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Artificial Intelligence (AI) Functions on Corporate Performance in Nigeria: A critical Analysis of Machine Learning

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Abstract

Corporate organizations' embrace of digital, artificial intelligence (AI), and machine learning (ML) to improve performance and productivity was determined to be significant and came with a variety of globally oriented experiences. AI has lately changed the field of machine learning since it allows businesses to create, process, and analyze a wide range of goods and services, improving the experience in Nigeria. The purpose of the study is to look at how machine learning as a part of AI is presented, evaluated, and looked at. Using Chi Square X2, the proposed hypotheses were examined. The research's focus is on machine learning for performance measurement in Nigeria, and it is of significance for its knowledge contribution, real-world business applications, and possible influence on Nigeria's economic and technical environment. Another gap that has to be filled by academic institutions and academics is the paucity of literature on machine learning and performance in the Nigerian setting. The population of the study is purposively sixty (60) board of directors from different organizations through the primary data obtained by a questionnaire administered for their responses, of which only fifty-nine (59) were retrieved. The study concludes that ML is a reliable tool necessary for any globalized corporate firm to survive the modern ages and further recommends that ML needs to be properly managed, the government should subsidize information systems so that more organizations may get access to them, laws should be enacted to protect against computer crime and privacy, and corporate institutions should train their personnel on Information system handling periodically.

Keywords:- Corporate, Artificial, Intelligence, Machine, Learning and Performance

Introduction

It is astounding how quickly the corporate discourse in management transitioned from big data (BD) to machine learning (ML) to artificial intelligence (AI) (Cappelli & Yakubovich, 2017). Once more, humans have enhanced the power of computer systems in terms of their many working areas, growing speed, and decreasing size over time. The goal of AI, a subfield of computer science, is to develop machines or computers that are as intelligent as people. Thus, the goal behind the development of AI was to imbue computers with intellect that is comparable to and valued highly by humans. Intelligent systems learn, demonstrate, explain, and provide users advice. creating machines that comprehend, think, learn, and act like people. Globalization, technological advancements, and escalating rivalry drive ongoing transformation in the professions. Technology is increasingly

the main driver of economic activity in both the manufacturing and service sectors. Rapid technical development and change are commonplace in many industries. The economy benefits increasingly from the generation and upkeep of knowledge. Views of the contemporary corporate organization and its function in society are likewise evolving quickly (Aljamaan, 2017). The evolution of machine learning (ML) and its diversity, along with the alteration in the current economic climate brought on by globalization and digitization, have changed human resource management, financial services, and accounting practices, claim Ciurea and Man (2020). Machine learning has become a potent tool in many fields, altering how businesses examine data and make choices. Corporate performance analysis is one area where machine learning has attracted substantial attention. The implementation of machine learning (ML) algorithms has accelerated significantly in recent years

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across numerous industries, including Nigeria. The use of machine learning techniques to corporate operations has the potential to transform how choices are made, procedures are automated, and performance is increased. The 21st century's digital technology will have an impact on practically every facet of modern society and the economy. Because of digitization and technological advancement, the HRM and accounting professions adapt and grow, much like other professions. The possibilities and advantages of smart technologies and artificial intelligence today seem limitless, resulting in higher productivity, safer working conditions, opportunities for these professionals to learn about new technologies, in addition to the creation of jobs and higher-value work brought about by digital transformation. As a result of reduced manual data entry and increased speed, quality, and accuracy of data, technological advancements and technologies like blockchain, artificial intelligence, and the cloud will expand the role of accounting professionals and the entire financial industry (Ciurea & Man, 2020).

Many human resource practices have been drastically altered by the development of new technologies. Organizations today have access to the finest and the brightest ideas from around the world, and if used effectively, this alone can propel the company into an industry-leading position. Technology will likely have the most impact on how HR professionals perform in the future in terms of macroeconomic trends. The goal of this investigation is to investigate how machine learning functions affect business performance in Nigeria. It explores the use of machine learning algorithms and techniques to analyze massive amounts of data, find patterns, forecast the future, and enhance decision-making procedures. A new generation of labor, including human intelligence and artificial intelligence, has emerged with the advancement of AI technology and has emerged as the crucial element for enterprises to survive and evolve in a changing environment (Ertel, 2018). Many individuals have been intrigued by the idea of developing and expanding human intelligence through the use of computers, much to how physical power was once increased through the use of mechanical instruments (Kok, Boers, Kusters, & Putten). Nigerian companies can gain a competitive edge in the market, increase operational effectiveness, and improve overall performance by utilizing machine learning; however, the journey into the future of human resource management necessitates understanding of the technological drivers into the future. Ofarisen (2018) observed that major shifts in what is feasible, what actually occurs, and what individuals require are taking place. These shifts have an impact on the home and are shaping careers. In other places, he says that key things that should be watched in the future. The speculation and prognostication that follows examines how things are changing and will be the focus of upcoming research and investigation (2018:14). An exclusive mix of opportunities and difficulties are presented by the business climate in Nigeria. Companies must negotiate complicated dynamics to stay ahead in a market that is continually growing, has a large population, and a variety of industries. It may be difficult to fully capture the nuances and complexity of this environment using traditional methods of

data analysis and decision-making. On the other hand, machine learning can process enormous amounts of data, find hidden patterns, and produce insightful data that can guide strategic decisions and operational advancements. It is crucial to comprehend how machine learning functions affect corporate performance in Nigeria for a number of reasons. First of all, it offers information on how well these technologies work to handle the special business environment and difficulties faced by Nigerian firms. Second, it provides insightful advice for companies that are considering or going through a similar transformation. Last but not least, it adds to the body of knowledge already available on how machine learning and business performance interact, specifically in the case of Nigeria.

Despite the development of technology and the growing significance of computerization, human resources continue to dominate the efficient use of material and financial resources, according to Flamholtz (1972). It is therefore necessary to develop a system of accounting for the associated men who are essential resources to an organization due to the ever-expanding dimensions and growing complexity of business activities, increased governmental monitoring of business affairs, pressing trade union demands for greater disclosure on human performance in business, and emanation of scientific management within the organization (Agarwal, 2004). Although not many studies in Nigeria have been done over the years from this viewpoint. Although human resource accounting was first developed in the 1980s (Rahaman, Hossain & Akter, 2013; Abubakar, 2006; Glautier, 1974), numerous treatises on the relative merits of human resource accounting have recently been published (Farr, 1853; Engel, 1883; Elovitz, 1967; Brummet, Flamholtz & Pyle, 1969; Flamholtz, 1972; Spiceland & Zaunbrecher, 1976). It is essential to communicate feedback interaction by promptly communicating performance results and emphasizing the areas of weakness within divisions, units, and among personnel (Kaplan & Norton, 1992). Numerous authors have asserted that significant portions of the global economy have transitioned into a knowledge-based economy over the course of the last few of decades.

Statement of the problem

Recently, digital technologies like machine Language (ML) and Artificial Intelligent (AI) both entering into day-to-day working at workplace and which will lead transformation in business. Thus, today's business world is becoming more global, more mobile, and more digitized; any HR team that will make huge impact in it has to be a technology-enabled. Workplace innovators are reshaping the organizational landscape, traditional management systems are being disrupted on a daily basis as a result of innovation explosions, and it is now essential to redesign organizations for agility by developing lightweight approaches to keep them moving quickly; otherwise, organizations risk losing ground in the race to go digital (Ologunoye, 2018). According to Wikipedia (2019), natural language processing, perception, planning, representation, learning, and the capacity to move and control things are among the traditional challenges (or aims) of AI

study. One of the long-term objectives of the field is general intelligence. Techniques include traditional symbolic AI, computational intelligence, and statistical approaches. Artificial neural networks, various forms of search and mathematical optimization, as well as approaches based on statistics, probability, and economics are just a few of the instruments employed in AI. On the premise that it can be stimulated by a machine, the field was established. This gives rise to philosophical discussions regarding the nature of the mind and the ethics of developing intelligent artificial entities. Since antiquity, myth, purpose, and philosophy have all examined these themes. AI is also viewed by some as a threat to humanity if it continues to advance (Wikipedia, 2019). There are issues with representation, evaluation, and optimization in the analysis of machine learning functions on corporate performance in Nigeria. In order to create precise, trustworthy, and context-specific models that can accurately forecast and analyze company performance in the Nigerian business environment, it is imperative that these issues be addressed. In machine learning, the way that data is represented is significant since it has an impact on the models' precision and dependability. In the Nigerian environment, it could be difficult to get high-quality, carefully managed datasets that precisely capture the pertinent aspects of corporate performance. Limited data availability, poor data quality, a lack of standardized reporting formats, or insufficient coverage of various industries and sectors can all contribute to the problem of representation. Without proper representation, the machine learning models may produce biased or inaccurate results, hindering their usefulness in understanding and predicting corporate performance in Nigeria.

AI techniques have experienced a renaissance in the 21st century as a result of concurrent improvements in computer power, massive amounts of data, and theoretical understanding. AI techniques have now become a crucial component of the technology industry, aiding in the resolution of numerous challenging issues in computer science, software engineering, and operations research. AI research has been separated into subfields for the majority of its existence, and these subfields frequently don't communicate with one another. These subfields are based on technological factors like specific objectives (like robotics or machine learning), the usage of specific tools (like logic or artificial neural networks), or profound philosophical distinctions. Subfields have also been established based on sociological variables, such as specific institutions or scholars' contributions. However, the lack of benchmark datasets or assessment measures that are clearly defined and customized to the business environment in Nigeria may make it difficult to assess the effectiveness of machine learning models on corporate performance there. Additionally, the performance of the models may differ across various markets and sectors, necessitating the use of sector-specific evaluation methods. Machine learning can be used to analyze company performance in Nigeria, but its practical utility may be constrained by inadequate evaluation methodologies that can produce false conclusions.

In contrast, an artificial intelligence may be built substantially differently from a human mind and nonetheless display human-like behavior or have the behavioral traits that are typically associated with personhood. As a result, it would be feasible to imagine an artificial intelligence. Human resources are now acknowledged as strategic tools that are crucial to the profitability and sustainability of organizations. According to organizational output of financial variables (sales growth, goal achievement, good services, productivity) and nonfinancial variables (management quality, long-term orientation, continuous improvement, workforce quality) (De Waal & Frijns, 2011; Dimba, 2010), as well as other outcomes as commitment, quality, and commitment, the organization needs to align organizational performance with human resource management practices. An organization requires a mechanism to track success once it has set its goals, identified all of its stakeholders, and conducted an analysis of its mission (Kaplan & Norton, 1996). This entails three distinct aspects of business performance, including financial performance, product market performance, and shareholder return (Richard, Simon, & Brut, 2009). According to Baker & Sinkula (2005) and Griffin (2003), a multi-dimensional concept called organizational performance can be thought of as encompassing factors other than only financial performance. This article therefore holds that, in order to ensure accurate reporting of financial performance in the public sector, the cost and financial implications of using artificial intelligence in the workplace and human resource management should be taken into account in the financial statement. Optimization refers to the process of fine-tuning the model parameters and algorithms to achieve the best possible performance. However, a number of issues may make it difficult to optimize machine learning functions for Nigerian company success. Model complexity and scalability can be constrained by a lack of computational resources, such as high-performance computer infrastructure. Some people define artificial intelligence (AI) as the development of robots, machines, or programs that have the capacity to learn, analyze, and comprehend information on their own and exhibit behavior that could be compared to that of intelligent humans (Tecuci, 2012; Kaplan, 2006). Robotics, the processing of natural language, expert systems, and automated reasoning are some of the newer technological applications of AI (Ved, Kaudanya & Panda, 2016). One of the pioneers of artificial intelligence, Marvin Lee Minsky, defined it as the study of making robots perform tasks that would take human intelligence to complete. Additionally, the business sector in Nigeria may struggle to apply and customize models effectively due to a lack of domain expertise in machine learning. To prevent perpetuating existing inequities or biases prevalent in the Nigerian corporate landscape, it is also imperative to address the problem of bias in the models and ensure fairness in the optimization process.

Objectives of the study

The study main aim is to provide insights into machine learning functions in Nigerian corporations and their impact on corporate performance specifically to:-

- i. Examine the effect of representation of machine learning functions on corporate performance in Nigerian.
- ii. Assess the effect of evaluation of machine learning functions on corporate performance in Nigerian.
- iii. Determine the effect of representation of machine learning functions on corporate performance in Nigerian.

Scope of the study

Area Scope: The area scope refers to the specific field or sector under investigation in the analysis. In this case, it would be the corporate performance in Nigeria. It focuses on analyzing how machine learning functions impact or relate to the performance of companies operating in Nigeria.

Contextual Scope: The contextual scope pertains to the broader context or environment within which the analysis takes place. It considers the various factors, circumstances, or conditions that may influence the subject being studied. For the analysis of machine learning functions on corporate performance in Nigeria, the contextual scope could include factors such as the economic, political, and social conditions in Nigeria, as well as the specific industry or market dynamics.

Domain Scope: The domain scope refers to the specific knowledge or expertise required to conduct the analysis effectively. It encompasses the subject matter and the specific techniques, methodologies, or theories that are relevant to the analysis. In the case of analyzing machine learning functions on corporate performance in Nigeria, the domain scope would involve knowledge of machine learning algorithms, statistical analysis, financial analysis, and relevant business concepts.

Significance of the study

The study on "An Analysis of Machine Learning Functions on Corporate Performance in Nigeria" holds several significances, which includes:

The study contributes to the advancement of machine learning applications in the corporate sector, specifically in Nigeria. By analyzing the functions of machine learning in this context, it sheds light on how these technologies can be effectively utilized to improve corporate performance, provides insights into the specific challenges and opportunities faced by businesses in the Nigerian context. It highlights the relevance of machine learning in addressing these challenges and capitalizing on the available opportunities, examines how machine learning functions can enhance decision-making processes within Nigerian corporations. It explores how these technologies can assist in areas such as predictive analytics, risk assessment, demand forecasting, customer segmentation, and resource optimization. By uncovering the impact of machine learning on decision-making, it offers valuable guidance to business leaders and policymakers, provide Nigerian companies with a competitive advantage by demonstrating how machine learning can improve corporate performance. Implementing effective machine learning strategies can lead to increased operational efficiency, cost

reduction, revenue growth, and improved customer satisfaction. Understanding and leveraging these benefits can help Nigerian businesses stay ahead in a rapidly evolving market, it can guide the formulation of policies and regulations that facilitate the adoption and responsible use of machine learning technologies within the corporate sector. This can foster innovation, economic growth, and a favorable business environment and serve as a foundation for future research and development efforts in the field of machine learning and corporate performance in Nigeria. It identifies gaps, challenges, and areas requiring further exploration. Researchers can build upon the study's findings to delve deeper into specific aspects, such as industry-specific applications, ethical considerations, and the integration of machine learning with other emerging technologies. Overall, the significance of the study lies in its contribution to knowledge, practical implications for businesses, and potential impact on the economic and technological landscape of Nigeria.

Literature Review

2.0 Conceptual issues

2.1 Concept of Machine learning

Garry Kasparov, the global chess champion, was defeated by the Deep Blue computer. With the publication of the well-known film "A.I. artificial intelligence" in 2001, AI once again became the center of attention. 'Jeopardy' was won by the IBM Watson machine in 2011. against renowned human opponents. The next year, in October, Apple launched Siri, an intelligent personal assistant for the iPhone. In 2012 and 2014, Google's "Google Now" and Amazon's "Amazon Echo" respectively, were introduced. In 'AI demystified' (Analytics Vidhya, 2016). The most widely used method for forecasting the future or categorizing data to assist individuals in making important decisions is machine learning. Machine learning algorithms are trained over instances or examples through which they both evaluate historical data and learn from prior experiences. when a result, when it trains on the instances repeatedly, it becomes adept at seeing trends that enable it to forecast the future.

2.2 Concept of Artificial Intelligence

Scientists have attempted to develop robotics and programs that duplicate or outperform human reasoning in the performance of predetermined tasks because they have long been captivated by the human mind and how it functions. Artificial intelligence (AI) is the ability of robots and software to emulate and outperform human intelligence in specific activities. AI is a computer science technology that enables computers to learn to comprehend and imitate human speech and behaviour, according to Abid et al. (2022). While Friedman (2005) described it as devices and systems that mimic human behavior in order to carry out a specific task. It involves artificial intelligence created by machines that is programmed to think and act in imitation of humans. On the account of Arvind and Prithwiraj (2022), they saw Artificial intelligence as a widely used emerging technology that aids organizations in tracking real-time data to analyze and respond swiftly to customer requirements. Artificially

intelligent programs and bots are unique in that they can develop as a result of the data they have gathered. In other words, they benefit from the knowledge created, develop along with it, and get smarter. According to Abid et al. (2022), artificial intelligence will eventually play a significant role in all business enterprises all over the world. Speech recognition tools like Siri and Alexa, which are also used by Google's search engine and Facebook's facial recognition software, have been made available to us thanks to AI technology (Prakash, 2023). AI could be used for both industrial, business, security purposes, and even in the military. Robotics has been used in the manufacturing industries to more efficiently make accurate production of products at a very high speed than human capacity could give. AI technology used and its type, another factor is the sort of AI technology being utilized. According to certain research, deep learning algorithms, for example, may be better at predicting consumer behavior and preferences than other types of AI (Gartner, 2020). The degree and success of personalisation can be significantly impacted by the sort of AI technology utilized in marketing. The capabilities and limitations of various AI technologies, including chatbots, natural language processing, and machine learning algorithms, can have an impact on how they are applied in marketing. An et al.'s (2020) study looked into the application of AI chatbots for customer support. They discovered that chatbots based on NLP and machine learning algorithms were successful in answering straightforward consumer questions and speeding up response times, but less successful in managing complicated questions and gaining the trust of customers. Another study by Wirtz et al. (2020) looked at the application of AI in customer interactions. They discovered that while recommender systems and customer analytics, two AI-based customization technologies, enhanced service quality and customer satisfaction, they also required careful design and deployment to allay privacy and ethical concerns. A few researchers have additionally looked into the application of AI technology in particular marketing contexts, like advertising and social media, in addition to these studies. An investigation into the use of AI in tailored advertising was conducted by Wu et al. in 2021, for instance. They discovered that while ad relevance and engagement were increased by using AI-based advertising approaches like programmatic advertising and retargeting, they also highlighted privacy issues and required transparent and responsible algorithms. The application of AI in social media marketing was the subject of a subsequent Kim and Song (2020) study. They discovered that AI-based sentiment analysis and content recommendation systems increased brand engagement and consumer loyalty but needed close supervision to prevent biases and disinformation.

The Associated Moral Aspects But ethical factors like prejudice, transparency, and privacy also have an impact on how AI marketing affects the user experience. If customers are unsure that a company would utilize their data ethically and responsibly, they may be reluctant to provide personal information to that company (Salesforce, 2020). The reputation of a brand can also be harmed by biased or discriminating algorithms (Kleinberg et al., 2018). In order to

ensure the proper and ethical use of these technologies, there are a number of ethical issues that arise with the use of artificial intelligence (AI) in marketing. Privacy, transparency, fairness, responsibility, and bias are only a few of the major moral dilemmas raised by the use of AI in marketing. Turel and Cavarretta's (2020) investigation into the ethical ramifications of artificial intelligence in marketing. They discovered that when developing and putting into practice AI marketing tactics, ethical concerns including privacy, prejudice, and openness were essential factors to take into account. Li, Wang, and Zheng's (2019) other study looked into the moral ramifications of AI-based personalization in marketing. They discovered that the success and uptake of AI-based customization tools were significantly influenced by ethical issues like transparency, trust, and data protection.

2.3 The rise of Machine Learning

The fundamental idea of machine learning (ML) is to transform data into information that can be utilized to make decisions, typically through the use of sophisticated algorithms (SAS Institute Inc., 2017). BI generates data that can be utilized to inform strategic business choices using less complex techniques like web searches, click statistics, and customer feedback. A SWOT analysis or Google analytics are the two most typical BI examples. With the fusion of statistics and computer science in the early 1990s, ML began to take off significantly. In models that included uncertainty, new parameters were included, resulting in a more data-driven approach than a knowledge-driven expert system approach (Adaptive Intelligence, 2011). The advancement of ML was also pushed by changes in big data, particularly in the quantity and method of data storage (Diebold, 2012). According to some (McAfee and Brynjolfsson, 2012; Marr, 2015; Bughin, 2016), our time is the big data era. Because there is so much structured, unstructured, and semi-structured data today, machine learning (ML) has gained tremendously in popularity in recent years. The ability to apply ML to a wider range of issues was made possible by the availability of a large amount of data in numerous fields. Two significant events accelerated the development of ML. First, there has been a paradigm shift toward training computers to learn on their own rather than programming information into them. Next, the internet has emerged, which has resulted in a massive production of generated and stored information.

2.4 Forces and trends driving ML

ML is being widely embraced by businesses of all sizes. Executives want staff to use ML for three main reasons: cost savings, quicker processing of enormous amounts of data, and quicker discovery of new vulnerabilities. Three factors are driving the usage of ML: Business executives are seeking adaptable, marketable, and simple-to-implement analytics solutions today. Customers, power users, and business analysts should all be able to use the analytics tools to meet their unique demands. ML is being driven by a number of market forces and trends, including as the emergence of big data, an increase in computer power, a greater understanding of the technology's worth, and the escalation of certain economic forces.

1. Technology – The development of new business models and the restructuring of industry competition are being influenced by the rising volume and accessibility of available data, improvements in data collections, deep learning algorithms, increased computational and storage capacity, and improvements in analytical techniques and technologies (Attaran and Attaran, 2018a). Larger and more complicated models can now be trained much faster thanks to the ever growing computational power available. CPUs have been built to handle data and algorithms needed for machine learning at rates many times quicker than those of conventional processor chips. Users now have considerably greater access to this improved computational capability thanks to the cloud (Manyika, 2017). It has been gathered in cloud-based data centers. Businesses can store massive amounts of files for little money thanks to the cloud. The cloud retains the data that is currently required globally accessible to execute analytics or serve apps. At the same time, less expensive cold storage still houses data with potential (Attaran, 2017).
2. Business – In order to be flexible and competitive in their sector, organizations are looking for real-time data that can be translated into actionable insights (Attaran and Attaran, 2018a, 2018b). Enterprise leaders are seeking a platform to store and analyze huge amounts of data from a range of heterogeneous data sources in order to make data-driven decisions. Additionally, they require the capacity to (SAS Institute Inc., 2017):
 - i. Access data with extreme speed
 - ii. Blend and seamlessly connect with a wide range of data from multiple data sources
 - iii. Analyses massive amount of data using complex data science algorithms
 - iv. Provide the outputs of analytics in a visualised, easy-to-use, customisable interface.

Correlate market activity with social reaction by integrating market data with real-time network feeds (Twitter, Facebook, etc.).

3. People – Customers want visual analytics that can be visualized from a range of data sources and don't need any special training or technical knowledge. Internal employees are looking for a solution that would let them push data into it and then back easily readable analytics that will enable them to deliver outcomes and solve issues swiftly.

2.5 Opportunities and difficulties of applying ML

The main advantages Twenty company executives who have implemented ML initiatives in their organizations were recently surveyed by Google Cloud. Key project benefits were found by the survey (Google Cloud, 2017). The top advantages cited were time and money savings, enhanced risk management, higher-quality analytics, higher revenues, better services, and improved inventory planning. These are some of the advantages these organizations envision obtaining from the application of ML: collecting more detailed data for

analysis and insights - by analyzing previous and present consumer behavior, it is possible to identify key trends that will help anticipate the future more precisely Gaining a competitive advantage - With the help of the information gleaned from the previous point, companies can analyze and alter their sales and marketing plans in order to outperform rival companies who have opted not to engage in ML (Google Cloud, 2017).

2.6 Performance of an Organizational

The combined results of all the organization's work processes and exercises are what managers are most concerned about: organizational performance. It's a challenging but crucial concept, and managers must be aware of the elements that contribute to great organizational performance. In light of everything, they don't need to (or don't plan to) cope with their strategy for mediocre performance. No matter what mission, practices, or goals are sought after, they require their companies, work units, or work gatherings to function abnormally (Rangiz, 2011).

2.7 Analytics, AI, and machine learning development

It's interesting to note that there are historical references to AI. Greek mythology used the term "mechanical men" to describe robots, and some European literature refers to computers as "logical machines" capable of performing simple arithmetic operations. The advancements in AI and ML that we are seeing today are the result of both technological advancement and our growing understanding of the human brain (Marr, 2016). Analytics is now a critical component of most corporate roles in the current business environment. A recent research by Gartner, released in 2015, noted a shift in emphasis from business-led self-service analytics to IT-led reporting (Gartner Report, 2015). The exponential expansion in the number of sources, amount, and complexity of data cannot be handled by traditional reporting-based BI tools. Only specialized reporting groups are permitted access to the traditional platforms' tight data and report control. In contrast, the contemporary strategy sees data governance as a crucial step in developing self-service analytics. Agiler alternatives are being added to traditional BI tools. The modern technique can be implemented in as little as a few hours, unlike traditional systems that could take months. No longer accepted is tardiness. The development of the internet has led to a decrease in patience and a rise in expectations. More accessibility, agility, and analytical insight from a wide variety of data sources are supported by modern BI platforms for organizational demands. Each and every business user is an analytics user, and every business process is an analytics process. Many organizations modified the classic BI paradigm and end-user criteria to match the time-to-insight requirements of today's competitive business climate. The goal of the contemporary BI platform is to democratize analytics through self-service features. Agility, flexibility, and usability are its defining traits (Gartner Report, 2015).

2.8 Neural network

In accordance with Chiang, Zhang, and Zhou (2006), neural networks are a machine learning technique that take their inspiration from the human brain. These networks are

modeled as systems of interconnected neurons that can compute values from input data. From sample data, a neural network can infer the fundamental characteristics of patterns or processes (Sim et al., 2014). According to Chiang, Zhang, and Zhou (2006), a neural network is made up of a collection of nodes that are arranged in hierarchical layers. Input, hidden, and output layers make up the majority of neural networks (Chong 2013). The input node is the receiver that accepts data files, as its name suggests. The last information produced is contained in the output layer. Between the input and output layers are the hidden layers. The hidden layers will receive inputs from neurons in the input layer, and knowledge is then stored by the interneuron connection strengths (i.e. synaptic weights) (Haykin 1994). The supervised learning technique is used to analyze the data set by the neural network, and the synaptic weights of the neural weight are then changed to achieve the desired design target (Chong et al. 2013). After that, they serve to preserve knowledge and make it accessible for use in the future (Sim et al., 2014). The fundamental drawback of neural networks is their 'black-box' nature. But instead of interpreting the model in our study, we want to pinpoint the crucial variables. In light of the fact that neural networks may be used to estimate model parameters and have a number of benefits, we employed neural networks to discover the crucial sales predictors.

2.9 Organizations need to utilize modern technology

After observing how many industries focus on enhancing customer satisfaction by purchasing the newest equipment to boost organizations' performance, it is believed that acquiring modern technological skills will improve the operation quality of work in the organization by using aggressive marketing strategies, sales promotion, and public relations. However, despite these beliefs, many organizations fail to benefit from innovation because they lack effective human resource management. According to Brawn (1997), marketing, production, and finance are only a few examples of organizational divisions that must effectively execute human resource management techniques in order for company and industrial growth to be improved. Most developing countries in Africa, Asia, and Latin America were unable to utilize their natural resources and human capital for economic development due to their lack of proficiency with modern technology; this was due to their governments' failure to promote technology proficiency and their citizens' lack of commitment to innovation, whereas advanced nations like Europe, America, Russia, and emerging nations like China succeeded through the effective application of modern technology. While most organizations in Nigeria buy these technical devices from developed nations and do not fail to encourage innovations in the country, this represents a setback for the banking sector because in developed countries, the government provides an enabling environment and rewards to motivate and encourage technologists to innovate.

2.10 Globalization and machine learning (ML)

Globalization and machine learning (ML) go hand in hand; therefore, they cannot be separated while discussing ML. At this stage, defining globalization is essential. Globalization is

defined by Wikipedia as "the process of international integration resulting from the exchange of world views, products, ideas, and other aspects of culture." Chandler et al. (2013), globalization is the process of denationalizing political, economic, and social activities. This process has involved the eroding of national boundaries and the stripping away of national sovereignties, and it has transformed the world into a global village where nations see themselves as neighbors in a village. Machine learning (ML) makes globalization possible and, in reality, is the means by which it is made possible. This is so because the two share similar traits. National boundaries and sovereignty are largely irrelevant as a result of globalization, and uniform standards are becoming common. One of the defining characteristics of machine learning (ML) is that it operates on a global scale across all nations, regardless of national boundaries. Due to these, the two have traits in common, like being supra-territorial and having consistent standards. Thus, machine learning (ML) increases globalization (Danithith and John 2009).

International trade is what starts and accelerates globalization, which subsequently carries all other aspects with it. Machine learning (ML), which spans countries with consistent standards, facilitates international trade. Machine learning (ML) logically promoted globalization. Consequently, in a sense, machine learning (ML) makes globalization possible. The following details support Laudon and Laudon's (2014) claim that machine learning (ML) has validated globalization. First, the use of computers by countries to improve their production processes, the use of telecommunications infrastructure to transmit messages, and the use of the internet to store and transmit information on goods, services, supplies, demands, and prices among others globally have all facilitated international trade. These goods and services also have universal standards that enable their demand and use in any region of the world. Therefore, people may access this information, make orders, and get deliveries of goods and services as if they were in the same town or village from anywhere in the world.

2.11 Employees Performance

In order to determine "how employees themselves view the impact and the value of IT investment," Laudon L. (2014) conducted a survey of the hotel industry and published the results in his paper titled "Employee Perception of the Impact of Machine learning (ML) Investment in Organizations: A Survey of the Hotel Industry." This issue is taken into account in the study in relation to the hospitality sector. It especially looks into how differently hotel staff perceive the effects of organizational IT spending on (a) staff use of IT, (b) staff satisfaction with IT systems, (c) shifts in staff performance levels, and (d) hotel performance as a whole. In order to gauge how the 945 hotel employees in Bali, Indonesia felt about the organizational effects of IT, a poll was conducted. In order to examine the variety of employee perspectives, the study used factor analysis, analysis of variance, and regression analysis on the data collected. The findings revealed that there were significant differences between the employees'

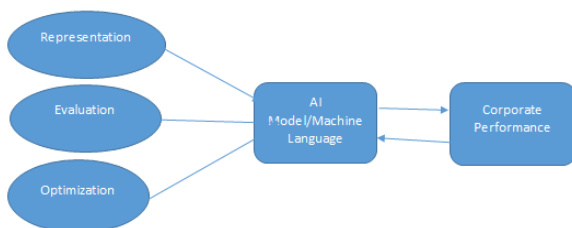
perceptions with regard to age, educational attainment, position within the hotel, and personal income. The study's findings thus imply that even senior management may think the investment in IT is justified, despite differences in perceptions among employees on the true advantages of IT.

2.12 Performance

In his article titled "The Implications of Globalized Finance," Quah (2010) attempted to both highlight the advantages of globalization and speculate on what would be the most divisive topics in the near future. Due to space restrictions, a thorough analysis of the empirical evidence is removed from the study; instead, only the most important salient facts are supplied when they are required. The first is the long-term drop in the cost of international travel and communication, which was highlighted in the article as one of two close variables that promote globalization. Telecommunications, passenger transportation, sea and air shipping, and all of these have all had significant price declines and increases in productivity over the past 50 years. Once more, there are two main forces at play here: Technology has advanced tremendously in recent years, opening up new possibilities for communication and transportation or greatly increasing the effectiveness of long-distance movement of goods and services. The restructuring of companies, industries, and manufacturing processes has also taken advantage of these technology advancements to best disperse operations geographically. According to the study, policy is the second main proximate element underlying globalization. Nation states have not been compelled by any technologically determined inevitability to provide their population access to ever larger commerce, international investment, money flows, immigration, and flows of information and ideas, yet this has still happened to varied degrees. In its conclusion, the study identified the three major issues—global inequality, worldwide financial and economic stability, and global climate change—from which it can be inferred that the majority of policy concerns arise. We shall advance our understanding of globalization significantly and meaningfully through the measurement of costs and benefits on these three dimensions and the subsequent informed policy discussion.

2.13. Research Framework

Conceptual framework



Source: Research work 2023

Explanation:

Representation: The representation stage involves the selection and preparation of relevant data to be used by the AI model. It includes tasks such as data collection, data preprocessing, feature extraction, and feature engineering. The

quality and relevance of the data used for training the AI model have a significant impact on its performance.

Evaluation: The evaluation stage focuses on assessing the performance and effectiveness of the trained AI model. Various evaluation metrics and techniques are employed to measure the model's accuracy, precision, recall, F1 score, or other relevant metrics. This stage helps determine how well the model performs on unseen or test data and provides insights into its strengths and weaknesses.

Optimization: The optimization stage aims to enhance the performance of the AI model by fine-tuning its parameters or architecture. Techniques such as hyperparameter tuning, model selection, and regularization are utilized to improve the model's accuracy, generalization, and robustness. Optimization helps to achieve better predictive power and minimize errors.

The AI model/Machine Language acts as a central component in this framework. It receives the prepared data and undergoes representation, evaluation, and optimization stages. Once the model is trained and optimized, it is ready for deployment and integration into corporate systems and processes.

The impact of machine learning on corporate performance is significant. By leveraging AI models, organizations can make data-driven decisions, automate processes, improve efficiency, enhance customer experiences, and gain a competitive edge. The accuracy and quality of the AI model, represented by the representation stage, directly impact the effectiveness of decision-making and overall performance. Evaluation provides insights into model performance, allowing organizations to identify areas for improvement and make informed business decisions. Optimization ensures that the AI model is continuously enhanced and optimized, leading to better predictions, cost savings, and improved outcomes. Overall, the representation, evaluation, and optimization of machine learning in AI play crucial roles in shaping corporate performance by enabling data-driven decision-making, automation, and optimization of business processes.

2.14 Theoretical Framework

This paper will adopt the theory of rate of adoption suggests that the adoption of innovations is best represented by an S-curve on a graph (De young et al, 2007).

Theory of Rate of Adoption: per the theory of rate of adoption, an S-curve on a graph is the best visual representation of how quickly innovations are adopted (De Young et al., 2007). According to the hypothesis, early adoption of an innovation happens gradually and slowly. After then, it will experience a period of rapid expansion that will gradually taper down, become stable, and decline (Adesina, 2002). Other representations are suggested by the Bass model (Robert-Ribes & Wing, 2004). Time is yet another important factor. It is believed that innovations spread through time and space. In three key aspects, time has been found to be important for the spread of innovations (Rogers & Scott, 1997).

First, it is believed that adopting an invention is a mental process that develops through time, beginning with initial awareness and information of the innovation and ending with an attitude toward it. This affects the choice of accepting or rejecting the invention.

Second, different parts of the social system have different adoption rates for people. This begins out slowly, with only a small percentage of people accepting the invention, but it picks up speed over time until enough people have embraced it that the rate of adoption becomes self-sustaining.

Thirdly, time is involved in the rate of adoption or rather the relative speed that members of a social system adopt innovations. This is often measured as the number of members of the system that adopt the innovation in a given time period.

3.0 Methodology

The research heavily relied on primary sources of data obtained from respondents' responses to questionnaires administered purposively to sixty board of directors from different corporate organization. A well-structured questionnaire that was given to respondents was used to collect primary data and was designed to capture both personal information and the current issues of concern from which conclusions were drawn. In order to draw a valid conclusion concerning the null and alternate hypotheses, chi-square was also used in the hypothesis testing process. The estimated chi-square (X^2) must be greater than the crucial value in order to reject the null hypothesis (H_0); else, it must be accepted.

The formula: $X^2 = \sum \frac{(O-E)^2}{E}$

Where:

\sum = Summation

O = Observed frequency

E = Expected frequency

X^2 = Computed chi-square

3.1 Results, Conclusion and Recommendation

Table 1: Cognate Working Experience

Working Experience	Frequency	Percent (%)
0 year – 1 years	10	17
2 years – 5 years	33	56
5 years – 10 years	15	25.42
11 years above	1	1.7
Total	59	100

Source: Field survey, 2023

Table 1 shows that 10 respondents have 0 – 1 year working experience which represents 17%, 33 respondents have 2– 5 years working experience which represents 56%, 15

respondents have 5 – 10 years working experience which represents 25.42%, 1 respondent have above 11 years working experience which represent 1.07%. The experiences gathered will enable the respondents to be a better judge for this study

Ho1: There is no significant relationship between representation in machine learning and corporate performance.

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Representation in machine learning	59	100.0 %	0	0.0%	59	100.0 %

Report

Table 4.3.2: corporate performance

Mean	N	Std. Deviation	Minimum	Maximum
4.7401	59	.49545	3.67	5.00

Source: SPSS version 23

Table 2 shows the relationship between representation in machine learning and corporate performance. The table shows that the mean score of 4.7401 which is greater than normal mean which is 2.50. Therefore there is strong relationship between representation in machine learning and corporate performance. It also shows the standard deviation of .49545, meaning there is no dispersion of the data. Accordingly, the null hypothesis is rejected and alternative hypothesis is accepted.

Ho2: There is no significant relationship between evaluation in machine learning and corporate performance.

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Evaluation in machine learning	59	100.0 %	0	0.0%	59	100.0%

Report

Table 3: corporate performance

Mean	N	Std. Deviation	Minimum	Maximum

4.2768	59	.98485	1.67	5.00
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Source: SPSS version 23

Table 4 shows the relationship between optimization in machine learning and corporate performance. From the table shows that the mean score of 4.2768 which is greater than normal mean of 2.50. Therefore, there is strong relationship between evaluation in machine learning and corporate performance. It also shows the standard deviation of .98485, meaning there is no difference of data. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted.

Ho3: There is no significant relationship between optimization in machine learning and corporate performance.

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Optimization in machine learning	59	100.0%	0	0.0%	59	100.0%

Report

Table 4 corporate performance

Mean	N	Std. Deviation	Minimum	Maximum
4.4124	59	.79351	1.67	5.00

Source: SPSS version 23

Table 4 shows the relationship between Optimization in machine learning and corporate performance. From the table shows that the mean score of 4.4124 which is greater than normal mean which is 2.50. Therefore there is strong relationship between optimization in machine learning and corporate performance. It also shows the standard deviation of .79351, meaning there is no dispersion of data. Accordingly, null hypothesis is rejected and alternative hypothesis is accepted.

Conclusion

Corporate entities undoubtedly contribute significantly to the Nigerian economy. For efficiency and effectiveness, corporate institutions need machine learning just like other institutions do. In light of this, machine learning (ML) is not essential; rather, it is a dependable instrument required for any worldwide corporate firm to survive the modern eras, an era in which artificial intelligence processing and transmission form an inherent element of every functional organization.

Recommendations

It is clear from the analysis so far that machine learning (ML) is crucial to corporate institutions in the Nigerian economy, so

steps must be taken to uphold standards and make improvements as needed. The following are some of these steps: Corporate institutions should try to eliminate or reduce the rate of exposure to analog productivity; they should try to make the necessary arrangements for the elimination of system downtime; they should try to hire highly skilled staff with AI expertise in order to run the Machine learning (ML) facilities effectively; The government should subsidize information systems so that more organizations may have access to them, and laws should be enacted to protect against computer crime, privacy and sabotage as well as corporate sabotage. Machine learning (ML) needs to be properly managed to create a better impact, so corporate institutions that are yet to be connected to the Internet should be compliant because Machine learning (ML) improves decision making productivity and keeps a better grip on their activities.

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