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ARTIFICIAL INTELLIGENCE IN THE WORK PROCESS: THE PSYCHOLOGICAL IMPACTS IN THE BANKING INDUSTRY

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ABSTRACT: *Applications of artificial intelligence (AI) is increasing globally. Hence, this research examined the role of artificial intelligence in Nigerian banking work process and its psychological impacts. Goal-setting theory serves as the theoretical background. The interface between artificial intelligence and work processes includes automation of tasks, enhanced customer service, risk management, fraud detection, decision-making support and efficiency. Some psychological impacts of AI in the banking industry in Nigeria manifest in job displacement, fear of job loss, decreased human interaction, lack of trust, ethical issues, and paranoia. However, the prospects of AI in work processes in the banking industry are personalized banking experience, advanced fraud detection mechanisms, credit risk management, operational efficiency and customer service. Consequently, it is recommended for personnel and work processes to embrace regular personnel development, job redesign and reskilling, regulatory framework integration, customer education, continuous monitoring, evaluation and collaboration. These will help cope and adapt to the unfolding certainty of AI in the workplace.*

KEYWORDS: Artificial Intelligence, Work Process, Psychological Impacts, Banking Industry

INTRODUCTION

The role of artificial intelligence (AI) in modern-day banking processes cannot be overemphasized. Artificial Intelligence (AI) has become a significant part of the banking industry, transforming various aspects of the work process, from customer service to risk management. The integration of AI in the banking industry has been driven by the need for efficiency, accuracy, and personalized services. However, the adoption of AI in the banking industry has psychological implications for employees, customers, and the overall work process.

Boorgaard (2022) defined work process as the glue that holds things together and ensures that tasks are completed in a way that's systematic, organized, and involves as few dropped balls as possible. Therefore, highly reliable banking organizations are focused on improving human performance through strong work processes. A highly reliable work process dictates roles, sequence, priorities, tools, critical elements, and most important decisions people must make within a task (Think Reliability, 2024).

According to Cristi, Birau, Shetty and Filip (2023) artificial intelligence (AI) is the ability of a computer or a robot controlled by a computer to do tasks that normally require human intelligence and discernment. It is a simulation of human intelligence in machine that think and act like humans. Artificial Intelligence started flourishing and was able to expand within the limits of the computing power at the time (Bryson, 2018; Greaton, 2019; Rockwell, 2017). (). Moreover, the drop in bankers' productivity and work process has paved the way for AI and computers to extract meaning out of chaotic work activities such as identifying images, names, recognizing trends, organizing data and retrieving information in a meaningful work matter (Verganti, Vendraminelli, & Iansiti, 2020). AI that can handle complex tasks more efficiently while working round the clock, not needing lunch breaks, vacations, sick leaves, health insurance, promotions, etc. (Kelly, 2019).

It is fairly known that banks possess large amount of customers' data at their disposal (Mhlanga, 2020). It is by capitalizing on this information that banks can predict the customers' needs before they become aware of

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them and go beyond just predicting their consumer behaviour and aim at customizing the banking experiences of each customer, through various channels and creating a tailored personal experience for every client (McKinsey & Company, 2020). To be able to complete the large personalization projects, banks are seeking help from technological and software development companies to assist them in establishing technological ecosystems that exceed their technical abilities (Ragotham, 2019).

Thus, with the use of artificial intelligence banks are able to provide customized financial advice with tips and suggestions to improve the financial wellbeing of the customer (Donepudi, 2017). Therefore, using AI are capable of tracking the user's spending behaviour and provide him or her with personalized advice on accumulating savings and containing expenses. Hence, with the use of smart financial advisory, users can handle money more efficiently (Kaur, Sahdev, Sharma & Siddiqui, 2020). Moreover, the rise of such technology in the banking sector have revolutionized asset management by creating robo-advisors that give investment recommendation and transaction analysis where the AI is able to detect fraudulent behaviour or early signs of dementia in customers by distinguishing erratic account movements (Kaplan & Haenlein, 2019b).

STATEMENT OF THE PROBLEM

The banking sector in Nigeria has undergone significant transformation and evolution over the past decade, surpassing initial optimistic projections. During this period, the proliferation of banks has increased fivefold, accompanied by substantial deregulation of banking operations, heightened competition, and a push for greater innovation and service orientation within the industry. However, this rapid and uncontrolled growth has resulted in adverse outcomes, including a surge in fraud and other forms of malpractice, cash shortages, mismanagement, bankruptcies, and liquidity challenges that permeate the entire banking system through the actions of board members (Gololo, 2018). Termed as "Bank distress," this phenomenon has become a recurring issue in the Nigerian banking landscape.

Objectives of the Research

The objectives of this research are to:

1. Understand the concept of AI and its applications in the banking industry work process.
2. Explore the psychological impact of AI on employees in the banking industry.
3. Examine the psychological impact of AI on customers in the banking industry.
4. Identify the prospects of AI in the banking industry work process.

Significance of the study

The following are the significance of the study:

- The banking industry plays a crucial role in economic growth and development
- Efficiency and effectiveness of the banking industry are essential for economic progress
- AI integration in the banking industry can improve efficiency, accuracy, and customer satisfaction
- The psychological impact of AI on employees and customers is a critical aspect to explore for successful AI integration in the banking industry work process
- Understanding the psychological impact of AI can help mitigate potential negative psychological effects and enhance the benefits of AI integration in the banking industry work process.

Theoretical Framework

The Basic Goal-Setting theory by Locke (1968) served as theoretical framework guiding the study. The theory states that people will perform better if they have difficult, specific, accepted performance goals or objectives (Locke, 1968). The first and most basic premise of goal theory is that people will attempt to achieve those goals that they *intend* to achieve. Thus, if people intend to do something (like get an A on an exam), they will exert effort to accomplish it. Without such goals, people' effort at the task (studying) required to achieve the goal is less.

The second basic premise is that *difficult* goals result in better performance than easy goals. This does not mean that difficult goals are always achieved, but banks performance will usually be better when they intend to achieve harder goals through the use of artificial intelligence. Hence, the bank's goal of being at top through the use of artificial intelligence may not get them to the top eventually, but it may earn them a better position, which they would not have gotten otherwise.

Another premise of goal theory is that *specific* goals are better than vague goals. Banks often wonder what they need to do to be successful. For instance, have you ever asked a professor "What do I need to do to get an A in this course?" If she responded "Do well on the exams," you were not much better off for having asked. This is a vague response. Therefore, goal theory says that banks perform better when they have specific goals. Had your professor told you the key thrust of the course, to turn in *all* the problem sets, to pay close attention to the essay questions on exams, and to aim for scores in the 90s, you would have something concrete on which to build a strategy.

A key premise of goal theory is that banks and its employees must *accept* the goal. Usually, they set their own goals. But sometimes others set goals for them. Goal theory states that people need to *commit* to a goal in addition to accepting it. Goal commitment is the degree to which banks dedicate themselves to achieving a goal. Goal commitment is about setting priorities, but some goals are more important than others.

In fact, many bank organizations practice effective management by using a technique called "management by objectives" (MBO). MBO is based on goal theory and is quite effective when implemented consistently with goal theory's basic premises.

Despite its many strengths, several cautions about goal theory are appropriate. Locke has identified most of them (Gardner & Pierce, 1998). First, setting goals in one area can lead banks to neglect other areas. It is important that goals be set for most major duties. Second, goal setting sometimes has unintended consequences. For example, some bankers set easy goals so that they look good when they achieve them. Or it causes unhealthy competition between bankers. Or a banker sabotages the work process of others so that only she has goal achievement.

Some managers use goal setting in unethical ways. They may manipulate bankers by setting impossible goals. This enables them to criticize bankers even when the bankers are doing superior work. Goal setting should never be abused. Finally, setting individual goals in a teamwork environment can be counterproductive (Mitchell & Silver, 1990). Where possible, it is preferable to have group goals in situations where bankers depend on one another in the performance of their jobs instead of artificial intelligence.

Moreover, goal-setting theory can help banking organizations navigate the psychological impact of AI by ensuring that goals related to AI integration are communicated, are challenging yet achievable, and provide regular feedback to employees. By aligning AI-related goals with employees' tasks and responsibilities, organizations can enhance motivation, productivity, and overall performance while mitigating potential negative psychological impacts associated with AI adoption in the banking industry work process.

INTERFACE BETWEEN ARTIFICIAL INTELLIGENCE AND WORK PROCESS

This entails the relationship between the use of AI in the work process. This interface plays a pivotal role in revolutionizing banking operations and enhancing efficiency through the automation of critical functions such as customer service, risk management, and fraud detection. Here is a detailed expansion on the interface between AI and the work process in the banking industry:

1. Automation of Tasks: AI algorithms are leveraged to automate routine and time-consuming tasks that were traditionally performed manually by bank employees. This automation streamlines processes reduces human error, and enhances operational efficiency by handling tasks

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like data entry, document processing, and transaction monitoring.

2. Enhanced Customer Service: AI-powered chatbots and virtual assistants are integrated into customer service operations to provide personalized and round-the-clock assistance to customers. These AI-driven tools can interact with customers, address inquiries, provide account information, and even offer product recommendations, thereby improving customer satisfaction and engagement.
3. Risk Management: AI algorithms are utilized for risk assessment and management within the banking sector. By analyzing vast amounts of data in real-time, AI can identify patterns, anomalies, and potential risks, enabling banks to proactively mitigate risks, detect fraudulent activities, and ensure compliance with regulatory requirements.
4. Fraud Detection and Prevention: AI plays a crucial role in fraud detection and prevention by continuously monitoring transactions, identifying suspicious activities, and flagging potential fraudulent behaviour. AI algorithms can analyze patterns in transaction data, detect anomalies, and trigger alerts for further investigation, thereby enhancing security and reducing financial losses due to fraudulent activities.
5. Decision-Making Support: The interface between AI and the work process empowers banks to make data-driven decisions by providing valuable insights derived from complex data analysis. AI algorithms can process large volumes of data, identify trends, predict outcomes, and recommend strategic actions to optimize operational processes and improve business outcomes.
6. Efficiency and Cost Reduction: By automating repetitive tasks, optimizing processes, and enhancing decision-making capabilities, AI contributes to increased operational efficiency, reduced costs, and improved resource utilization within banks. This efficiency allows employees to focus on higher-value tasks that require human judgment and creativity.

Work Process

A work process is any method that employees use to create value for the company. Banks often create specific work processes to accomplish tasks. For example, a bank might create a specific work process for an operational line, and a marketing department might create a work process for establishing a new social media ad campaign (Think Reliability, 2024).

Types of work processes

There are three types of work processes to consider (Think Reliability, 2024):

High-level work processes: High-level work processes are any actions or procedures that exist at the most basic level of understanding for bankers. These processes are simplistic and accessible and help with the completion of basic or minor tasks and projects. The work process depends on a simple formula of a single input and a single output. For example, an employee submits a project approval form, the manager approves it and the project begins. The submission is the input, while the approval is the process output. High-level work processes can work best with simple projects, though they are a crucial component for more complex projects as well.

Intermediate-level work processes: The intermediate-level work processes contain more detail than high-level processes. They typically include any communications or collaborations between departments and describe some details about significant decisions in the work process. For example, if the marketing and accounting team are working together to create a marketing budget, an intermediate-level work process helps organize and describe the tasks to complete that budget, who handles which parts of the project and what decisions each department makes about the budget. Intermediate work processes are typically best for projects with minor complexities or that depend on collaborative efforts.

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Detailed-level work processes: Detailed-level work processes include the highest amount of detail. A detailed work process typically comprises the following information about a project or task:

- Step ownership: This describes which of the project's team members are responsible for the ownership of each step in the process.
- Step transitions: This explains where transitions occur during the process, including who initiates a transition phase between project steps.
- Communication: This describes how the team communicates about project details and steps.
- Supporting information: This includes information on tools, documents, procedures or necessary forms for each step to occur.
- Decision points: This details the place in each step where team members or stakeholders make important decisions.

Artificial Intelligence Classification

Artificial intelligence can be classified in three levels from the simplest to the most complex (Kaplan & Haenlein, 2019b) such as:

Artificial Narrow Intelligence (ANI) or weak AI: Refers to AI that is used only to perform specific narrow tasks in specific areas, like face and voice recognition or driving a car (Kaplan & Haenlein, 2019b). This class of AI, also called applied artificial intelligence (AAI) emulates human intelligence for defined tasks to create "commercially viable smart programs or machines" (Paschen, Pitt, & Kietzmann, 2020, p.153). However, although ANI is beneficial to the enhancement of the quality of human life, it still carries many risks and dangers in case of malfunction, like disrupting electric grids or destroying nuclear power plants (Tai, 2020).

Artificial General intelligence (AGI): is a higher form of AI that transcends ANI and can reason and autonomously solve problems that were not pre-designed within its program (Kaplan & Haenlein, 2019b). By the power of its speculative intelligence, AGI can understand and learn any intelligent task, even to the point of equating or exceeding human performance in these tasks (Tai, 2020).

Artificial Super intelligence (ASI): is the 3rd generation of AI and is sometimes called true AI due to its capability of solving problems instantly in several areas and surpass humans in all tasks. For example, solving at once complex mathematical problems or writing a best-seller book in an instant with no reproachable faults. (Kaplan & Haenlein, 2019b.) This type of AI is seen so far only in science fiction movies where it will surpass by far human knowledge and abilities (Paschen et al., 2020).

Psychological Impact of AI in the Banking Industry Work Processes

Artificial intelligence has some psychological attributes notably the absence of empathy, issues regarding confidentiality, and the lack of a regulatory framework. As AI becomes more integrated into people's lives, it's essential to understand its influence on their psychology. AI's impact is multifaceted and profound, touching upon various aspects of human cognition, emotion, and social interaction. Consequently, ThumbStack Technologies (2023) and Banafa (2023) identified the following as psychological impact of artificial intelligence.

Job automation: for employees: The implementation of AI can have both positive and negative psychological effects. AI can automate routine tasks, freeing up employees to focus on more complex and value-added activities, which can lead to increased job satisfaction and engagement. AI can also lead to job displacement and a fear of job loss, which can result in anxiety, depression, and paranoia.

Decision-making and Autonomy: The integration of AI in the banking industry work process involves the use of AI algorithms to analyze data, make decisions, and perform tasks that would otherwise require human intervention. This can lead to improved efficiency, enhanced customer service, and better risk management

Human-AI Interactions: The psychological impact of AI on customers in the banking industry can also be significant. AI can enhance the quality of banking transactions and

provide personalized customer service, leading to increased customer satisfaction and loyalty. However, the use of AI can also lead to a decrease in human interaction, potentially resulting in social isolation and a lack of trust in the technology.

Emotional and Social Implications: AI can influence our emotions and perceptions, potentially leading to emotional biases, social isolation, and even mental health concerns. AI should be designed to consider human emotional well-being and promote positive social interactions.

AI-generated deepfake videos: Deepfakes are videos that use AI to manipulate or replace an individual's image or voice in a video or audio recording. These videos can be used to spread false information or malicious content, which can have a severe psychological impact on the person depicted in the video.

Mental health chatbots: AI-powered chatbots have been developed to provide mental health support and guidance to individuals. While these tools can be helpful for some people, they can also lead to feelings of isolation and disconnection if users feel like they are not receiving personalized or empathetic support.

Potential Psychological Impacts of Using AI

Addiction: Overuse of technology, including AI systems, can lead to addictive behaviours. People may feel compelled to constantly check their devices or use AI-powered apps, which can interfere with other aspects of their lives, such as work or social relationships.

Social isolation: People who spend too much time interacting with AI systems may become socially isolated, as they may spend less time engaging with other people in person. This can lead to a reduced sense of community or connection to others.

Depression: Some people may experience depression or a sense of helplessness when interacting with AI systems that they perceive as being superior or more capable than they are. For example, if someone is using an AI-powered personal assistant, they may feel inadequate or helpless if the system is better at completing tasks than they are.

Paranoia: Concerns around the safety and security of AI systems, as well as fears of AI taking over or replacing human decision-making, can lead to paranoid thinking in some individuals. This is particularly true in cases where AI systems are used to control physical systems, such as autonomous vehicles or weapons systems.

Prospects of AI in Work Process of Nigerian Banking Industry.

Here are some of the prospects of AI in the banking industry work processes in Nigeria:

1. **Credit Risk Management:** AI can help banks to assess credit risk more accurately by analyzing vast amounts of data, including financial history, credit scores, and social media activity. This can help banks to make more informed lending decisions and reduce the risk of default.
2. **Personalized Banking Experience:** AI can be used to provide personalized banking experiences to customers by analyzing their behaviour and preferences. This can help banks to offer tailored products and services, improve customer satisfaction, and increase loyalty.
3. **Fraud Detection:** AI can help banks to detect and prevent fraud by analyzing patterns and anomalies in transaction data. This can help banks to reduce losses, protect customers, and maintain trust.
4. **Operational Efficiency:** AI can be used to automate routine tasks, such as data entry and document processing, which can help banks to reduce costs and improve efficiency. This can also help banks to free up staff to focus on more value-added activities, such as customer service and product development.
5. **Decision-Making:** AI can help banks to make better decisions by providing insights and recommendations based on data analysis. This can help banks to improve strategic planning, risk management, and performance management.
6. **Customer Service:** AI can be used to provide 24/7 customer service through chatbots and virtual assistants. This can help

banks to improve customer satisfaction, reduce response times, and reduce costs

Recommendations

Based on the research conducted on the topic "Artificial Intelligence in the Work Process: Psychological Impact on the Banking System," the following recommendations are suggested:

1. **Awareness and Training:** Banks should provide adequate awareness and training programs for their employees to understand the benefits and challenges of AI integration in the work process. This will help to reduce the fear and anxiety associated with the use of AI and enable employees to adapt to the new work environment.
2. **Job Redesign and Reskilling:** Banks should redesign job roles and responsibilities to incorporate AI technologies and provide opportunities for employees to reskill and upskill. This will help to ensure that employees are equipped with the necessary skills to work alongside AI systems and maintain their relevance in the industry.
3. **Regulatory Framework**: The regulatory bodies in the banking industry should develop a robust regulatory framework for AI integration in the work process. This will help to ensure that AI systems are used ethically and responsibly and that the privacy and security of customer data are protected.
4. **Customer Education:** Banks should educate their customers on the benefits and risks of AI integration in the work process. This will help to build trust and confidence in the use of AI systems and ensure that customers are aware of the potential psychological impacts of AI.
5. **Continuous Monitoring and Evaluation**: Banks should continuously monitor and evaluate the impact of AI integration on their work processes and employees' psychological well-being. This will help to identify any potential issues early and take corrective action to mitigate any negative impacts.
6. **Collaboration and Partnership:** Banks should collaborate and partner with AI technology providers and experts to ensure that they are using the latest and most effective AI technologies in their work processes. This will help to ensure that the benefits of AI are maximized while minimizing the potential psychological impacts.

Conclusion

This research examined artificial intelligence in the work process and its psychological effects on banking industry. Integrating AI in banking and financial services yields multiple benefits, such as cost reduction, fraud reduction, heightened efficiency, and the eradication of routine tasks, culminating in an environment conducive for rapid innovation (Michael, 2024). This proves AI has significantly curbed banking fraud, particularly in the face of rising credit card fraud due to the expansion of e-commerce and online transactions, and also reduced psychological trauma associated with fraud.

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