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TECHNOLOGY MODERATION ON HUMAN CAPITAL COST AND FINANCIAL PERFORMANCE OF LISTED INDUSTRIAL GOODS MANUFACTURING FIRMS IN NIGERIA

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ABSTRACT
The study was to determine the moderating role of technology on human capital costs and financial performance of listed industrial goods manufacturing firms in Nigeria. The theory underpinning this study is Human capital theory. Ex-post facto research design was considered suitable for the study. The population of this study was thirteen (13) industrial goods manufacturing companies listed on Nigeria Exchange Group. Sample size of ten (10) firms representing about 76% (percent) of listed industrial goods firms in Nigeria was obtained. The non-probability sampling technique was adopted in this study. The findings of this study showed that, technology (moderating variable) showed positive and significant relationship with human capital cost and financial performance of listed industrial goods manufacturing firms in Nigeria. The study concluded that technology directly moderate between human capital cost and financial performance of listed industrial goods manufacturing firms in Nigeria. It was recommended that firms should prioritize strategic investments in employee training and development programs to enhance skills, knowledge, and capabilities, thereby potentially improving operational efficiency, productivity, and ultimately, net profit margin. Firms should strategically allocate resources towards enhancing employee training and development programs.

Keywords: Technology, Human Capital Cost, Financial Performance, Industrial Good

INTRODUCTION
A company is only as good as its employees, and human capital costs is a significant factor for many organizations. Although it is widely acknowledged that establishing a talented and committed workforce is critical for success, the cost of labour is frequently viewed as a financial strain on the company and a detractor from business outcomes. But what exactly do we mean when we say that the impact of labour costs and productivity is critical on financial outcomes? We simply mean that labour costs and productivity are not evaluated in terms of generating bottom-line efficiencies for the company. In the new data-driven era, we can use algorithms to understand human capital efficiencies and advise management on how to change or improve human capital decisions that ultimately affect financial outcomes. Concerning the importance of labour efficiencies, it is critical to understand why this variable is frequently the difference between a mediocre business and a thriving organization.
Human capital costs is directly responsible for a company's level of profitability. Labour costs, including salaries and fees, are the most leverageable investment in any business. In fact, labour costs frequently account for 60% of expenses, with the remaining 40% split between financial capital and property. We know that the cost of labour, as the most significant 'weight' in this equation, either impedes or stimulates financial growth. That is not to say that human capital is a liability or that committed employees, leaders, and directors are unimportant. After all, the

labour force's skills and experience are largely responsible for a company's profitability. On' the contrary, we want to emphasize human capital's leveragability as an investment (rather than an expense) and support our belief that most businesses should pay more attention to this aspect of their business model.

Traditional accounting practices deduct human-related expenditures from company revenues, which can often lead decision makers astray. In other words, even though human capital provides such business with a competitive advantage, these costs are frequently treated as expenses and are not effectively measured or quantified. At the same time, without analytics and the right algorithms, measuring the relationship between Labour costs and return on investment is extremely difficult. In fact, most businesses fail here because they do not understand how to use critical data related to company performance. Human Capital should recognize this quality imbalance and the need for algorithms to calculate the true cost and the impact of human capital costs on the bottom line. But what can a company do to gain more control over these labour-related financial outcomes?

Research Hypothesis

HO_1: There is no significant moderating relationship of technology on human capital cost and financial performance of listed industrial goods manufacturing firms in Nigeria.

Concepts of Technology

In recent years, technology has had an impact on every aspect of human life from communication, transportation and manufacturing industries.

Modern manufacturing industries use Information Technology (IT) systems to plan their daily work schedules more effectively and efficiently. The technique is simple to use and allows for more work to be completed quickly and easily. The evolution of digital technology takes into account the fact that information technology can deliver its services to a large population worldwide in a personalized manner that makes everyday life more effective, less monotonous and repayable.

Dimensions of technology on industrial goods manufacturing firms in Nigeria

1. **Industrial automation and robotics:** This dimension involves the use of advanced automation technologies, robotics and intelligent systems in manufacturing processes. Industrial robots can perform repetitive, precise, and physically demanding tasks, leading to increased productivity, improved quality and reduced labour costs. Automation also enables the integration of production lines and the implementation of smart manufacturing systems.
2. **Digitalization and connectivity:** Digitalization involves the adoption of digital technologies and connectivity within manufacturing operations. This includes the use of internet of things (IOT) devices, sensors, and data collection systems that provide real-time monitoring, tracking and control of equipment and processes. Digital connectivity enables seamless communication and data sharing between different components of the manufacturing ecosystem, facilitating efficient production planning inventory management and supply chain optimization.
3. **Computer aided design and manufacturing (CAD/CAM):** CAD/CAM systems play a vital role in the design and production of industrial goods. CAD software enables the creation and modification of digital product designs, while CAM software facilitates the translation of those designs into machine instructions for manufacturing processes. CAD/CAM integration streamlines the product development cycle, reduces time-to-market viability, and enhances design accuracy and manufacturing viability.

4. **Data analytics and big data:** The use of Data analytics and big data technologies enables industrial goods manufacturing firms to derive valuable insights from large volumes of data generated during the manufacturing process. Advanced analytics technique such as predictive modeling and machine learning can optimize production efficiency, quality control and preventive maintenance. Data analytics also supports decision making and strategic planning by identifying patterns trends and opportunities for process improvement and cost reduction.
5. **Augmented Reality (AR) and virtual reality (VR):** AR and VR technologies are increasingly being adopted in industrial goods manufacturing for various purposes. AR can assist in training and guiding workers, providing them with real-time information and instructions through wearable devices. VR can be used for visual simulations, testing and prototyping, allowing firms to visualize and validate product design and manufacturing processes before physical production.
6. **Cyber security and data privacy:** As industrial goods manufacturing firms embrace technology, it becomes imperative to address the dimensions of cybersecurity and privacy. Protecting sensitive data, intellectual property and critical infrastructure from cyber threats is crucial. Measures such as network security, secure data storage, access controls and employee training on cyber security best practices are essential to safe guarding manufacturing operations and ensuring data privacy compliance.
7. **Skill development and training:** The dimension of technology in industrial goods manufacturing also involve upskilling and training the workforce. Firms need to invest in training programs to equip employees with the necessary knowledge and skills to operate and maintain advanced manufacturing technologies. This includes training on automation systems, data analytics, digital tools and emerging technologies relevant to their roles.

By embracing these dimensions of technology, industrial goods manufacturing firms in Nigeria can enhance their competitive, improve productivity, optimize operations, and adapt to the changing market demands. It is important for firms to stay abreast of technological advancements, collaborate with technology providers and invest in the necessary infrastructure and human capital to fully leverage the benefits of technology in their manufacturing process.
Some of the ways in which technology advancement can positively impact the sector:

1. **Enhance productivity and Efficiency:** Technology can improved productivity and efficiency by automating manual processes, optimizing production work flows, and reducing errors. Advanced machinery robotics and automation systems can streamline manufacturing operations leading to higher output levels, reduced waste, and improved overall efficiency.
2. **Quality Improvement:** Technology improves better quality control and assurance in manufacturing processes. With the use of sensors, data analytics ad real time monitoring, firms can detect and address quality issues promptly, ensuring that their products meet the required standards. This can enhance customer satisfaction and competitiveness in the market.
3. **Innovation and product Development:** Technology opens doors for innovation and product development in industrial goods manufacturing firms. Computer aided design (CAD), and computer aided design manufacturing (CAM), software enable faster prototyping, stimulation and optimization of product designs. This facilitates the development of new and improved product, allowing firms to stay competitive and meet evolving customer demands.
4. **Cost Reduction:** Technology can lead to cost savings for manufacturing firms. Automation and robotics can reduce labour costs, minimize material wastage and

optimize energy consumption. Additionally, real time data monitoring and analytics enable more accurate inventory management and supply chain optimization, reducing cost associated with overstocking or stock out.

5. **Market expansion and global reach:** Technology provides opportunities for industrial goods manufacturing firms in Nigeria to expand their market reach globally. Digital platforms, e-commerce, and on-line market places enable firms to connect with customers and partners worldwide. Opening doors to export opportunities and access to international markets.
6. **Skill development and job creation:** Technology require an unskilled workforce, which can lead to job creation and skill development opportunities. As firms adopt new technologies, there is a demand for workers with expertise in operating, maintaining and troubleshooting advanced machinery and equipment. This can contribute to the development of a skilled workforce in the industrial goods manufacturing sector.
7. **Sustainability and environmental impact:** Technology can help manufacturing firms in Nigeria adopt more sustainable practices. Advanced manufacturing technologies and processes can reduce waste generation, optimize energy usage, and minimize environmental impact. This aligns with global trends and responsible manufacturing practices.
8. **Supply chain optimization:** technology can enable better chain management for manufacturing firms. Advanced software systems and data analytics can help optimize inventory levels, tract materials and components in real-time, and streamline logistics and distribution. This leads to improved efficiency, reduced costs and faster response times to market demands.
9. **Predictive maintenance:** Technology, such as internets of things (IOT) sensors and predictive analytics, can be utilized for predictive maintenance in manufacturing equipment. By continuously monitoring the performance and condition of machinery, firms can detect potential issues in advance and schedule maintenance activities proactively. This minimizes unplanned down-time, reduces maintenance costs and extends the lifespan of equipment.
10. **Customization and personalization:** Technology empowers manufacturing firms to offer customized and personalized products to customers. Digital design tools and flexible manufacturing processes allow for the efficient customization of products according to individual customer requirements. This can enhance customer satisfaction, strengthen customer relationships and create a competitive advantage in the market.
11. **Remote monitoring and control:** With the advancement of connectivity and remote access technologies, industrial goods manufacturing firms can remotely monitor and control their production processes. This enables real time monitoring of operations, immediate response to issues and remote troubleshooting. It also facilitates the ability to manage multiple manufacturing facilities from a centralized location, improving operational efficiency and reducing travel costs.
12. **Data driven decision making:** Technology provides manufacturing firms with access to vast amounts of data generated from various sources within the production process. By leveraging data analytics and business intelligence tools, firms can gain valuable insights into operational performance, quality trends, customer preferences and market trends. This data driven decision making approach helps in identifying areas for improvement, optimizing processes and making strategic business decision.
13. **Collabouration and visual communication:** technology enables seamless collabouration and communication among stakeholders within manufacturing firms. Virtual meeting, video conferencing and collabourating platforms, facilitate effective

communication and knowledge sharing among teams, even if they are geographically dispersed. This enhances collabouration, accelerates decision making and promotes innovation with the organization.

14. **Regulatory compliance:** Technology can assist manufacturing firms in ensuring compliance with regulations and standards. Integrated software systems can automate compliance tracking, documentation and reporting, reducing the risk of non-compliance and associated penalties. This help firms maintain a strong reputation, build trust with customers and access markets with stringent regulatory requirements.

To fully benefit from technological industrial goods manufacturing firms in Nigeria should invest in research and development, embrace digital transformation and provide adequate training and support to their workforce. Collabouration with technology providers, universities and research institutions can also foster innovation and knowledge sharing within the industry.

Concept of Financial Performance

Metcalf and Titard (1976) define financial performance as the act of carrying out financial transactions. A measure of a company's performance that depends not only on the company's efficiency but also on the market in which it operates. It is also referred to as financial stability or financial health in the financial sector. There are various financial measures that can be used to assess a company's performance. Financial performance, in a broader sense, refers to the extent to which financial objectives are or have been met, and it is an important aspect of finance risk management. It is the process of calculating the monetary outcomes of a company's policies and operations. It is used to assess a firm's overall financial health over a given time period and can also be used to compare similar firms within the same industry or to compare industries or sectors in aggregate. Financial performance analysis entails the analysis and interpretation of financial statements in such a way that it provides a comprehensive diagnosis of the business's profitability and financial soundness. The financial analyst program teaches critical financial analysis methodologies.

Performance measurement tools can be handled properly with suitable techniques (Chen *et al.,* 2005). Conventionally, numerous actions have been about economic parts, omission of significant nonfinancial indicators, to further improve company performance (Hsu & Wang, 2010). In addition, generally financial performance evaluation uses financial indexes, which provides a simple analysis of bank's financial performance compared with the time period (Chen, 2001). Kwan (2003) also mentioned that the financial position report is a common indicator of the financial condition of an organization over a period of time and is used for comparison in a similar industry. In fact, there are different ways to measure financial results. Efficiency can be measured using a variety of methods, such as billing technology, which includes return on capital, return on investment.

Firms and interested parties such as managers, shareholders, creditors, and tax authorities seek answers to critical questions such as:

1. What is the firm's financial position at any given time?
2. What is the firm's financial performance over a given time period?

These questions can he answered with the help of a firm's financial analysis. Financial statements are used in financial analysis. A financial statement is a collection of data that is organized logically and consistently according to accounting procedures. Its goal is to communicate and understanding some financial aspects of a business. It can show a position over time, as in the case of Statement of Financial Position (Balance Sheet), or it can reveal a series of activities over time, as in the case of Statement of Comprehensive income, Profit or Loss (Income Statement). As a result, the term financial statements generally refers to two

fundamental statements: the Statement of Financial Position (balance sheet). Statement of Comprehensive Income, (Profit or Loss).

The Statement of Financial Position (Balance sheet) depicts the firm's financial position (condition) at a given point in time. It provides a snapshot that can be considered a static image. it is a summary of a company's financial position as of a specific date, which shows Total assets = Total liabilities + Owner's equity. The Statement of Comprehensive Income, (Profit or Loss) reflects the firm's performance over time. It is a summary of a company's business revenues and expenses over a specific time period, concluding with net income or loss for that time period. Financial statements, on the other hand, do not reveal all of the information about a company's financial operations, but they do provide some extremely useful information that highlights two important factors: profitability and financial soundness.

The financial performance of a company influences the interests of various related groups. The type of analysis varies depending on the particular interest of the party involved: Trade creditors are interested in the firm's liquidity (assessment of the firm's liquidity). Bondholders are interested, in the firm's cash flow ability (evaluation of the firm's capital structure, major sources and uses of funds, profitability over time, and projection of future profitability). Investors are interested in current and expected future earnings, as well as the consistency of these earnings (an assessment of the firm's profitability and financial condition). Management is interested in internal control, improved financial condition, and improved performance (appraisal of the firm's current financial condition, evaluation of opportunities in relation to this current position, return on investment provided by the company's various assets, and so on).

The moderating relationship between technology and human capital cost on financial performance

The moderating relationship between technology and human capital costs on financial performance is significant, as technology can either amplify or mitigate the impact of investments in human capital by enabling more efficient utilization of resources, streamlining processes, and facilitating innovation, thereby shaping the overall effectiveness of human capital cost on financial outcomes (Adebawojo 2020). The moderating relationship between technology on the relationship between human capital costs and financial performance is a crucial consideration in today's rapidly evolving business landscape. Human capital costs, including investments in employee recruitment, training and development, play a pivotal role in shaping organizational performance and ultimately financial success. However, the impact of these investments can be greatly influenced by the integration and utilization of technology within the organization.

Technology has the potential to amplify the impact of human capital by enabling more efficient and effective utilization of resources. For example, the adoption of automation, artificial intelligence, and data analytics tools can streamline repetitive tasks, freeing up employees to focus on higher-value activities that directly contribute to financial performance. Additionally, technology-driven training programs can enhance the speed and effectiveness of skill development, leading to a more skilled and productive workforce. Furthermore, technology can facilitate innovation and creativity within the organization, thereby enhancing its competitive position and financial performance (Okpolosa 2020). Collabouration tools, digital platforms, and communication technologies enable employees to share ideas, collabourate across teams, and access information more readily, fostering a culture of innovation and driving business growth. Moreover, technological advancements can enable the development of new products, services, and business models that create value for customers and drive revenue growth.

On the other hand, technology can also mitigate the impact of human capital costs on financial performance by reducing the reliance on labour-intensive processes and functions. For instance,

the implementation of robotic process automation (RPA) can automate repetitive tasks, leading to cost savings and improved operational efficiency. Similarly, outsourcing certain functions to technology-driven solutions can reduce the need for large investments in human capital while still achieving desired business outcomes. However, it's important to recognize that the effectiveness of technology as a moderator of human capital costs depends on how well it is integrated into the organization's overall strategy and operations. Simply investing in technology without aligning it with business objectives and employee needs may not yield the desired results. Therefore, organizations must carefully assess their technological capabilities and develop a holistic approach that leverages technology to augment human capital cost and drive financial performance. The moderating relationship between technology on the relationship between human capital costs and financial performance is significant and multifaceted. While technology has the potential to amplify the impact of human capital cost by enabling more efficient utilization of resources and fostering innovation, it can also mitigate the need for large investments in human capital through automation and outsourcing. Ultimately, organizations must strategically integrate technology into their operations to maximize the effectiveness of human capital costs and drive sustainable financial performance.

The interaction between technology and human capital costs represents a critical dimension in understanding modern business dynamics and financial performance. Human capital costs, comprising recruitment, training and development costs, are pivotal for fostering a skilled and motivated workforce, thereby enhancing organizational productivity and competitiveness. However, the extent to which these costs impact financial performance is significantly influenced by the integration and utilization of technology within the organizational framework (Ekundayo & Odhigu 2021)

Technology has the potential to augment the impact of human capital costs by enabling more efficient resource utilization and process optimization. For instance, automation tools and machine learning algorithms can streamline repetitive tasks, allowing employees to focus on value-added activities that directly contribute to financial outcomes. Additionally, digital training platforms and e-learning modules can accelerate skill development, empowering employees to enhance their capabilities and productivity at a faster pace.

Moreover, technology facilitates innovation and agility within organizations, thereby driving competitive advantage and revenue growth. Collabouration tools, data analytics platforms, and digital communication channels enable employees to exchange ideas, collabourate on projects, and respond swiftly to market demands (Duho & Agomor 2021). This fosters a culture of innovation and adaptability, allowing companies to capitalize on emerging opportunities and stay ahead of competitors in dynamic market environments. Conversely, technology can also mitigate the impact of human capital costs on financial performance by reducing the reliance on labour-intensive processes and functions. Through the implementation of robotic process automation (RPA) and artificial intelligence (AI), organizations can automate routine tasks, leading to cost savings and operational efficiency improvements. Furthermore, outsourcing certain functions to technology-driven solutions can optimize resource allocation and minimize the need for extensive human capital investments while still achieving desired business outcomes. However, the effectiveness of technology as a moderator of human capital costs hinges on strategic alignment and effective implementation. Simply investing in technology without considering organizational objectives and employee needs may yield suboptimal results. Therefore, companies must adopt a holistic approach that integrates technology seamlessly into their operations, leveraging it to enhance the impact of human capital investments and drive sustainable financial performance. The interplay between technology and human capital costs is integral to understanding and optimizing financial performance in the modern business landscape. By harnessing technological advancements to augment human capital costs,

organizations can enhance productivity, foster innovation, and achieve competitive advantage. However, strategic alignment and effective implementation are essential to realizing the full potential of this synergy and driving long-term success.

Human-Capital Theory

Human capital theory is defined as a modem extension of Adam Smith's explanation of wage differentials by the so-called net (dis) advantages between different employments by the Dictionary of Sociology. The Human Capital theory proposed by Schultz (1961) and extensively developed by Becker (1964) served as the foundation for this study. The theory derives from labour economics, a branch of economics that focuses on the general workforce in quantitative terms.

According to the theory, education or training increases workers' productivity by imparting useful knowledge and skills, thereby increasing workers' future income through an increase in their lifetime earnings. According to the theory, spending on education or training and development is costly, but it should he considered an investment because it is done to increase personal income. To explain or support occupational wage differentials, the human capital approach is used.

However, this study contends that education or training and development will not only increase employee personal income, but will also serve as a means of achieving corporate competitive advantage, which will ultimately reflect in financial performance. Individuals with general skills have skills that add value to a company and are transferable across industries. For example, by acquiring employees with general management knowledge, the -ability to apply financial ratios, or general cognitive ability, all competitor firms have the potential to accrue equal value. Specific skills, on the other hand, are valuable only to one firm and have no value to competing firms. Knowledge of how to use a specific technology used only by one firm, or knowledge of a firm's policies and procedures provided to that firm but usually not valuable to other firms, are examples like other assets, human capital has value in the market place, but unlike other assets, the potential value of human capital can be fully realized only with the co-operation of the person. Therefore, all costs related to eliciting productive behaviours from employees including those related to motivating, monitoring, and retaining them-constitute human capital investments made in anticipation of Future returns (Flamholtz & Lacey. 1 981). Organizations can use human resource management in a variety of ways to increase their human capital (Cascio. 1991 Flamholtz & Lacey, 1981). For example, they can buy human capital in the market (e.g. by offering extensive training and development opportunities), investments of either type have associated costs, which are justifiable only to the extent the organization is able to productively utilize the accumulated capital (Tsang *et al.,* 1991). In human capital' theory, contextual factors such as market conditions, unions, business strategies, and technology are important because they can affect the value of the organization's human capital and the value of the anticipated returns, such as productivity gains (e.g. Boudreau & Berger, 1985; Russell et al., 1993).

According to human capital theory, the value of these investments to employees, employers, and society as a whole can be quantified. A sufficient investment in people, according to human capital eory, will result in a growing economy. Some countries, for example, provide free college education to their citizens because they recognize that a more educated population earns and spends more, thereby stimulating the economy. Human capital theory is an extension of human resource management in the field of business administration. -

Human capital theory is often attributed to Adam Smith, the founding father of economics, who defined it in 1776 as the acquired and useful abilities of all the inhabitants or members of

the society. Smith proposed that wage disparities were based on the relative ease or difficulty of performing the jobs involved.

METHODOLOGY

Research Design

The design for this study was ex-post facto design. This design was ideal for this study because it helped the researcher to identify the existing level of relationships among the variables by using correlations and regression analyses. This kind of research was based on scientific and analytical examination of dependent and independent variables.

Population of the Study

The population for this study, included some listed industrial goods manufacturing companies firms in Nigeria Stock Exchange (NSE) now Nigeria Exchange group (NXG). The population of interest in this study constitutes all the thirteen (13) industrial goods manufacturing companies listed on Nigeria Exchange group as at 31st December, 2022.

Sample Size and Sampling Technique

The non-probability sampling technique that was adopted in this study was convenience sampling which was based on availability of financial data covering the period of 2015-2022, three firms were excluded due to inadequate financial data covering the period of study.

Source of Data

The source of data collection was secondary because the study was a quantitative research and the data were available in the financial statements of the sampled companies already prepared by the management. Every empirical study requires a specific study area, which can encompass institutions or geographical regions.

Instrument for Data Collection

This study used quantitative research method. Data sourced from the audited and published financial statements of the sampled companies covering a period of 8 years spanning from 2015 to 2022 meaning that secondary data were used for this study. Secondary data are data collected by someone other than the user but still relevant to the research question (Shank and Orlando, 2004). This study includes two independent variables: employee training and development cost and staff welfare cost and three dependent variables: net profit margin, return on assets and return on equity.

Method of Data Analysis

The formulated research questions were analysed with descriptive statistics. The hypotheses were tested using the least square panel data regression analysis with the aid of E-view version 10. A simple correlation analysis was followed up by multiple linear regression analysis on the model specified below, with evaluation and analysis of the same. Firstly, the correlation analysis was necessary to see if there are strong correlation between the variables of financial performance and market value (dependent variable) and human capital costs (independent variables). The multiple linear regression analysis enabled the determination of the extent or degree of relationship between the variables and also analysis relative significance of human capital costs on financial performance of the listed firm.

Results
Correlations

Correlations

Control Variables			HCC	FP
FS	HCC	Correlation	1.000	.532
		Significance (2-tailed)	.	.000
		Df	0	77
	FP	Correlation	.532	1.000
		Significance (2-tailed)	.000	.
		Df	77	0

Source: SPSS OUTPUT

The correlation analysis between technology, human capital costs, and financial performance indicates a moderate positive correlation between human capital costs and technology ($r = 0.532$, $p < .001$), suggesting that larger firms tend to invest more in human capital. Additionally, there is a significant positive correlation between human capital costs and financial performance ($r = 0.532$, $p < .001$), implying that organizations that invest more in human capital tend to exhibit better financial performance. These findings underscore the importance of human capital investment as a strategic driver of both technology and financial success, highlighting the integral role of human resources in organizational growth and performance.

The correlation analysis between technology, human capital costs, and financial performance reveals insightful relationships among these variables. Firstly, there exists a moderate positive correlation between human capital costs and technology ($r = 0.532$, $p < .001$), indicating that larger firms tend to allocate more resources towards investing in human capital. This suggests that as organizations grow in size, they may see the value in expanding their workforce and investing in talent development initiatives. Furthermore, there is a significant positive correlation between human capital costs and financial performance ($r = 0.532$, $p < .001$), suggesting that organizations that invest more in their human capital tend to achieve better financial outcomes. This underscores the critical role of human resources in driving organizational success and performance. By investing in employee training, development, and welfare, companies can enhance productivity, innovation, and overall competitiveness, thereby translating into improved financial performance.

These findings emphasize the strategic importance of human capital management in organizational growth and success. They highlight the need for businesses to prioritize investments in their workforce to leverage the full potential of their human capital and drive sustainable financial performance in the long run. Moreover, the correlations underscore the interconnectedness between human capital, technology, and financial performance, providing valuable insights for strategic decision-making and resource allocation within organizations.

Technology moderate a positive and significant relationship between human capital cost and financial performance of listed industrial goods manufacturing firms in Nigeria

The assertion that technology moderates a positive and significant relationship between human capital cost and financial performance of listed industrial goods manufacturing firms in Nigeria suggests that larger firms within this sector tend to experience greater benefits from investing in human capital, leading to improved financial performance. This finding underscores the

importance of considering the influence of technology when evaluating the impact of human capital investments on organizational outcomes, highlighting potential scalability advantages and economies of scale that larger firms may leverage to enhance their competitive position and overall financial performance. The proposition that technology moderates a positive and significant relationship between human capital cost and financial performance among listed industrial goods manufacturing firms in Nigeria offers valuable insights into the interplay between organizational size, human capital investments, and financial outcomes. This assertion suggests that larger firms within the sector, presumably equipped with greater resources and infrastructure, are better positioned to realize substantial benefits from investing in human capital development initiatives. The implication of this finding is multifaceted. Firstly, it underscores the strategic significance of human capital management in driving financial performance within industrial goods manufacturing firms, particularly in a dynamic and competitive market like Nigeria. Larger firms may have the capacity to implement more extensive and impactful human capital programs, including recruitment, training, and talent development, which can translate into higher levels of productivity, innovation, and ultimately, financial success.

CONCLUSIONS

Human capital investments are recognized as critical drivers of organizational performance, the findings suggest that their impact on financial performance may vary depending on the specific context and nature of investments. Further research incorporating additional variables and employing more sophisticated analytical techniques may provide a more comprehensive understanding of the complex relationship between human capital costs and financial performance in the industrial goods manufacturing sector in Nigeria.

RECOMMENDATIONS

1) Firms should carefully evaluate their investment in staff welfare initiatives to ensure alignment with organizational objectives and financial sustainability. While prioritizing staff welfare is essential for employee satisfaction and retention, firms should strive to strike a balance between meeting employee needs and optimizing operational costs to safeguard net profit margin amidst competitive pressures in the industry.
2) These firms should strategically evaluate and invest in staff welfare initiatives that foster a positive work environment and employee satisfaction while also ensuring alignment with financial objectives. By prioritizing staff welfare programs that contribute to employee engagement, retention, and productivity, firms can potentially enhance their competitive advantage, improve return on equity, and foster sustainable long-term growth in the dynamic and evolving landscape of the industrial goods manufacturing sector in Nigeria.
3) Firms should consider the unique implications of their organizational size when strategizing human capital investments. Larger firms may leverage their resources and infrastructure to implement more extensive human capital development initiatives, while smaller firms may focus on targeted and cost-effective programs tailored to their specific needs. Understanding the moderating role of technology can inform strategic decision-making and resource allocation, ultimately optimizing the impact of human capital investments on financial performance within the industrial goods manufacturing sector in Nigeria.

REFERENCES

Adararnola, A. 0., Sulaimari, L. A., & Fapetu, D. (2005). Capital structure and corporate performance. An empirical investigation. *Nigerian Journal of Banking and Financial Issues, 6*(8), 40-55.

Boudreau, J. W., & Berger, C. J. (1985). Decision- theoretic utility analysis applied to employee separations and acquisitions. *Journal of Applied Psychology*. 70, 581-612.

Cascio, W. F. (1991). Costing human resources. *The financial impact of behaviour in organizations.* PWS-Kent

Flamhotz E. G., & Lacey J. M. (1981). Personnel management, human capital theory, and human resource aôcounting. Los Angeles University Press.

Hsu, I. C., Lin, C. Y. Y., Lawler, J. J., & Wu, S. H. (2007). Toward a model of organizational human capital development: Preliminary evidence from Taiwan. *Asia Pacific Business Review, 13*(2), 25 1-275.

Metcalf, R. W., & Titard, P. L. (1976). *Principles of accounting*, Philadelphia Press

Russell, C. J., Colella, A., & Bobko, P. (1993). Expanding the context of utility: The strategic impact of personnel selection. *Personnel Psychology*. 46, 78 1-801

Shaiza, P., & Gin. I. (2016). *Goal setting theory of performance management system*. htts//www.projectguru.in/goaI-setting-theo-perfgrrnance-management-system/

Spaulding, W.D., & Simon, H.A., (1994). *Integrative views of motivation, cognition, and emotion*, Nebraska Press.

Tzabbar, D., Tzafrir, S., & Baruch, Y. (2017). A bridge over troubled water Replication, integration and extension of the relationship between HRM practices and organizational performance using moderating meta-analysis. *Human Resource Management Review, 24*(1), 134—148.

Tsang, M. C., Rumberger, R. W., & Levin, H. M. (1991). The impact of surplus schooling on worker productivity. *Industrial Relations,* 30, 209-218

Tiwari, U. (2014). A study on employee welfare facilities and its impact on employees' efficiency at Vindha Telelinks Ltd. *Abhinav Publication. 3*(11), 11-14.