Pan-African Journal of Education and Social Sciences (PAJES)
Vol 6, No. 1, 88-103, 2025

https://doi.org/10.56893/pajes2025v06i01.07

Utilization of Artificial Intelligence (AI) and Fear of Job Loss in the Banking Industry: Perspectives of Bank Employees

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Abstract

This study investigated the utilization of AI and the fear of job loss, seeking employees' perceptions in Kenya's banking industry. This study adopted a descriptive survey design. Data was collected with a self-designed questionnaire. Fifty-two employees from five selected banks in Nairobi, participated in the study. The findings revealed that banks utilize AI in various aspects of operational and customer services but highly in cybersecurity, fraud detection, and anticipating customer needs. The findings also revealed that 82.7% of the respondents perceived that the high utilization of artificial intelligence (AI) in the banking industry raises the fear of job loss as they considered consolidation of tasks for a few workers and reduced staff workforce as the threats associated to Artificial Intelligence (AI) utilization in the banking industry. The employees believe that their jobs could be secured by embracing the AI technology and skill improvement. Thus, the study recommends that bank authorities facilitate the adjustments of the bank employees as jobs are redesigned to enable their transition to AI-related positions.

Keywords: Artificial intelligence, utilization, job security, job loss, banking industry, bank employees

Introduction

The introduction of Artificial Intelligence (AI)-powered automation has caused a paradigm shift in the planning, execution, and completion of work. Today, AI powers many of the tasks previously performed by humans alone. Thus, the blending of machines and humans has become a new norm. Traditional labor-intensive occupations, which conventionally rely on human dexterity and cognitive ability, are now being managed by skilled robots and artificial intelligence (AI) systems that can perform tasks once handled solely by humans. It has now become much easier to leverage the capacities of such machines for the benefit of organizations (Tripathi, 2024).

Similarly, Poba-Nzaou et al. (2021) asserted that the use of AI technologies will influence the way tasks are performed because it is likely that some job tasks, whether routine or complex, may be automated by AI. Thus, robots may replace or support humans in ways never presumable. This development will inevitably cause changes in employability skills. It has been observed that:

> AI is a fast evolving technology with great potential to make workers more productive, to make firms more efficient, and to spur innovations in new products and services. At the same time, AI can also automate existing jobs and exacerbate inequality, leading to discrimination against workers. While previous technological advances in automation have tended to affect routine tasks, AI has the potential to automate non routine tasks, exposing large new swaths of the workforce to potential disruption. (USEU Trade and Technology Council (2021, p.3)

Artificial Intelligence (AI), as highlighted by Nasrallah (2021), began in the financial sector several years ago. In 1967, the Barclays Bank introduced the first Automated Teller Machine (ATM) in the UK. This machine was a kind of innovation and allowed an enormous transformation of how people could get their money quickly. In the 70s, banks introduced card-based payments, while online banking was widely

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accepted in the year 2000, and by the 2010s, mobile-based "on-the-go banking" became popular (Biswas et al., 2020). Nagarajan et al. (2023) added that customers constantly seek a better experience and convenience. For example, ATMs were a success because customers could avail essential services of depositing and withdrawing money even when banks were closed (Nagarajan et al., 2023)

According to Kotabe and Helsen (2022) and Farishy (2023), adapting to current technological advancements is essential to remaining competitive and preventing business failure due to global competition and the increasing complexity of challenges. In this regard, banks are in a race to become AI-first for a good reason. For many years, the banking industry has been transforming from people-centric to customer-centric. This shift has forced banks to adopt a more holistic approach to meet customer demands and expectations. Customers now expect banks to be available whenever they need assistance, which means they are accessible 24 hours a day, seven days a week. Banks can achieve this using AI (Srivastava, 2024).

With this new norm, employees' concerns about job losses are at an all-time high, with machine learning and AI continuously becoming more sophisticated. Almost 40% of all global employment may be affected by AI, and in advanced economies, the figure could be as high as 60%, according to an analysis by the International Monetary Fund (Georgieva, 2024). The US-EU Trade and Technology Council (2021) asserts that one of the potential downsides of AI is that it could lead to increased unemployment as machines begin to replace human workers in various industries.

A study by Cedersund (2023) highlights a research report published in 2019 by Wells Fargo, one of the largest banks in the US, where the coming decade will see robots and AI replacing 200,000 jobs in the banking sector (Kelly, 2019). This is because many external factors such as a decade-long low interest rate squeeze the banks' margins, geopolitical uncertainties, fear of recession, and other tensions weighing on the banks' profitability and forcing them to cut costs and adapt to a changing landscape. Unlike other industries, bank costs are concentrated in their employees and not in factories or manufacturing plants. Therefore, significant economies can be achieved by adequately managing human capital or supporting them with tools. Some aim to replace people with robots and AI that can handle complex tasks more efficiently while working around the clock, not needing lunch breaks, vacations, sick leave, health insurance, promotions, etc. (Kelly, 2019). Thus, with this rapidly advancing technology, employees are concerned that their jobs will disappear or are concerned about being left behind. A study conducted in Bangladesh revealed that 80% of bank employees feared AI-driven job displacement, particularly those in clerical or routine roles (Molla, 2024).

In the Kenya banking sector, Theuri and Olukuru (2022), in their study titled "The impact of Artificial Intelligence and How it is shaping Banking," explored the potential of using AI in the Kenyan banking sector to maximize cost and increase service efficiency. Recognizing that bank costs are concentrated on their employees, the anxiety of job displacement among bank employees is particularly prevalent as AI technologies are rapidly being adopted to enhance operational efficiency and customer service.

Although there is extensive global literature on the adoption and impact of artificial intelligence (AI) on jobs within the banking sector, in the context of the banking sector in Kenya, there is little or no direct empirical research that discusses the specific perspectives of workers on the fear of job loss due to artificial intelligence (AI). Therefore, the principal aim of this investigation is to comprehend the utilization of AI and the fear of job loss in the banking industry. This was achieved by seeking workers' perspectives in Kenya's banking industry regarding using artificial intelligence (AI) and its implications on job security. The following objectives guided the research:

1. To determine AI usage and AI utilization concerns in the selected banks in Kenya
2. To determine the utilization of AI in the employees' job roles in the selected banks in Kenya.
3. To determine if the use of AI is a threat to employees' job security in the selected banks in Kenya.
4. To find out the employees' view on how to secure their jobs with the use of AI in Kenya's banking industry,

Literature Review

The simulation of human intelligence in machines, called artificial intelligence (AI), has risen and played an important role in the new banking era. Bernard (2018) in Nasrallah (2021) gave a key definition of Artificial Intelligence (AI) as "the imitation of peoples' behaviors in an intelligent way using robots or machines with a built-in system enabling them to think the same cognitive way as humans do and perform tasks such as problem-solving, decision-making, speech recognition, translation and much more (p. 5)." Theuri and Olukuru (2022) identified two types of AI technology. The first one is what they called "a top-down, human-engineered approach" (p.3). The computer performs the task and can make decisions based on predefined rules and requirements. The second type is, "natural machine intelligence" or "a bottom-up approach." In this type, a computer utilizes self-improvement algorithms to enhance its performance and abilities for each task it can handle.

Artificial Intelligence (AI) has rapidly changed the world. The focus of businesses in most industries is on efficiency and sustainability. AI can increase productivity, create jobs, and improve living standards. However, by its very nature of performing "non-routine" tasks, formerly thought to be strictly the domain of humans, AI is likely to disrupt large swaths of jobs and tasks. This may lead to difficult adjustments for workers as jobs are redesigned or require skills change (U.S.–EU Trade and Technology Council (2021).

Utilization of Artificial Intelligence in the Banking Industry

Farishy (2023) studied AI-based approaches used by practitioners in the banking industry. His findings show that banks use AI-based technologies to enhance numerous business operations. The artificial intelligence movement has greatly improved e-finance, as manual or statistical model-based tasks have evolved into more intelligent, autonomous, and predictive tasks, such as predicting bank failure. Further, Farishy (2023) added that banks have utilized AI-based technologies more for cyber threat detection **(**DLNN as the best tool to accurately predict threat detection: 94% accuracy and 90% precision). In their studies, the Economist Intelligence Unit Ltd. (2022) and Nasrallah (2021) further collaborated with the point that fraud detection is a key area where banks worldwide are utilizing AI. A study conducted by Geetha and M.G.R. (2021) highlights that AI is utilized in banking in major areas of personalized financial services, smart wallets, voice-assisted banking, customer support, digitalization instead of branch lines, reduced costs, mitigated risk, and increased revenue. The Kenya Artificial Intelligence Policy Brief emphasizes the utilization of artificial intelligence across various sectors in the country. The policy highlights that:

> . . . in the finance, AI is heavily relied upon in fintech (digital lending apps) in determining whether or not to grant loans to borrowers. In this case, AI is used to determine a borrower's likelihood of default by assessing a borrower's micro behavioral data and information obtained from the borrower's device, including contacts, SMSs, SD card content, gallery, and apps downloaded in the device. Fintech, particularly digital lending apps, use this information to determine a borrower's credit score and determine suitable loans for Kenya. (Akello (2022, p.6)

Artificial Intelligence on Work Efficiency

Nasrallah (2021) asserts that the COVID-19 pandemic caused a major modification to virtually every industry. These changes, including financial services, have created and enhanced opportunities for financial institutions to revolutionize by shifting to automated-driven financial services that will significantly increase customer experience. Consequently, financial services providers have intensified their use of artificial intelligence to deliver innovative financial services. In the Kenyan context, Theuri and Olukuru (2022) underscored this point, noting that the use of AI has been intensified by the interruptions caused by the COVID-19 pandemic. In other economies, AI is gaining acceptance in banking and financial institutions (FIs). Banks are constantly improving their current solutions to significantly improve customer experiences as they seek to solve progressively intricate challenges and meet expectations. Srivastava (2024) affirmed customers' growing desire for improved experience and convenience. Today, the use of Automatic Teller Machines (ATMS) is not only essential for depositing and withdrawing money at their convenience but in some instances, customers can now transfer funds. Technology has also assisted banks in enabling customers to open bank accounts using their smartphones and without going to the banks. AI technology has also reduced time and improved the "Know Your Customer" (KYC) process. AI has also enhanced eligibility determination and the process of obtaining personal loans. This eased the stress of physically going through the entire process. AI in banking customer service also improves the accuracy of recording client information and data for initiating accounts, thus minimizing or eliminating errors. This ensures a smoother customer experience.

Consequently, Nasrallah (2021) and Srivastava (2024) recognize that using AI in banking and financial services can help reduce operational costs, boost the efficiency of financial institutions, and eliminate daily routine work, which in turn helps accelerate the innovation cycle. Thus, the rapidly evolving technological landscape and meteoric rise of digital banking have introduced novel challenges and opportunities for banks regarding talent acquisition and retention. The demand for skilled professionals versed in data analytics, cybersecurity, and digital innovation has surged, necessitating innovative compensation strategies to attract and retain specialized talent (Kaur et al., 2021).

Challenges and Opportunities of Artificial Intelligence

A key challenge of AI taking over human roles is workforce displacement. As automation takes over tasks traditionally performed by humans, there is a risk of job loss and economic instability. Akello (2022), regarding unemployment due to automation, indicated that according to the World Economic Forum's Future of Jobs report, 52% of jobs in Kenya are susceptible to automation. Another challenge lies in the disparity between the skills required for AI-related roles and those possessed by workers at risk of displacement. Many workers may lack the necessary skills for transitioning to AI-related positions, exacerbating unemployment and widening the skills gap. In this regard, Ghodsi (2024) identifies some jobs at risk as simple and routine jobs, such as customer service responses as well as order and data entry. Further, some aspects of assembly and production lines in various industries are also at risk.

Nonetheless, AI is capable of also creating new job roles and tasks. Even though AI will replace most jobs in the job market Akello (2022) poses that many jobs will be transformed into jobs that require new skills and completely new ones will be created. This means that automation creates jobs that require highly skilled technicians. Thus, Baldwin (2023) contends that AI will not displace jobs; rather, it is individuals utilizing artificial intelligence who will assume those positions. AI will create new jobs and tasks with higher incomes compared to other jobs, as well as increase productivity in other industries and boost overall demand.

Artificial Intelligence and Job Security

The adoption and escalation of the use of artificial intelligence in the banking sector have been met with a mixture of optimism and concern among employees regarding job security and displacement, as evidenced by studies conducted in various countries. While there is no direct research on the Kenyan banking sector within the context, insights can be drawn from similar studies in other regions (Mithra et al., 2023; Panwar & Punjab, 2024). Employees in the Indian banking sector, for instance, have expressed apprehension about job security, alongside the recognition of AI's benefits in various operational areas (Dwivedi & Kochhar, 2023).

Yet, these sentiments may reflect a broader trend applicable to workers in the banking sector in Kenya, where the introduction of AI could similarly impact job security. Interestingly, while there is a concern for job displacement, there is also acknowledgment of the need for upskilling and training to adapt to AI-driven changes (Dwivedi & Kochhar, 2023). This suggests that adopting AI in banking may not necessarily lead to job loss but could instead transform the nature of banking jobs, requiring workers to acquire new skills. Thus, the perspectives of banking sector workers are shaped by both the opportunities and challenges presented by AI.

In summary, workers' experiences in the banking industry regarding AI adoption and job security are complex and multifaceted. While there is a valid concern for potential job loss, there is also an understanding of AI's benefits to the sector. Perspectives from the Indian banking sector may offer insights into the situation in Kenya, highlighting the importance of addressing employee concerns through training and upskilling initiatives to ensure a smooth transition to an AI-integrated workplace.

Existing literature on the utilization of artificial intelligence (AI) and job displacement in the banking industry has provided valuable insights into various aspects of this study. Although several studies have examined and there is extensive global literature on the adoption and impact of artificial intelligence (AI) on jobs within the banking sector, in the context of the banking industry in Kenya, there is little/no direct empirical research that discusses the specific perspectives of workers on the fear of job loss due to artificial intelligence **(**AI). There is a critical research gap in comprehending the unique dynamics of using artificial intelligence (AI) and the fear of job loss in the banking industry in the context of developing nations.

Theoretical Framework

Anfara Jr and Mertz (2014) define a theoretical framework as one that contains or supports a theory of research. A theory explains, predicts, and understands phenomena, often challenging existing knowledge within critical boundary assumptions (Holt & Polis, 1997). This paper discusses four relevant theories that underpin this study on AI utilization and fear of job loss in the banking industry, especially from the perspective of bank employees.

Technological Determinism Theory

According to McLuhan (1964), as cited in Jan et al. (2020), the growth of technologies ensures cultural diffusion in society, which in turn helps change human behavior. McLuhan's famous quote, 'we shape our tools, and they in turn shape us, fits in the discourse. 'We have a symbolic relationship with mediated technology; we create technology, and technology in turn re-creates who we are' (West & Turner, 2007). The historical perspective of the theory proposes that revolutions in technology have brought about corresponding changes in society. This theory suggests that technology drives societal change and significantly influences human behavior and organizational structures. The application of technological determinism theory to this study is highly relevant, as it explains how AI adoption in banking may be seen as an inevitable force reshaping job roles and processes. This highlights the perception that employees have limited control over technological transformation, potentially fuelling their fear of job loss.

Displacement Theory (Technological Unemployment)

Keynes's (1930) displacement theory (technological unemployment) in Brynjolfsson and McAfee (2014) suggests that new technologies like AI can displace workers by automating tasks that were previously performed by humans, leading to job redundancy. The application of displacement theory (technological unemployment) to this study is highly relevant, as it directly relates to the fear of job loss among bank employees as AI and automation replace traditional roles such as tellers and customer service representatives. It also explains employees' anxiety about job security and career sustainability in AI-driven workplaces.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), introduced by Davis (1989), suggests that perceived usefulness and perceived ease of use influence an individual's acceptance of technology. This theory applies to this study because it explains how employees' acceptance of or resistance to AI impacts their perception of job security (Venkatesh & Davis, 2000).

Human Capital Theory

Schultz first proposed the human capital theory in 1961. In 1994, Becker utilized empirical data and research to analyze the theoretical issues related to human capital investment. This theory argues that employee skills and education investments enhance productivity and employment security. Thus, applying the human capital theory to this study is highly relevant as it highlights the importance of reskilling/upskilling employees to help them adapt to AI and reduce job insecurity.

Research Methodology

Study Design

This study adopted a descriptive survey design to ascertain the perspectives of workers in the banking industry in Kenya regarding the utilization of AI and its implications for job security.

Study Population/Sample

The sample population consists of employees of licensed commercial banks in Kenya. Convenience sampling was used to select three privately owned commercial banks and two government-owned commercial banks in Nairobi, Kenya. These banks were also selected because of their status as tier-one or tier-two financial institutions in Kenya. A simple sampling technique was used to identify 81 bank employees who deal with customer service and bank operations.

Research Instrument

The instrument for data collection was a self-designed questionnaire to address the three research objectives. The questionnaire included four sections: (1) demographics, (2) artificial intelligence usage in banks, (3) the impact of artificial intelligence on job roles, and (4) the implications of artificial intelligence for job security. Some questions were designed so respondents could choose as many as they could apply to their workplace and some of the questions used a 5-point rating scale, where 5 was the highest level of agreement and 1 the lowest (5 = strongly agree; 4 = Agree; 3 = Neutral; 2 = Disagree, 1 = Strongly disagree).

This study ensured content validity. The items in the questionnaire were assessed by an academician and top compliance officer in the banking sector to ensure that they could accurately measure the intended variables. A pilot study was also conducted to determine the internal consistency of items, which showed a Cronbach's alpha value of 0.78.

Data Collection

The questionnaires were administered using Google Forms. A link to the survey was distributed electronically to bank employees with assistance from five research assistants, all of whom were bank employees. The researcher used the Google response tool, which helped link each respondent with their banks. Using Google Forms facilitated the collection and analysis of the gathered data.

As part of ethical considerations, permission was obtained to collect data from the participants. Participation was entirely voluntary, and all responses were recorded anonymously. Furthermore, the names of the participating banks were represented using alphabets (C to G). The collected data were analyzed using the built-in descriptive analytics of Google Forms and the Statistical Package for Social Sciences (SPSS). The results are presented using figures, tables, frequencies, and percentages for clarity.

Results

Of the targeted 81 bank employees, 52 were willing to participate in the study, resulting in a response rate of about 65 %. Cooper and Schindler (2014) opined that a 60% or higher response rate in quantitative surveys is suitable for generalizing the whole sample, making the response adequately representative of the population.

General Information of Respondents

Figure 1 shows the distribution of respondents from the five banks, while Table 1 presents their demographic profiles, including their gender, years of experience in the bank, academic qualifications, and banking career experience.

Figure 1

Respondents Distribution by Bank

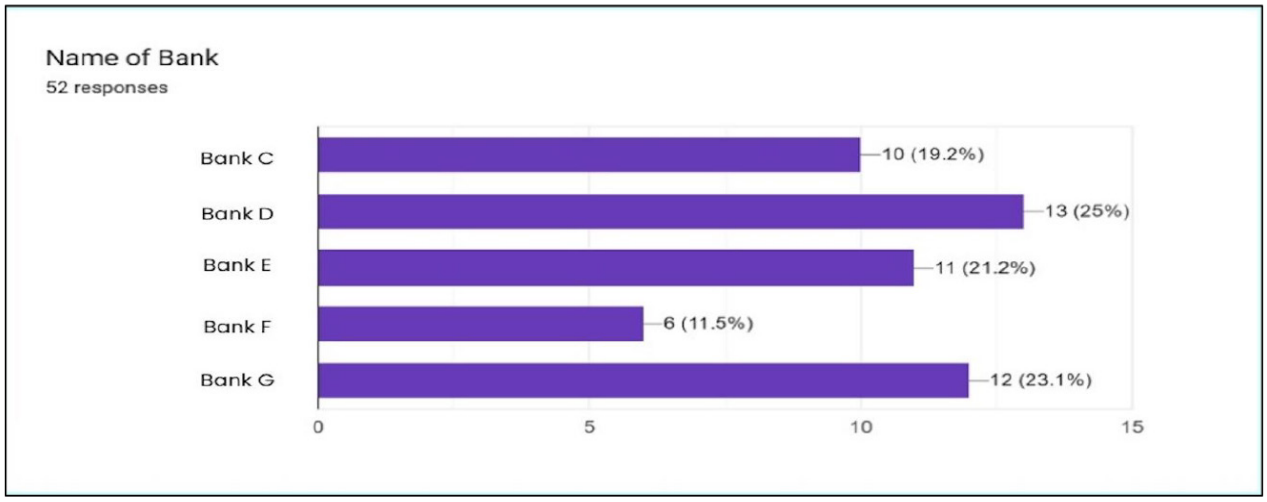


Table 1

Respondents Demographic Distribution

Demographic Items (52 Respondents)	Frequency	Percentage
Gender		
Male	25	48.1
Female	27	51.9
Number of Years in the Banking Industry		
1-5		
6-10	5	9.6
11-15	9	17.3
16-20	30	28.8
21-25	15	28.8
Above 25	2	3.8
	12	23.1
Highest Academic Qualification		
Diploma	2	3.8
Bachelor's Degree	27	51.9
Master's Degree	24	46.2
Doctorate Degree	0	0
Career Experience in the Banking Sector		
Excellent	21	40.4
Good	27	51.9
Satisfactory	5	9.6
Boring	0	0

A total of 52 respondents from five banks, labeled Bank C, Bank D, Bank E, Bank F, and Bank G, participated in this study. Among them, 25(48.1%) were male and 27 (51.9%) were female, highlighting gender balance. This gender balance implies that the banking profession is suitable for both genders. A sizeable number of respondents, 15 (28.8%), had 11-15 years of service and 12 (23.1%) had more than 25 years of service in the banking sector. This means that the respondents must have had long banking experience. This is evident in the respondents' career experience in the banking sector, as the majority of respondents, 21 (40.4%), expressed that their career experience was excellent, and 27 (51.9%) indicated good. As for their educational level, all bank employees are graduates with bachelor's degrees-27 (51.9%), while 24 (46.2%) hold master's degrees, indicating that they all understood the subject matter and could share their knowledge and views.

AI Utilization and Concerns in the Selected Banks in Kenya

One of the study's research objectives was to investigate AI usage and the utilization concerns in the selected banks. Respondents were asked to identify how their banks utilize AI for operations and customer services. The respondents were requested to choose as many options as possible for their banks, as shown in Figure 2.

Figure 2

AI Usage in the Baking Sector in Kenya

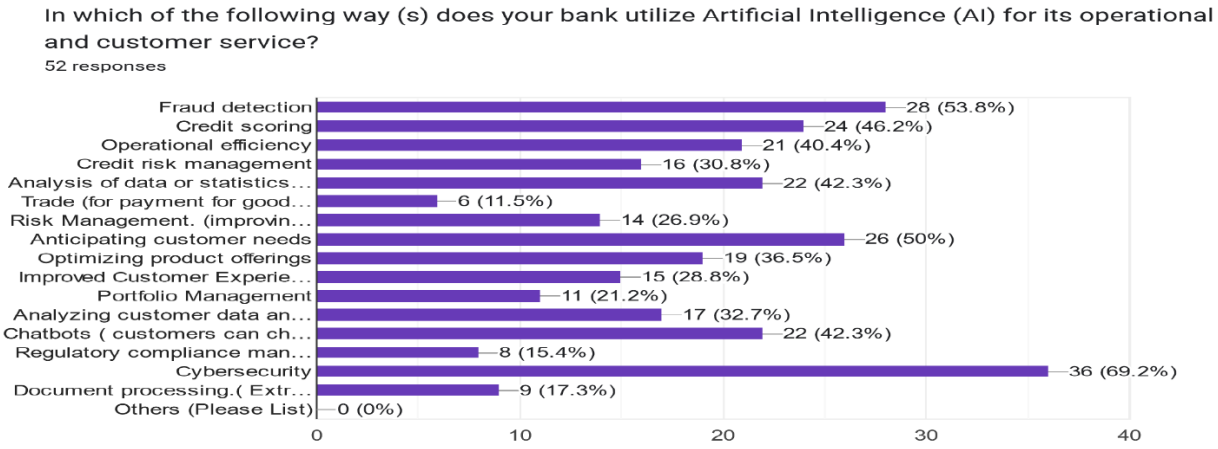


Figure 3

AI Utilization Concerns in the Baking Industry

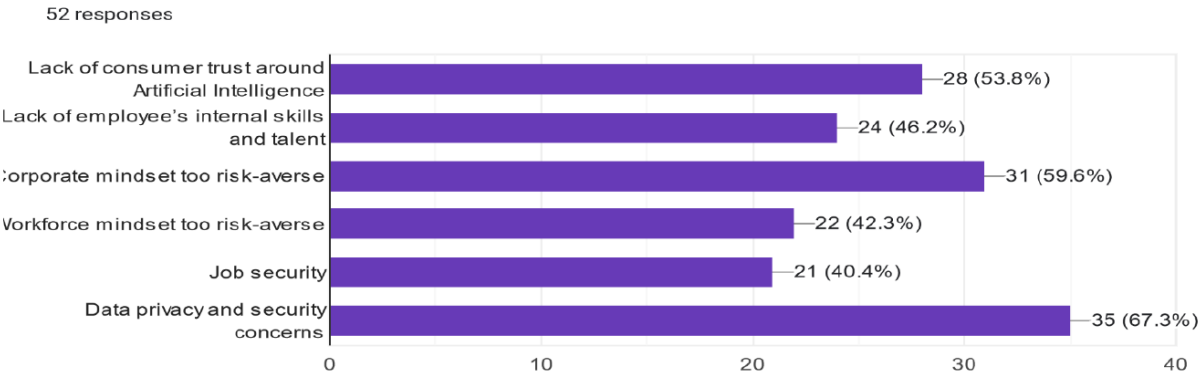


Figure 2 reveals that banks in Kenya utilize artificial intelligence for operations and customer service in cybersecurity, as indicated by 36 (69.2%) of the respondents. This was followed by fraud detection: 28 (53.8%) of the respondents anticipated customer needs, as indicated by 26 (50%) respondents. On the other hand, banks use artificial intelligence less for their operations and customer service in areas of document processing (extracting structured and unstructured data from documents and analyzing, searching, and storing this data for document-intensive processes), according to 9 (17.3%) respondents, regulatory compliance management as indicated by 8 (15.4%) of the respondents, and the lowest is payments (for goods and services) as shown by 6 (11.5%). The low utilization of AI for payment of goods and services, as indicated by the respondents, might be due to the high dependence on mobile money wallets like 'Mpesa' and 'Airtel Money' by most Kenyans. It also seems that, even though this mobile money platform is integrated into banking services in Kenya, it is not independent of the banking sector. Additionally, the restrictions on the limit of e-payment volumes could have influenced the respondents' opinions

on the utilization of AI for payments for goods and services.

Further, the respondents' areas of concerns to the incorporation of artificial intelligence (AI) technologies in the banking sector is shown in figure 3. The respondents believe that the most prominent areas of concerns to utilization of artificial intelligence (AI) technologies in the banking industry are (i) data privacy and security concerns, as indicated by 67.3% of the respondents; (ii) corporate mindset (59.6%); and (iii) lack of consumer trust around artificial intelligence (53.8%). One could conclude the perspectives of the respondents as revealed in both Figures 2 and 3 by stating that, despite the optimistic views on AI adoption in the banking industry and the benefits of AI utilization for banks, employees recognize that there are areas of concern that banks or regulatory bodies need to address. These include data privacy and security, as well as customer trust in AI.

Utilization of Artificial Intelligence in Employees' Job Roles

Table 2 illustrates the respondents' views regarding AI use in their job roles. A majority (63.5 %) of the respondents either agreed (44.2%) or strongly agreed (21.3%) that banks' utilization of AI for operational and customer service in Kenya contributed to efficient employee productivity. However, 26.9% of the respondents were neutral. In contrast, a smaller percentage of 9.7% either disagree (2%) or strongly disagree (7.7%). The results in Table 2 indicate that most (73 %) of the respondents feel that AI tools have improved their job roles. However, a small number of respondents disagree with this view.

Table 2

Utilization of Artificial Intelligence on the Employees Job Roles

Item	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Agree (%)
The utilization of AI for operational and customer service has contributed to efficient employee productivity.	11 (21.3)	23 (42.2)	13 (26.9)	1(1.9)	4 (7.7)
The use of AI tools has enhanced my job roles.	10 (19.2)	28 (53.8)	10 (19.2)	4 (7.8)	-
The deployment of AI has contributed to the decrease of repetitive tasks/manual labor in my bank.	7 (13.7)	25 (49)	8 (15.7)	9 (17.6)	2 (4)
AI has led to the redundancy of my colleagues in the workplace.	6 (11.5)	4 (7.7)	13 (25)	18 (34.6)	11 (21.2)

Most respondents agree (49%) and strongly agree (13.7%) that using AI in their banks has decreased manual labor. The results also show that more than half of the respondents (55.8%) disagreed as to whether AI has led to the redundancy of colleagues in their place of work. This underscores the importance of human capital, implying that the successful utilization of Artificial Intelligence (AI) is linked to employees who oversee the organization's operations.

AI as a Threat to Job Security in the Banking Industry

The results in Table 3 reveal different opinions about the use of AI on job threats. Most respondents (53.8%) agreed that AI is a risk to employment in the banking sector. However, the results also showed different opinions, as shown in Table 3 below.

Table 3

AI as a Threat to Job Security

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Agree
The utilization of AI in my bank is a risk to my current employment.	5 (9.6)	23 (44.2)	13 (25)	8 (15.4)	3 (5.8)
AI has led to discrimination in hiring new employees at my bank.	2 (3.9)	14 (26.9)	18 (34.6)	14 (26.9)	4 (7.7)
The high utilization of AI in the banks in Kenya raises a concern about my future employment in the banking industry.	3 (5.8)	27 (51.9)	14 (26.9)	7 (13.5)	1 (1.9)

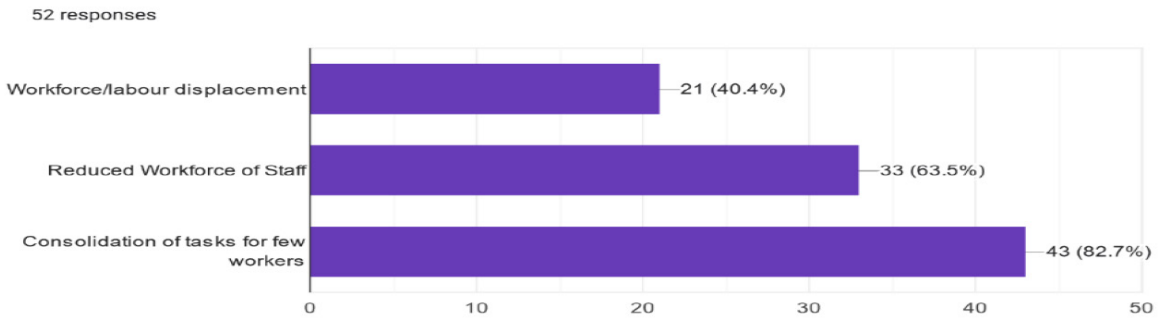
It seems that 34.6% of respondents were unsure whether AI could lead to discrimination in hiring new employees. However, 34.6% of the respondents do not envision AI leading to discrimination in the employment process in Kenya's banking sector. This is evident in the fact that those who disagreed were 26.9%, and the respondents who strongly disagreed were (7.7%).

Further, a majority, 57.7% of the respondents agreed that high utilization of artificial intelligence (AI) raises concerns for future bank employment while 26.9% of the respondents remained neutral.

The research also sought the employees' views on why they believe that AI adoption and use in their banks could threaten their jobs. In response to the question shown in Figure 4, the respondents were asked to select as many applicable options as they wished.

Figure 4

Respondents' Perspective on AI Threats to Job Security



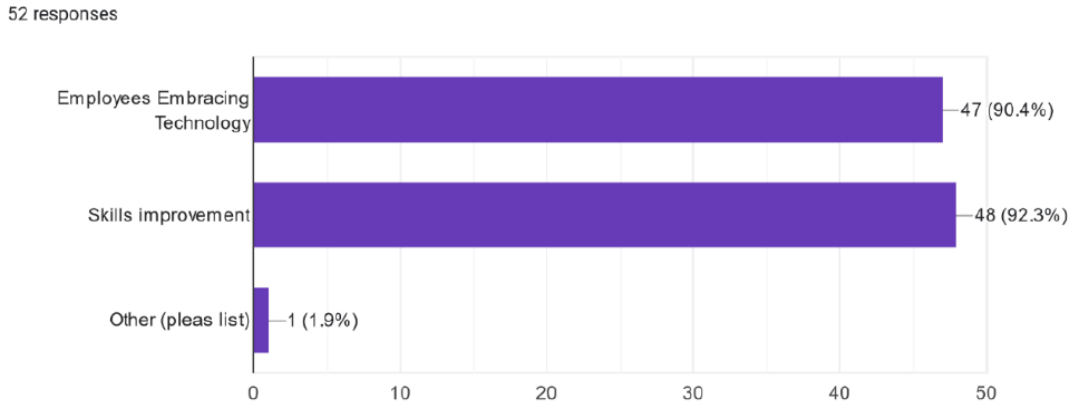
Most respondents (82.7 %) consider the consolidation of tasks for a few workers to be the greatest fear of using artificial intelligence (AI) in the banking industry. This is followed by reduced staff workforce as indicated by 63.5% of the respondents. Lastly, workforce displacement was indicated by 40.4% of the respondents. This findings are further established in the submission of Nasrallah (2021) and Srivastava (2024) that using AI in banking and financial services can help reduce operational costs, boost the efficiency of financial institutions, and eliminate daily routine work, which in turn helps accelerate the innovation cycle.

Employees' Job Security in Kenya's Banking Industry

Figure 5 illustrates respondents' views on job security within Kenya's banking industry. Most of the respondents believe that their jobs could be secured through skill improvement, while others emphasize the importance of embracing technology (90.4%).

Figure 5

Respondents' views on job security through AI adoption



Discussion of Findings

Cybersecurity, fraud detection, and anticipating customer needs, as shown in Figure 2, are the key areas in which banks utilize AI for their operations and customer service. From the survey results, it is evident that AI adoption enables banks to digitize their processes to meet customer expectations, which often exposes banks to the risk of fraud due to the large volume of business and financial transactions and the complexity of their work tasks, which is similar to the study of Nagarajan et al. (2023). Supporting this finding, Lee (2025), Gomstyn, and Jonker (2024) acknowledge that AI processes an enormous amount of sensitive data, such as personal, financial, and biometric information, which demands the implementation of robust data protection measures and ethical practices to safeguard sensitive information. The implication of these results for the banking industry is that data breaches, hacking, and cyberattacks can cause significant and long-lasting damage to businesses, employees, and customers. Thus, fraud prevention using AI technology can become easy and avoid potential threats to business function performance.

The findings in Table 2 show that utilizing AI enhances bank employees' job roles. The results show that the majority (73 %) of the respondents indicated that the AI tool enhanced their job role by improving their job performance and productivity. This has further underscored the importance of AI as highlighted by Mithra et al. (2023). In support of this, Panwar and Punjab (2024) added that despite the mixed reactions of AI adoption in the banking sector by workers regarding job security, AI has the potential to enhance efficiency and customer service.

Furthermore, more than half of the respondents (55.8 %) indicated that utilizing AI does not lead to employee redundancy. This underscores the importance of human capital, implying that the successful utilization of AI in the banking industry is linked to employees who oversee the organization's operations and interactions with customers. The findings agree with Abubakar et al. (2019) and Ali and Atan (2020), who confirm that human capital is critical to sustainable banking performance, supporting innovation, maintaining competitive advantage, managing risk, and adopting technology such as artificial intelligence (AI). Kelly (2019) suggests that significant economies can be achieved in the banking industry by properly managing human capital or supporting tools.

The findings also revealed that most employees acknowledged that the utilization of AI in their banks contributed to the decrease in manual labor. This highlights the advantages of AI, which include automating repetitive tasks, streamlining, and saving time, thus increasing

labor productivity. As a result, in a machine-for-machine employment model, low-skilled jobs will disappear. The implications of this result for the banking sector are cost reduction and operational efficiency. While manual labor decreases to the benefit of the bank, manual labor jobs disappear to the disadvantage of the concerned employees.

Many believe that AI-driven automation has caused job loss. This sentiment is evident from the survey, as expressed by more than half; 54% acknowledged that AI poses a risk to their current employment, as revealed in Table 3. Furthermore, 58.6% of the respondents in Table 3 indicated that the high utilization of AI by banks in Kenya raises concerns about their future employment in the banking industry. Thus, there is growing concern regarding the impact of Artificial Intelligence (AI) and technological advancements on employment stability. The findings highlight the contentious issue of AI's impact on job security, as the World Economic Forum (2020) reports that AI will displace 85 million jobs globally by 2025.

Most (82.7 %) of the respondents in Figure 5 considered **c**onsolidation of tasks for a few workers as the main reason they view AI adoption as a threat to their employment in the banking industry. This is followed by the reduced staff workforce as indicated by 63.5% of the respondents. This finding implies that fewer people can do more with the aid of AI technology. Thus, highlighting the implications of job recruitment in the banking industry, these findings are further established in the submissions of Nasrallah (2021) and Srivastava (2024), which use Artificial Intelligence in banking and financial services to help reduce operational costs. This is supported by Kelly (2019), who argues that bank costs are concentrated in employees and not in factories or manufacturing plants, as in other industries. Thus, with rapidly advancing technology, employees are concerned that their jobs will disappear or are worried about being left behind.

However, the respondents believe that they could secure their jobs in the banking industry in Kenya by embracing AI technology, as reported by 90.4 % of the respondents, and skill improvement, as indicated by 92.3% of respondents, as shown in Figure 5. These findings imply that employees willing to accept the concepts of upskilling and reskilling should not fear job loss. This is confirmed by Acemoglu and Restrepo (2019), who state that AI leads to task displacement and task creation, particularly in complex decision-making, customer interaction, and innovation roles. In addition, the World Economic Forum (2020) reports that AI will create 97 million new roles globally by 2025, primarily for data analysis, AI/machine learning, and digital marketing. This highlights Baldwin (2023) statement that AI won't take the job; somebody using AI will take the job. Acemoglu and Restrepo (2019) suggested that policy interventions such as reskilling can mitigate job loss, and AI may complement human labor rather than replace it outright.

Therefore, bank owners and managers should realize that incorporating AI into banking business also means preparing their workforce. Upskilling employees to work alongside AI systems creates a harmonious environment where human creativity and machine efficiency complement each other. Investing in training programs can help bridge the gap between AI capabilities and employee readiness

Conclusion

This study focused on the perception of bank employees regarding the use of artificial intelligence and the fear of job loss in the banking industry. This highlighted−that the employees had mixed feelings about the utilization of AI, as they perceived that the use of AI have introduced novel opportunities and as well as challenges for banks. The findings revealed that the banks utilize AI in various aspects of operational and customer services but highly in cybersecurity, fraud detection, and anticipating customer needs. Banks' utilization of AI for operational and customer service has contributed to efficient

employee productivity and enhanced job roles. On the other hand, there are areas of concerns on the use of AI as perceived by bank workers, principally the fear of data privacy and security, corporate mind set and lack of consumer trust around artificial intelligence.

The study underscored the importance of human capital, revealing that the bank employees perceived that AI supports them in easing work and improving efficiency rather than replacing them entirely. Further, the respondents perceived that the high utilization of artificial intelligence (AI) in the banking industry raises the fear of job loss as they considered **c**onsolidation of tasks for a few workers and reduced staff workforce as the threats associated with AI utilization in the banking industry. However, the study also revealed that employees believe their jobs could be secured by embracing AI technology and skill improvement.

Limitations of the Study

In conducting this study, the researcher encountered several limitations. Some bank employees interested in participating could not finish the survey due to their demanding schedules and everyday responsibilities. Additionally, there were instances of delayed responses, which might have resulted in biased answers from those who felt pressured to complete the surveys quickly. Participants may have provided answers they believed were favorable instead of being honest.

Moreover, the study had a small sample size, focusing on employees from five banks willing to participate. Therefore, the Association of Kenyan Bankers could conduct future research with larger samples and adopt a mixed-method approach to comprehend the broader perspectives of bank employees on the use of AI and concerns about job security in the banking sector. Therefore, the following recommendations are proposed:

1. Bank employees should embrace AI technologies and upskill to maintain job security in the banking industry.
2. Bank management and the Association of Kenyan Bankers should facilitate the adjustments of the current bank employees as jobs are redesigned to enable their transition to AI-related positions.
3. The Central Bank of Kenya should consider the data privacy and security concerns associated with using AI in the banking industry.

Funding Statement: The author did not receive financial support for this research.

Conflicts of interest: None.

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