

Impact of Artificial Intelligence on Employee's Productivity in Technological Organizations in Delta State, Nigeria

CHUKWUKA, Ernest Jebolise PhD & IMIDE Israel Onokero PhD

Department of Entrepreneurship and Business Innovation, University of Delta, Agbor, Delta
State

Department of Economics, University of Delta, Agbor, Delta State Nigeria

Email: ernest.chukwuka@unidel.edu.ng & israel.imide@unidel.edu.ng

Abstract

In order to solve the workplace identified problems, this research major objective is to ascertain the nature and actual impact of Artificial Intelligence (AI) on employee's productivity. This study adopted a descriptive survey research method through the use of primary data source instruments of questionnaires shared to over 150 employees of technological firms in Delta state. This study found that Artificial intelligence (AI) has the potential to revolutionize the workplace by greatly increasing worker engagement and productivity. The study empirically proved that Artificial Intelligence impacts positively and significantly on the sustainability of employee engagement. Secondly, the study empirically revealed that there is a positive and significant connection between Artificial Intelligence and employee's attitude to work in organizations. This means that the AI introduction has made employees to develop a positive work attitude in order to keep their jobs from being taking over by automation powered AI machines. The study analyses proved that Artificial Intelligence (AI) has a positive and significant effect on employee's productivity. AI may assist organizations in more efficiently accomplishing their objectives by automating repetitive processes, customizing employee experiences, and encouraging improved communication and teamwork. To guarantee that AI's advantages are fully realized, it is crucial to solve the difficulties and moral dilemmas related to its application. It was observed that Artificial Intelligence integration to workplace must be human-centric before it can lead to more employee engagement and increase in productivity. The study concludes that the welfare of employees should always come first when using AI, making ethical issues very important. The study recommends that Companies should aim for a human-centric strategy, making sure AI complements human strengths rather than takes their place in workspace.

Keywords: Artificial Intelligence, Employee Productivity, Employee Performance, Workplace Automation, Technological firms, Organizational Performance

Introduction

The workplace is being completely transformed by artificial intelligence (AI), which is changing how companies run and communicate with their staff. AI's contribution to raising employee engagement and productivity has grown in importance as businesses aim for increased efficacy and efficiency. This study examines how AI may be used to boost employee engagement and productivity, which will eventually lead to corporate success (Chukwuka & Dibia 2024).

The study of building robots that can rapidly imitate human cognition and behavior is known as artificial intelligence (AI). They are able to solve problems and reach conclusions by applying reasoning. Artificial intelligence programs play a significant role in the manufacturing industry and other facets of human endeavor, especially in the production of table water in southeast Nigeria (Acemoglu & Restrepo, 2016). It is often highly customized for a certain purpose and has a wide range of applications.

Increasing worker productivity has been one of the top priorities for many businesses. This is due to the fact that a company and its employees benefit from increased employee productivity in a number of ways. For example, increased productivity results in favorable economic growth, significant profitability, and improved social advancement (Samoili et al, 2020). Better pay, better working conditions, and greater job possibilities are also available to those who are more productive. Also, through cost savings and improved high-quality production, increased productivity tends to optimize organizational competitive advantage (Brynjolfsson & McAfee, 2014). Employee productivity is now deserving of attention because of all these advantages.

In this century, artificial intelligence has too many advantages to mention them all. In the quickly developing field of modern technology, artificial intelligence (AI) has emerged as a transformational force that is changing several sectors, according to (Acemoglu & Restrepo, 2017). Since ancient times, humans have been captivated by the prospect of building intelligent robots, which is basically where artificial intelligence (AI) originated. It is now possible to create clever and intelligent machines thanks to years of study using AI programming tools. AI has undoubtedly reduced stress and saved time on human work. For instance, financial analysts are essential to businesses and use a variety of AI tools to manage assets, make stock market investments, and do other financial duties. Government agencies employ artificial intelligence to track, assess, and carry out policy. AI is utilized in offices to keep records and monitor staff behavior. Numerous applications of AI are found in hospitals, most notably in the areas of staff scheduling, patient bed assignment, and disease detection and treatment. Financial organizations also employ AI for monitoring (Samoili et al, 2020).

The concept of artificial intelligence is rooted in the ability of inanimate items to become sentient beings which have been around for a while. It started in antiquity with myths, tales, and whispers of skilled artisans creating artificial beings with consciousness or intelligence. Indeed, Chinese and Egyptian engineers created automatons, and the Greeks had mythology about them. The first attempts by ancient philosophers to characterize human thought as a symbolic system can be linked to the origins of contemporary artificial intelligence (AI).

However, the area of artificial intelligence was not formally established until 1956, when John McCarthy invented the phrase "artificial intelligence" during an academic conference at Dartmouth College in Hanover, New Hampshire (Adi et al, 2020). The conference attendees, including Marvin Minsky, a cognitive scientist at MIT, were very optimistic about the future of artificial intelligence. Many of them predicted that a machine as intelligent as a human being would exist in no more than a generation, and they were given millions of dollars to make this vision a reality. However, it soon became clear that they had greatly underestimated the project's difficulty. However, creating an artificially intelligent being was not that easy. Following a number of reports criticizing the advancements in AI, the U.S. and British Governments stopped funding undirected research in 1973 in response to James Lighthill's criticism and continued pressure from Congress. The challenging years that followed were later referred to as a "AI winter" – 1974 to 1980 (Chai & Gooi, 2019).

The field was later resurrected in the 1980s when the British government began funding it again, partly to compete with Japanese efforts (Vardi, 2012). However, by the late 1980s, investors lost faith in the field due to the lack of the necessary computer power (hardware), and they withdrew funding once more. The experience caused another major winter from 1987 to 1993, but after that, research started to pick up again, and in 1997, IBM's Deep Blue defeated Russian Grandmaster Garry Kasparov, becoming the first computer to defeat a chess champion (Rossi, 2016).

Investment and interest in AI booming in the early decades of the 21st century, when machine learning was successfully applied to many problems in academia and industry due to the presence of powerful computer hardware.

Many scholars believe that the emergence of Artificial Intelligence (AI) and its uses in the organizations will have negative impact on the work morale and productivity of employees in the organizations which will result in their works being automated and taken over by machines. This is currently posing as a major problem in within employees of tech companies as well as employees' likelihood of losing their jobs to machines and automation (Rossi, 2016). The technology landscape of today is changing quickly. Some of these developments have been revolutionary and dramatic, while others have been gradual and incremental. The experiences of customers and consumers have been impacted by these developments in addition to the technical procedures and practices of IT businesses and their staff.

The exponential rise in automation and employee performance data serves as an example. It was projected that technical knowledge would double in 50 years, 7 years, and 3.5 years, respectively, in 1950, 1980, and 2010. It is predicted to be just 73 days in 2020 (Densen, 2011). In addition to time and cognitive limitations, the sheer amount of information exceeded the ability of tech professionals to use this new information (Thillaivasan & Wickramasinghe, 2020).

Conceptual Clarification

Artificial Intelligence

Artificial intelligence, in its widest definition, is intelligence shown by machines, particularly computer systems. It also refers to a digital computer's or a computer-controlled robot's capacity to carry out actions often performed by intelligent entities (Chukwuka & igweh, 2024). The endeavor of creating systems with human-like intellectual capacities such as reasoning, meaning-finding, generalization, and experience-based learning is commonly referred to by this phrase. In contrast to the natural intelligence exhibited by humans and other animals, artificial intelligence (AI), sometimes known as machine intelligence, is intelligence expressed by machines (Mialhe & Hode, 2017). Since its initial application in the mid-1950s, artificial intelligence (AI) has remained a contentious notion, according to a thorough review of definitions. As an early AI pioneer who first used the phrase in 1955, John McCarthy famously said: "As soon as it works, it's no longer referred to as AI (Vardi, 2012). Despite the abundance of research on the subject in a variety of disciplines, including psychology and neuroscience, observers claim that this ambiguity is rooted in the challenges of defining what intelligence in humans actually entails (Mialhe & Hode, 2017, Samoili *et al.*, 2020). The rise of several definitions of artificial intelligence seems to be a significant consequence of this lack of clarity. For example, the term was defined as follows in the Joint Research Centre Flagship report on AI published by the European Commission: "Any machine or algorithm that can observe its surroundings, learn from it, and then use that knowledge and experience to take intelligent action or make decisions is referred to as artificial intelligence (AI)" (Meskó, Hetényi, & Györfy, 2018).

While AI "brings to mind the notion of replacing human intelligence with something synthetic," IBM, on the other hand, prefers the idea of "augmented intelligence" above AI (Rossi, 2016: 1).

Due to reasons including growing technological use, more healthcare awareness, and the ease of using online services, the artificial intelligence industry in Nigeria is expanding quickly. Advances in AI sub-markets, whose creative solutions are transforming sectors, are the main driver of the

market's high growth rate. Government programs, investments, and a highly qualified labor pool are some of the factors influencing the market's development rate in Nigeria.

Understanding AI in Workplace and AI-Driven Productivity Enhancements

Businesses from a variety of industries are increasingly implementing artificial intelligence (AI) to improve customer experiences, streamline operations, and make better decisions. Common AI tools in the workplace include chatbots for customer service, predictive analytics for business forecasting, and automated project management software. These tools help employees focus on more creative and strategic tasks by relieving them of routine tasks. AI is a broad category of technologies that are designed to perform tasks that typically require human intelligence (Chukwuka & Igweh, 2024).

The capacity of AI to automate repetitive and routine jobs is one of its main advantages in the workplace. Employees may now focus on higher-value tasks that call for human creativity and problem-solving abilities thanks to this automation (Mialhe & Hode, 2017, Samoili *et al.*, 2020). AI-powered project management software, for example, can automatically plan activities, establish deadlines, and monitor progress, keeping projects on track and allowing staff to focus on important work. AI-driven chatbots and other virtual assistants may manage emails, set up meetings, and respond to consumer questions, which further lessens the administrative burden on staff members. AI technologies are also capable of rapidly analyzing vast amounts of data, yielding insights that enable workers to make well-informed decisions more quickly, increasing total productivity.

Boosting Employee Engagement with AI

Because engaged employees are more motivated, productive, and likely to remain with the firm, employee engagement is essential for organizational success. AI has the potential to significantly improve employee engagement by customizing the work experience. AI-powered learning and development initiatives may customize instruction to meet the demands of specific staff members, guaranteeing that they gain pertinent information and abilities. Training becomes more efficient and pleasurable with these systems' ability to adjust to various learning styles and speeds (Vardi, 2012). AI is also capable of analyzing sentiment and employee input using technologies such as sentiment analysis software. Businesses may proactively solve issues and foster a more encouraging work environment by learning how workers feel about their jobs and the company.

AI-powered collaboration and communication solutions, including intelligent meeting planners and real-time language translation services, may help improve teamwork and create a feeling of community among staff members, no matter where they are physically located.

Case Studies of Some Companies that have successfully Implemented Artificial Intelligence to Boost Productivity and Engagement

AI has been effectively used by a number of businesses to increase engagement and productivity. IBM for instance, uses analytics driven by AI to comprehend employee mood and create programs that raise job happiness. In a similar vein, Siemens uses AI-powered project management solutions to improve productivity (Chang, Hwang & Gau, 2022).

These businesses show that AI can significantly increase worker engagement and productivity when applied properly. Their experiences demonstrate how crucial it is to plan strategically and conduct regular assessments in order to optimize AI's advantages.

Challenges of integrating Artificial Intelligence in Workplace

Even while AI has many advantages, using it in the workplace is not without its difficulties. Since AI systems frequently need access to private employee data, data security and privacy are important issues. To secure this information, organizations need to make sure that strong data protection procedures are in place. Employees who are afraid about losing their jobs or who are not conversant with AI technology may also be resistant to change. Businesses may solve this by emphasizing open communication and offering assistance and training to staff members so they can become accustomed to new procedures and tools (Chang, Hwang & Gau, 2022).

Since the welfare of employees should always come first when using AI, ethical issues are also very important. Businesses should aim for a human-centric strategy, making sure AI complements human strengths rather than takes their place.

Employee Productivity

The desire to increase staff productivity is one of the main challenges that the majority of enterprises today confront. An evaluation of a worker's or group of workers' efficiency is called employee productivity. Actually, one factor that has a direct impact on the business's earnings is productivity (Cato & Gordon, 2009). An employee's production during a certain time period can be used to gauge productivity. A worker's productivity is usually evaluated in relation to the average for workers performing comparable tasks. It may also be evaluated based on how many units of a good or service a worker completes in a given amount of time (Adamu, 2022).

Employee productivity has emerged as a key business goal as an organization's performance mostly depends on its workforce (Cato & Gordon, 2009). Numerous studies have concentrated on one or two methods of measuring productivity, and because there are so many diverse methodologies, it can be difficult to compare the outcomes (Chukwuka & Dibie, 2024). All things considered, there isn't a reliable and consistent method for evaluating production. In addition to how well an employee is "mentally present" or productive during presentations at work, Cato and Gordon (2009) state that employee productivity is determined by how long an employee is physically present at work. Businesses should deal with these problems to guarantee good employee productivity. Productivity may be measured by the amount of time a person actively performs the duties for which they were employed in order to achieve the intended results specified in their job description. The benefits of employee productivity, which would result in organizational success, have been covered in earlier literature. Samoili *et al* (2020) assert that increased productivity leads to social advancement, economic expansion, and increased profitability. Employees can only get greater pay, better working conditions, and more job prospects by boosting productivity.

Theoretical Review

Technological Determinism Theory

The Technological Determinism Theory serves as the theoretical foundation for our investigation. Marshall McLuhan is the main proponent of the theory that technology shapes society, or technological determinism. It was developed in 1960. Although McLuhan is the most well-known person linked to this idea, it's important to remember that Thorstein Veblen is the one who first used the term "technological determinism." William Ogburn and Clarence Ayres are two more well-known individuals who helped create and explore the theory.

This theory is based on the observation that civilizations evolve in tandem with technological advancements. According to the notion, technological innovation propels societal evolution in an inevitable direction. The two main ideas of the theory are (1) that technical advancement itself follows a predictable, traceable path independent of political or cultural influences, and (2) that technology in turn structures society to further its own growth. In his book "Understanding media: The extension of man," communication theorist and media researcher Marshall McLuhan famously used the idea that "the medium is the message" as an illustration of technological determinism. Although it is only one aspect of technological determinism, this rejection of "content" in favor of the technical medium as a crucial factor in media studies is, in many respects, the quintessential example. Thorstein Veblen first used the word "technological determinism" in the 20th century, and it refers to the idea that a society's technology determines its character. Karl Marx held that improved methods of production brought about by technical advancements eventually affected a society's political, cultural, and economic facets, ultimately altering society as a whole. Winner claims that there are two fundamental presumptions in the theory. i) That a society's technology has a fundamental impact on all of its different facets and sectors, including education, health, and agriculture, ii) Technological advancements are the main and most significant factor influencing societal changes in a variety of domains, such as industry, agriculture, and health. There are many examples from history that demonstrate why technology is seen to be influencing our culture.

Empirical Studies

Chukwuka and Igweh (2024) in their study used qualitative and expository analysis as a methodology and a thorough review of the literature, looks at the strategic impact of AI on entrepreneurial creativity and management. They discovered that through the use of AI, the corporate sector may become reliant on faster, less expensive and more accurate marketing strategies. By incorporating AI into marketing strategies, an entrepreneur may boost audience reaction and establish a strong competitive advantage over other online firms. In addition to marketing, it may revitalize businesses through innovative ideas. According to the study's findings, artificial intelligence (AI) has both a substantial and bad impact on human creativity and a significant and good impact on entrepreneurial innovation and management. This conclusion clarifies the fact that, while AI will cause people to become less creative and redundant in their work, it will also encourage some humans to be more innovative and creative in their efforts to maintain their employment. More robust top-level AI design and deployment within the entrepreneurial ecosystem are suggested by this study.

Chukwuka and Dibie (2024) investigated the strategic role of artificial intelligence (AI) on human resource management (HR) employee performance evaluation function. The goal of their study was to provide a realistic grasp of the positive and negative experiences that workers have while using AI or the more traditional manual HR procedures. It describes the challenges and advantages of human resource development in the context of artificial intelligence or the outdated manual HR techniques. The study employed a qualitative and exploratory research methodology. An extensive review of the literature revealed that artificial intelligence has a positive and significant influence on the HR function of employee performance evaluation. The study found that some firms spend over two million hours annually conducting manual HR performance reviews and evaluations, which is a significant amount of time spent on an unreliable process that depends on people's opinions and prior performance. Real-time Artificial Intelligence AI-driven assessments not only enable incentives and praise for good performances immediately, but they also ensure accuracy

throughout the entire process and sound an alarm if targets are not met on time or performance standards are declining.

Hazarika (2020) investigated the potential and consequences of artificial intelligence for the medical workforce. Cycled data processing is used in healthcare to provide insightful, useful judgments. The capacity of healthcare professionals to deliver high-quality and efficient services has been impacted by the rapid increases in clinical data, which have increased occupational stress. To guarantee that employees are happy and actively encouraged in their roles, health systems must drastically reevaluate existing approaches. It is possible for artificial intelligence (AI) to improve provider performance. In order to find AI prospects that might revolutionize the role of healthcare practitioners, this article examines the body of existing literature. In order to fully utilize AI, a new set of difficulties must be addressed by industry, patients, healthcare providers, and legislators. A balanced strategy that fosters innovation and improves accountability and openness will be needed to maximize the advantages of AI.

Thillaivasan and Wickramasinghe (2020) conceive how automation and artificial intelligence affect organizational performance, human capital, and leadership. The Fourth Industrial Revolution is about to begin, and it will transform enterprises, industries, and society. The purpose of their paper was to examine how AI affects two crucial components leadership and human capital that are utilized by all organizations in their performance measurement methodologies and models in order to conceptualize the new effects of the digital transformation in terms of AI and automation on organizational performance. The study was carried out through a thorough assessment of the literature and discovered important implications for the parameters chosen. The analysis also showed that automation and artificial intelligence will have a big impact on how future organizations are set up. In light of these ramifications, the research makes the assumption that in order to assess the performance of future organizations, organizational performance indicators from today must undergo a substantial evolution.

Aravala, Kumar, Devarakonda and Suman (2020) evaluated the influence of artificial intelligence on productivity of the workforce. AI transcended its status as a trendy term and established itself as a crucial component in this cutthroat market. Highlighting the role that artificial intelligence, in its different forms, plays in increasing employee productivity is the main goal of this study.

Primary study was conducted to determine how AI influences employee motivation and boosts worker productivity. An online questionnaire was used to conduct the survey. One hundred responders make up the sample size. The only sources of information used in the research approach are the data and insights gathered from secondary research and the questionnaire responses obtained from primary research. A small number of conclusions are formed for the study based on the information from the respondents. The majority of respondents believe AI to be a superior technology that guarantees process improvement and delivers corporate value. Additionally, the company currently uses computerized staff performance reports and virtual phone systems, among other practices.

Noy and Zhang (2023) investigated how the assistive chatbot Chat GPT, a generative artificial intelligence tool affects productivity when used for mid-level professional writing activities. In a pre-registered online experiment, we provide 444 college-educated professionals writing assignments that are unique to their vocations and offer Chat GPT to half of them at random. Chat GPT significantly increases average productivity, according to our research, with output quality increasing by 0.4 SDs and time consumed decreasing by 0.8 SDs. Chat GPT reduces worker

inequality by compressing the productivity distribution and giving low-ability workers greater advantages. Instead of enhancing worker abilities, Chat GPT mostly replaces worker effort and reorganizes activities to focus on idea development and editing rather than crude writing. Chat GPT exposure raises self-efficacy and work happiness while intensifying interest in and anxiety about automation technology.

Research Methodology

The study adopted descriptive survey research because it made use of questionnaires. This type of survey studied a group of people by collecting and analyzing data from technological firm owners and employees. The population of the study consists of the 156 employees and technological firm owners in Asaba, Delta State, Nigeria. The sample procedure in this study is predicted on the assumption of randomness, normality and representativeness. This is considered to be a fair representation of the population.

Result of the Findings

Personnel Data of Respondents

Department “A”: Personnel Data of Respondents

The result of the finding on the age of the respondents is presented in Table 1.

Table 1: Age Distribution of Respondents

Age	No. Of Respondents	Percentage (%)
18-28yrs	35	32.41
28-38yrs	42	38.9
38-48yrs	23	21.3
48-58yrs	8	7.40
Total	108	100

Source: Field Survey, 2025

Table 1 shows that the age range of 18 to 28 years was represented by 35 respondents, or 32.41%, the age range of 28 to 38 years by 42 respondents, or 38.9%, the age range of 38 to 48 years by 23 individuals, or 21.3%, and the age range of 49 years and older by 8 respondents, or 7.40%. This is a statistical presentation and analysis of the data included in the age distribution table

Table 2: Academic qualification of respondents

Academic Qualification	No of Respondents	Percentage%
SSCE	28	25.93
NCE/OND	30	27.8
HND/B.SC	35	32.41
MSC	15	13.9
PhD	-	-
Total	108	100

Source: Field Survey, 2025

Upon the demonstration of data analysis, it is an honest information that 28 respondents were holders of SSCE certificate, representing 25.93%, NCE/OND pulled 30 respondents, which represent 27.8%, HND/BSC has 35 respondents, which scores 32.41% while MSc certificate holders were 15, which is a representation of 13.9% whereas PhD certificate, could not produce any respondent and percentage. Table 2 shows the statistical result of academic qualification distribution of the respondents.

Criterion, Group Returns, Respondents

From table I above, out of 156 copies of questionnaires that were distributed, 108 were returned, this represent 69%.

Summary of responses using five-point Likert's scale

S/N	Questionnaire	SA	A	U	D	SD
1	Artificial Intelligence (AI) has a significant effect on employee productivity	48	45	5	10	0
2	AI has been adopted in your organization's operations	50	43	5	8	4
3	AI has a positive relationship with employee engagement and employment in your organization.	40	43	3	17	5
4	There is a significant and positive relationship between Artificial Intelligence (AI) and employee's attitude to work in your organizations	39	49	5	13	2
5	AI introduction has a positive relationship with employee motivation in your organization	57	40	4	7	0
6	AI has a positive relationship with your organization's performance	35	52	5	19	0
7	AI introduction to your organization is directly correlated to profitability	45	39	4	16	4
8	AI introduction to your organization is aimed for a human-centric strategy, making sure AI complements human strengths rather than takes their place.	46	51	0	10	19
9	AI introduction in your organization has increased efficiency and efficacy of service delivery	41	58	0	9	2
10	AI automation in your organization reduces cost of getting works done by humans	49	54	31	1	1
11	AI introduction to your organization has increased your market share	38	50	2	6	2
12	AI integration to your daily businesses has increased your organizational productivity.	35	63	0	7	3

Source: Field Survey 2025

Test of Hypotheses

Hypothesis 1

H01: Artificial Intelligence (AI) has a positive and significant effect on employee's productivity

One-Sample Test						
Questions	Test Value =0					
	T	Df	Sig (Two tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1	2.097	4	.104	21.60000	-6.9933	50.1933
2	2.182	4	.095	22.00000	-5.9995	49.9995
3	2.546	4	.064	21.60000	-1.9524	45.1524
4	2.285	4	.84	21.60000	-1.9524	47.8459

From the above one sample t-test table, the five questions give a positive result. The calculated t-value is 9.110 while the table t-value is 1.812. This means that calculated t-value is greater than the Table t-value ($9.110 > 1.812$). We therefore reject null hypothesis and uphold alternative hypothesis which states that Artificial Intelligence (AI) has a positive and significant effect on employee's productivity.

Hypothesis 2

H2: There is a significant relationship between Artificial Intelligence and employee's attitude to work in organizations

One-Sample Test						
Questions	Test Value =0					
	T	Df	Sig (Two tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
5	1.8901901	4	.130	21.60000	-9.9417	-53.1417
6	2.308	4	.082	22.20000	-12.3772	55.5772
7	1.931	4	.126	17.80000	-7.7885	43.3885
8	1.904	4	.130	21.40000	-9.8100	52.6100

From the above one sample t-test table, the five questions give a positive result. The calculated t-value is 8.044 while the table t-value is 1.812. This means that calculated t-value is greater than the table t-value ($8.044 > 1.812$). We therefore reject null hypothesis and uphold alternative hypothesis which states that there is a significant relationship between Artificial Intelligence and employee's attitude to work in organizations.

Hypothesis 3

H3: Artificial Intelligence significantly impact employees engagement and employment in the organizations

One-Sample Test						
Questions	Test Value =0					
	T	Df	Sig (Two tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
9	1.890	4	.132	22.00000	-10.3191	54.3191
10	1.765	4	.152	21.60000	-12.3772	55.5772
11	1.928	4	.126	19.60000	-8.6270	47.8270
12	1.788	4	.148	21.60000	-11.9433	55.1433

From the above one sample t-test table, the five questions give a positive result. The calculated t-value is 7.371 while the table t-value is 1.812. This means that calculated t-value is greater than the table t-value ($7.371 > 1.812$). We therefore reject null hypothesis and uphold alternative hypothesis which states that Artificial Intelligence significantly impact employees engagement and employment in the organizations.

Discussion of Findings

From the analysis of result, the study revealed that Artificial Intelligence is significantly related to Employee engagement and employment. Similarly, the study also finds out that; to ensure employee fully engagement and full employment, a human-centric Artificial Intelligence integration to workplace is necessary as it enhance the overall productivity and the sustainability of the employment of the employees in the organization. Therefore, businesses should ensure a human-centric approach to Artificial Intelligence introduction to workplace. The analysis of hypothesis one empirically proved that Artificial Intelligence impact positively and significantly on the sustainability of employee employment and engagement. This result is in line with

Chukwuka and Dibie (2024) whose work concluded that Artificial Intelligence impact significantly to the sustainability of employee's engagement.

Secondly, the result also empirically showed that there is a positive and significant relationship between Artificial Intelligence and employee's attitude to work in organizations. This means that the AI introduction has made employees to develop a positive work attitude in order to keep their jobs from being taking by automation powered AI machines. This is analyzed in Hypothesis two.

Thirdly, the analysis of hypothesis three has empirically proved that Artificial Intelligence (AI) has a positive and significant effect on employee's productivity. This study concludes empirically that artificial intelligence (AI) has the potential to revolutionize the workplace by greatly increasing worker engagement and productivity. AI may assist organizations in more efficiently accomplishing their objectives by automating repetitive processes, customizing employee experiences, and encouraging improved communication and teamwork. To guarantee that AI's advantages are fully realized, it is crucial to solve the difficulties and moral dilemmas related to its application.

In this work, SPSS statistical package version 20.0 was used to test for hypothesis and from the hypothesis it was observed that Artificial Intelligence integration to workplace must be human-centric before it can lead to more employee engagement and increase in productivity.

The study empirically discovered that the welfare of employees should always come first when using AI, making ethical issues very important. Businesses should aim for a human-centric strategy, making sure AI complements human strengths rather than takes their place.

According to this study, generative AI has the potential to revolutionize the workplace by automating and enhancing a sizable percentage of labor-intensive operations. It draws attention to the fact that 44% of US working hours might be automated or enhanced by AI, highlighting the potential for higher employee happiness and productivity. The study also emphasizes how crucial openness and trust are to the uptake of AI technology.

Conclusion

This study concludes that Artificial intelligence has the potential to revolutionize the workplace by greatly increasing worker engagement and productivity. The study empirically proved that Artificial Intelligence impacts positively and significantly on the sustainability of employee employment and engagement. Secondly, the study also concludes empirically that there is a positive and significant relationship between Artificial Intelligence and employee's attitude to work in organizations. This means that the AI introduction has made employees to develop a positive work attitude in order to keep their jobs from being taking over by automation powered AI machines. The study analysis proved that Artificial Intelligence has a positive and significant effect on employee's productivity.

AI may assist organizations in more efficiently accomplishing their objectives by automating repetitive processes, customizing employee experiences, and encouraging improved communication and teamwork. To guarantee that AI's advantages are fully realized, it is crucial to solve the difficulties and moral dilemmas related to its application.

It was observed empirically that Artificial Intelligence integration to workplace must be human-centric before it can lead to more employee engagement and increase in productivity. The study empirically discovered that the welfare of employees should always come first when using AI,

making ethical issues very important. Companies should aim for a human-centric strategy, making sure AI complements human strengths rather than takes their place.

Recommendations

Based on the result of the study, where it was observed empirically that Artificial Intelligence integration to workplace must be human-centric before it can lead to more employee engagement and increase in productivity. The study strongly recommends that the welfare of employees should always come first when using AI, making ethical issues very important. Companies should aim for a human-centric strategy, making sure AI complements human strengths rather than takes their place in workspace.

References

- Acemoglu, D., and Restrepo, P., (2016). "The Race between Machine and Man: Implications of Technology for Growth, Factor Shares and Employment." *American Economic Review* 108 (6), 1488–542.
- Acemoglu, D. & Restrepo, P., (2017). "Robots and Jobs: Evidence from US Labor Markets." NBER Working Paper no. 23285, Cambridge, MA.
- Adamu, M.B. (2022). The COVID-19 effects on automation, remote working and labour Productivity in Nigeria. *International Journal of Statistics and Applied Mathematics* 7(3):60-66. DOI: [10.22271/maths.2022.v7.i3a.837](https://doi.org/10.22271/maths.2022.v7.i3a.837)
- Adi, E., Anwar, A., Baig, Z., & Zeadally, S. (2020). Machine learning and data analytics for the IoT. *Neural computing and applications*, 32, 16205-16233.
- Aravala, A., Kumar, A., Devarakonda, S., & Suman, G., (2020). Impact of Artificial Intelligence on productivity of the employees. *International Journal of Innovative Research in Technology*, 7(1), 492-496.
- Brynjolfsson E, McAfee A. (2014) The second machine age: work, progress, and Prosperity in a time of brilliant technologies, New York: Norton & Company; c2014.
- Cato, S. T., & Gordon, J. (2009). Relationship of the strategic vision alignment to employee productivity and student enrolment. *Research in Higher Education Journal*, 7, 1-20
- Chai, M. J. Y., & Gooi, C. S. Y. (2019). Intelligent automation uptake and labor productivity in United Kingdom (Doctoral dissertation, UTAR).
- Chang, C. Y., Hwang, G. J., & Gau, M. L. (2022). Promoting students' learning achievement and self-efficacy: A mobile chatbot approach for nursing training. *British Journal of Educational Technology*, 53(1), 171-188. Resource Management (Employee HR) Performance Evaluation Function. *International Journal of Entrepreneurship and Business Innovation* 7(2), 269-282.
DOI: 10.52589/IJEI-HET5STYK
- Chukwuka E.J. & Igweh F.O. (2024) Strategic Impact of Artificial Intelligence (AI) on Entrepreneurial Creativity and Management. *International Journal of Business and Entrepreneurial Research* 14(11) 33-46
- Chukwuka, E. J. & Dibia, K. E. (2024), Strategic Role of Artificial Intelligence (AI) on Human

- Resource Management (Employee HR) Performance Evaluation Function.
International Journal of Entrepreneurship and Business Innovation 7(2), 269-282.
DOI: 10.52589/IJEBI-HET5STYK
- Densen, P. (2011). Challenges and opportunities facing medical education. *Transactions of the American Clinical and Climatological Association*, 122, 48-58
- Hazarika, I., (2020). Artificial intelligence: opportunities and implications for the health workforce. *International Health*; 12: 241–245. doi:10.1093/inthealth/ihaa007
- Meskó, B., Hetényi, G., & Györffy, Z., (2018). Will artificial intelligence solve the human resource crisis in healthcare? *BMC Health Serv Res.*, 18(1): 545.
- Mialhe, N. & Hode, C. (2017). The Third Age of Artificial Intelligence Field Actions Science Reports, *Special Issue* 17, pp 6-11.
- Noy, S., & Zhang, W. (2023). *Experimental evidence on the productivity effects of generative artificial intelligence*. *Science*, 381(6654), 1–6
- Rossi, F. (2016). Artificial Intelligence: Potential Benefits and Ethical Considerations[Online]. European Parliament Legal Affairs Briefing. Available:
[https://www.europarl.europa.eu/RegData/etudes/BRIE/2016/571380/IPOL_BRI\(2016\)571380_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2016/571380/IPOL_BRI(2016)571380_EN.pdf).
- Samoili, S., M., L. C., Gómez, E., De Prato, G., Martínez-Plumed, F. & Delipetrev, B. (2020). Ai Watch. Defining Artificial Intelligence. Towards an Operational Definition and Taxonomy of Artificial Intelligence. Luxembourg: Publications Office of the European Union.
- Thillaivasan, D., & Wickramasinghe, C. N. (2020). Conceptualizing the Impact of AI and Automation on Leadership, Human Capital and Organizational Performance. *Journal of Business and Technology*, 4(1-2).
- Vardi, M. Y. (2012). Artificial Intelligence: Past and Future. *Communications of the ACM*, 55(1), pp 5.