEC, OSTR, OCUL)
\]

Equation 1 (Prescriptive model)

\[
LGP = 0.299 + 0.219BSTR + 0.025BPAS - 0.088BTEC + 0.421OSTR - 0.299OCUL
\]

Equation 2 (Predictive model)

4.3. Interpretation of Result

Table 8 shows the result of the multiple regression analysis carried out on the examination of the effect of financial re-engineering (business strategy, business processes and system, business technology, organizational structure and organization culture) and financial performance of the poultry business in Nigeria. The regression estimates shows that financial re-engineering positively affects learning and growth performance as indicated by the signs of the coefficient \( \beta = 0.299; \beta_1 = 0.219; \beta_2 = 0.025; \beta_3 = -0.088; \beta_4 = 0.421; \) and \( \beta_5 = 0.299 \). The trio of business strategy \( \beta = 0.219, t=4.649, p=0.000 \), organisational structure \( \beta = 0.421, t = 6.971, p=0.000 \) and organisational culture \( \beta = 0.299, t=6.575, p=0.000 \) all had a positive significant effect on learning and growth performance of poultry businesses in Nigeria. While business processes and system \( \beta = 0.025, t = 0.495, p=0.621 \) had a positive but insignificant effect on learning and growth performance of poultry businesses in Nigeria. Business technology \( \beta = -0.088, t = -1.496, p > 0.136 \) had a negative but insignificant effect on learning and growth performance of poultry businesses in Nigeria.

The correlation coefficient of \( r = 0.663 \) revealed that a moderately strong positive relationship exists between financial re-engineering and performance of poultry business in Nigeria. The coefficient of multiple determination, adjusted-R² is 0.607 indicating that the financial engineering explains about 60.7% of the changes in learning and growth performance of poultry businesses in Nigeria, while the remaining 39.3% could be attributed to other factors not included in this model. The regression model showed that when financial re-engineering is held to a constant zero, learning and growth performance would be 0.299, implying that without the financial re-engineering, the learning and growth performance of poultry businesses in Nigeria would be 0.299. The results of the multiple regression analysis indicate that from the predictive model, all the variables business strategy, business processes and system, business technology, organisational structure and organizational culture are significant and therefore is prescribed for adequate attention by the poultry business owners in Nigeria.

This implies that a one unit (1%) improvement in business strategy will result to a little about twenty two times (21.9%) improvement in learning and growth performance, a one unit (1%) improvement in business processes and systems will result to about two and a half unit (2.5%) improvement in learning and growth performance, and a one unit (1%) improvement in business technology will worsen learning and growth performance up to nine times (8.8%), a one unit (1%) improvement in organisational structure will result to about forty two times (42.1%) improvement in learning and growth performance and a one unit (1%) improvement in organisational culture will lead to an improvement of thirty times (29.9%) improvement in learning and growth performance.

Decision: At a level of significance of 5%, the F-statistics is 118.008, while the P-value of the F-statistics is 0.000, which is less than 0.05 accepted level of significance. Therefore, the study rejected the null hypothesis which means that financial re-engineering has no significant impact on the learning and growth performance in the poultry business in Nigeria and the alternate hypothesis that financial re-engineering proxies have significant impact on the
learning and growth performance of poultry business in Nigeria is accepted because it reinforces all theoretical evidence gathered during the study.

4.4. Discussion of Findings

Pallathadka [76] findings supported the study as it showed that there exists positive relationship between organizational culture and firm performance particularly in the area of learning and growth and innovation strategy [76]. Agbionu and Audu asserted that there is a significant positive relationship between work process innovation and employee retention [5]. Aryani and Widodo also concluded that financial re-engineering proxy of organizational culture has a mediating effect on transformational leadership and organizational communication media on motivation, organizational commitment, job satisfaction, engagement, job involvement, innovation, productivity and performance [18]. Akam, Okeke, Kekeocha & Onuorah had concluded that BPR is a veritable tool to enhancing employee satisfaction, teamwork and cooperation, quality of service delivery as well as attainment of organizational strategic goals in brewing firms in Nigeria [7].

The findings of this study on the impact of business technology on learning and growth performance were not supported by Kuume and Angula who identified the role of Information Technology as having made some significant changes in the way how employees conduct their today running of a business and thus employee retention arising from job satisfaction becomes the ultimate effect [49]. The result did not also align with Patgar and Vijayakumar on the usage of information technology as a tool of employee retention as well [77]. While it also contradicted [96] who found that technology can be utilized to retain employees and reduce turnover, and that using the right digital platforms increases workers’ feeling of security during onboarding. Cascio and Montealegre acknowledged that the main thing now is a global world where technology, especially information and communication technology, is changing the manner in which businesses create and capture value, how and where we work, and how we interact and communicate [30]. As a way in between the results and providing some basis for further analysis, Lekchiri provided the perspective that modern technologies will result in the creation of job opportunities in the near future in various industries, where robotics and computers will require new skill sets resulting in job openings for various potential workers [51].

Though Hassan, Anwar, Rafique and Saeed identified three elements of organizational structure including centralization, formalization and work specialization and found that though in different degrees they all negatively impact on employees' creativity which is contrary to the findings of this study [38], there are other authors who agreed with the findings and include who concluded that organisational structure measured in terms of centralization, formalization and complexity enhances the resilience consciousness of employees in the organisation and accommodate uncertainties, threats and other changes from the external business environment [33, 62]. Funminiyi also supported the findings of the study and concluded that there is significant positive relationship between decentralisation system of control and employee productivity [35]. Nosike, Okoye and Afohigbueokwu is in agreement that organisation structure impacts on learning and growth performance by stating that nature of formalization and layers in the organizational hierarchy has significant effects on the employee’s performance [62].

4.5. Implication of Findings

The findings of this study have implications for Government and her agencies, funding institutions, the general public and prospective researchers. The model suggests that financial re-engineering proxies of business processes and systems is currently insignificantly affecting financial performance, and this is not farfetched as there exist no standard management information system covering the poultry business in Nigeria, and this is visible in that only one quoted livestock company exist in Nigeria. The Financial Reporting Council of Nigeria will need to collaborate with all necessary agencies to fashion out the preparation, implementation, and monitoring of the usage of standard accounting information system to build in all the advantages of the qualitative characteristics of financial reports, namely relevance, faithful representation, comparability, verifiability, timeliness, and understandability. This will make government and her agencies to ensure that more funds are pumped into the agricultural sector of the economy and improve on her GDP per capital contribution from the Agricultural sector:

4.6. Summary of Empirical Findings

The effect of financial re-engineering on learning and growth performance of the poultry business in Nigeria is positive. This is evident from the coefficient of + 0.219BSTR + 0.025BPAS - 0.088BTEC + 0.421OSTR - 0.299OCUL. The adjusted $R^2$ model shows 60.7% variations in learning and growth performance (FIN) is attributed to the financial re-engineering proxies of BSTR, BPAS, BTEC, OSTR and OCUL while the remaining 39.3% is caused by other explanatory factors outside this model. The F-statistics of 118.008 and the probability of the F-statistic of 0.000 which shows that the regression result is statistically significant because it is less than 5% level of significance adopted for the study. The study rejects the null hypothesis which stated that financial re-engineering has no significant impact on the learning and growth performance in the poultry business in Nigeria. Therefore, financial re-engineering has significant impact on the learning and growth performance of the poultry business in Nigeria.

5. Conclusion and Recommendation

5.1. Conclusion

In view of the findings from data analysis, the study concluded that financial re-engineering has significant effect
on corporate performance of poultry business in Nigeria. Business strategy, organisation structure and organisational culture were identified as having positive significant effect on financial performance of the poultry business while business processes is having an insignificant negative impact and business technology having a positive but also insignificant impact on financial performance. This is reflected in their coefficients and level of significance being below 5%. With regards to business technology, it is just reflective of the fact that automation is yet to be fully embraced as contained in the questions while the business processes is indicative of the absence of a standard management information system.

5.2. Recommendation

The various agricultural training and development centres should prioritise the training of skilled professionals and workers at all levels running short-term developmental programmes, adapting the school curriculum to teach current trends in the poultry and livestock business, research into new methodologies of skills development so that we can build enhanced capacity that will further drive other processes. The professional associations should also engage in developing the manpower within the industry including the service providers as agriculture is principally a human-driven one with the aid of technology.

5.3. Suggestions for Further Studies

Other variables of financial re-engineering not captured in this study should be worked on while each of the variables can further be isolated and comprehensively diagnosed including applicable software applications that can be adapted/adopted in the poultry business in Nigeria. However, it need be emphasised that the responses received were adequately enough and sufficiently capable of helping in achieving the objectives of this study.

References


Advances 2023; 4(1): 21-35


