

"The impact of AI and Big Data Analytics on Human Resource Management"

A Case Study of Premier Bank Limited

Prepared by:

Azaz Bin Ali Shenaz

ID: 201011096

Supervised by:

Oeshwik Ahmed

Senior Lecturer

School of Business

University of Liberal Arts Bangladesh (ULAB)

Submitted in Partial Fulfilment of the Requirements for the Degree

Bachelor of Business Administration.



Date of submission: January 5, 2025



Student Name: Azaz Bin Ali Shenaz

ID No. 201011096

Major: Human Resource Management

Year: 2024

Phone: +8801989558446

Email: azaz.ali.bba@ulab.edu.bd

INTERNSHIP/PROJECT INFORMATION

Internship

Internship /Project Report Topic: “The Impact of AI and Big Data Analytics On Human Resource Management: A Case Study of Premier Bank Limited”

Term (Tick one):

☐ Spring 2024

☐ Summer 2024

☒ *Fall 2024

SUPERVISOR APPROVAL

(Tick One)

☒ Approved

☐ Not Approved

☐ Partial Re-write

☐ Full Re-write

Remarks (For Not Approved): _____

Signature:

Date: 4/1/2024

Name: Oeshwik Ahmed

E-mail: oeshwik.ahmed@ulab.edu.bd

PLAGIARISM DECLARATION

1. I know that plagiarism means taking and using the ideas, writings, works or inventions of another as if they were one's own. I know that plagiarism not only includes verbatim copying, but also the extensive use of another person's ideas without proper acknowledgement (which includes the proper use of quotation marks). I know that plagiarism covers this sort of use of material found in textual sources and from the Internet.
2. I acknowledge and understand that plagiarism is wrong.
3. I understand that my research must be accurately referenced.
4. This assignment is my own work, or my group's own unique group assignment. I acknowledge that copying someone else's assignment, or part of it, is wrong, and that submitting identical work to others constitutes a form of plagiarism.
5. I have not allowed, nor will I in the future allow, anyone to copy my work with the intention of passing it off as their own work.

Name Azaz Bin Ali Shenaz

ULAB ID # 201011096

Signature Shenaz Date: January 4, 2025

Name: Oeshwik Ahmed
Phone: +8801717843819

Email: oeshwik.ahmed@ulab.edu.bd

Letter of Transmittal

January 4, 2025

Oeshwik Ahmed

Senior Lecturer

School of Business

University of Liberal Arts Bangladesh (ULAB)

Subject: Submission of Project Report

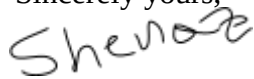
Respected Sir,

It is my pleasure to submit the Project Report titled “The impact of AI and Big Data Analytics on Human Resource Management: A Case Study of Premier Bank Limited”. This report has been prepared under your guidance as a requirement for completing my Bachelor of Business Administration degree, majoring in Human resource management, at ULAB.

The report focuses on AI and Big Data Analysis affecting the HR department of the Banking sector. I have followed your instructions and incorporated both primary and secondary data to ensure its relevance and accuracy.

I sincerely thank you for your guidance and support throughout this process. I hope this report meets your expectations, and I am available to clarify or discuss any part of it if needed.

Sincerely yours,



Azaz Bin Ali Shenaz

ID: 201011096

BBA Program

ULAB School of Business

University of Liberal Arts Bangladesh (ULAB)

Abstract

Technology is growing quickly in Bangladesh, and it's time for the HR sector to make use of Artificial Intelligence (AI). HR professionals need to adapt to this new era of AI. Big data helps companies analyze important information and make better decisions. AI has many benefits, such as improving efficiency, saving time, generating new ideas, and detecting fraud. Universities and companies should include AI and big data in their training programs to prepare future workers. However, AI also has challenges, like data security risks, especially in developing countries like Bangladesh. AI can't fully replace humans, as people bring ethics, experience, and understanding of workplace culture. Many believe AI will never fully replace humans because decision-making requires human thought, ethics, and awareness of changing factors. To keep up with AI, we need rules for how it's used in private and government sectors. While AI can make work faster and smarter, human skills will always be important. AI brings challenges like data security risks. AI can't fully replace humans because decision-making needs human judgment. Human skills will always be necessary, even as AI continues to improve work. AI can be a powerful tool in the near future and will be used more broadly. However, currently in our country, the use of AI is limited to basic administrative tasks. In the future, companies will rely more on AI to handle most of their work, including training programs, administrative tasks, and employee evaluations. This is because AI tools are more efficient and save time.

Key words: Artificial Intelligence, HR, Technology, Training, Data security, Big data, decision making, Ethics, HR changes.

Table of content

Chapter One: Introduction

1.1 Background of the study...	2
1.2 Artificial Intelligence in Banking.....	3
1.3 Benefits of AI in Banking... ..	4
1.4 Challenges of AI in Banking.....	5
1.5 Big Data Analysis in Banking.....	5
1.6 Objectives of the study.....	6

Chapter Two: Literature Review.....7

Chapter Three: Methodology

3.1 Type of data.....	10
3.2 Data Sample Size	10
3.3 Sampling Techniques	11
3.4 Limitations of Data Collection.....	11
3.5 Model	11

Chapter Four: Findings and Discussion

4.1 Demographic Information	12
4.2 Comparison and Analysis	17
4.3 Software Used by the respondents	19

Chapter Five: Conclusion.....21

Chapter Six: Bibliography..... 22

Chapter Seven: Appendix

Transcript of Questionnaire... ..	25
-----------------------------------	----

Chapter one: Introduction

The 21st century has brought big changes to our world, mainly due to Artificial Intelligence (AI). With the rise of new technologies, companies are using AI, automation, and the metaverse to improve different industries. AI is already a part of our daily lives in things like smartphones, cars, home appliances, navigation systems, security systems, banking, retail, and customer service. For a small but growing economy like Bangladesh, AI is a big step toward digital progress, and using technology is now necessary, not just a luxury. Many businesses in Bangladesh still use old methods, but I can save money and help with things like training employees, performance reviews, planning, and motivation. The banking industry, in particular, should start using AI to stay ahead. AI makes work easier and faster, helping businesses make better decisions and improve productivity. In HR, AI can help with analyzing data, performance evaluations, training, scheduling, and employee satisfaction. As AI continues to grow, it's clear that all industries need to keep up with these changes and stay updated on AI's progress. The progress of Artificial intelligence indicates that day by day they are dominating every industry in this modern time and every industry should take steps to cope with this technological revolution. As a result, it is now mandatory to keep updated about this technology and its development. In the near future, AI will no longer be a luxury but an essential technology for every organization. AI is capable of building strong relationships with consumers and can respond quickly whenever a customer needs assistance. This technology is fast and accurate, and every company should take steps to adopt it in order to compete in this new technological era. AI has had mostly positive impacts in most cases.

This study seeks to present the impact of AI and Big data analysis On Human resource management based on Premier Bank limited, Bangladesh. The report summarized the satisfaction level of employees and challenges faced while using these AI features, risk factors of using these features etc.

1.1 Background of the Industry

An intelligent agent that acts after receiving perpetual information from its surroundings is referred to as artificial intelligence. Each of these intelligence agents has implemented a set of programs that translate the action to the detecting process from the external perspective. These function sets show the external perspective. These function sets reflect the external intelligent agent's features. The smart agent operates on its structure and internally realizes intelligent agent functions (GuoRong Hu and Hui Liu, 2020). During a meeting held at Dartmouth University in 1956, academics systematically introduced the new technology "Artificial intelligence". That event marked the starting of a new technology of study that examines how artificially a machine can copy intelligent human activities (Caiming Zhang, 2021). To create new sources of organizational value, organizations worldwide are actively looking for new analytics tools and innovative techniques to enhance their decision-making abilities: Artificial intelligence (AI) is among these technological advancements (Baldegger et al, 2020 Johnson et al, 2021). AI refers to technologies that enable computers to mimic human capabilities, such as learning, adapting, interacting, and optimizing (Chedrawi & Haddad, 2022). AI has already started to reshape the labor market, with humans either working alongside AI or being replaced by it in certain roles and situations (Wibowo et al, 2022).

AI has already started to be used in many organizations and through Artificial intelligence organizations are doing many important things in their HR sector. Although HRM is traditionally seen as more focused on people than on data, Davenport argues that it has become one of the most analytics-driven functions in modern organizations (Davenport, 2019). Given this growing reliance on data analytics, HRM is well-suited for the integration of AI technologies. AI is already being utilized across a wide arrangement of functions within organizations, including finance, and human resources management, among others. In a recent study, Nguyen identified five key study areas concerning AI in business: AI and Organizations, Markets, Groups, Individuals, and Development. They also pointed out the relatively limited academic research on AI at both the individual and organizational levels, despite the growing interest in AI among professionals in various fields. Human Resources Management (HRM) is one such area where this gap is evident (Nguyen et al., 2022).

The definition of Big data in recent years has changed the decision-making pattern (Okrushko et al, 2023). The gathering of big and detailed datasets has received more attention recently with a focus on the important part that big data plays in improving the effectiveness of HR regulations. (Klein et al., 2023). To better understand employee behavior and maximize the effects of HR policy, human resource managers can utilize big data to analyze a variety of data types, including employee transaction records, performance reviews, and other useful data (Song & Ullah, 2023). Big data specifically helps with recruitment by enhancing recruitment procedures. (Kumar et al., 2021). Big data analytics can identify patterns of employee achievement, predict how well they will perform going forward for the company, and provide information about the qualities of candidates that best fit the objectives of the company (Bai, 2022). Big Data, which provides useful data from the study of huge and complex datasets, has become a promising tool for improving HR decision-making (Gravili et al., 2023).

1.2 Artificial Intelligence in Banking

The banking industry is tremendously influenced by AI technology. AI has been widely used in multiple areas of banking, with both significant advantages and challenges in banking suggesting that banks are responsible for the success of this technology in important fields (Aaliyah et al., 2023; Svoboda, 2023):

- **Customer service and engagement:** Banks use AI technology in customer service to lower costs and improve customer satisfaction (Praveen,2017). Banks have already started to use AI to measure their customer satisfaction and what improvement needs to be done to their function. This system supports 24/7 for customers. AI always supports customers whenever they need the service because virtual assistants can cope with the primary situation.
- **Credit Scoring:** AI can count the data accurately compared to humans in terms of credit scoring. AI technology plays a big role. AI can identify risky data and risky patterns.
- **Fraud detection:** AI can find risky pattern transitions and risky data to find fraudulent activities that can help banks prevent unnecessary risks (Harry et al., 2023).
- **Personalized Banking Experience:** AI can suggest appropriate loans for the customer and appropriate amounts for the customer.

→ **Operational Efficiency:** By observing the transition pattern AI can detect unlawful transactions (Svoboda, A. 2023).

1.3 Benefits of AI in Banking

AI continues to play a vital role in the banking industry and the banking industry is getting benefits from this technology

- **Enhanced Efficiency:** I can analyze data more accurately than humans and they can complete tasks in less time than humans. It helps to save costs and future growth for the bank (Sharma, 2023).
- **Cost Savings:** By using AI technology banks can use their data more effectively and they can analyze their data more accurately (Kamal, 2021).
- **Enhanced Customer Experience:** AI technology gives continuous client support which is the reason to increase the good relationships between customers and organizations. It increases customer satisfaction with the organization (Tulcanaza-Prieto et al., 2023).
- **Improved Security:** The banking sector places a high importance on security since it is an easy target for fraud and cybercrime. AI has now grown up as an important technique for defending against attacks on the internet. Banks can protect their resources and protect their image by using AI in fraud detection (Joseph & Thomas, 2023; Tulcanaza-Prieto et al., 2023).
- **Enhancement of Decision-Making Process:** AI can detect the factors where organizations need to focus and which sector they need to improve (Sharma, 2023). The use of AI advanced data processing helps banks in the decision-making process and the company's future growth (Khatab, 2020)

1.4 Challenges of AI in Banking

There are many advantages of AI in the banking sector but there are some drawbacks:

- **Privacy of Data:** The use of AI requires access to vast amounts of sensitive customer data, raising concerns about data privacy and security.
- **Implementation cost:** AI system development can be costly, requiring large investments in infrastructure, technology, and continuing support.
- **Skilled workforce:** Banks prefer qualified employees with knowledge of artificial intelligence. It can be challenging to attract and keep talented AI experts, especially for organizations with a smaller amount of resources.
- **Employee Training:** Smaller banks might find it more difficult to provide AI training programs for their employees, which would make it more difficult for them to compete with bigger companies for top talent (Harry et al., 2023).

1.5 Big Data Analysis in Banking

Big data analytics gained much attention from organizations, especially in the banking industry. It is used as a way of finding the customer value and it is a technique to discover hidden knowledge. Big data analytics have the potential to gain many financial benefits find out fraudulent transitions and protect from cybercrime (Naveira et al.,2018). Banks store a lot of data compared to other business organizations and the quality of data is better than other companies. This is because customers need precise information to get the services. Banks usually track their customer data through online and in personnel channels (Ngai, Xiu & Chau,2009). Organizations can use big data analytics by developing a data-oriented culture, information management skills, and analytics tools (Kiron et al., 2011). Companies collect and analyze big data to get to know about their customer's needs and their business and market environment. So, they can measure the market, and based on that they can make effective decisions. Many banks find it difficult to expand big data analytics applications. Many senior bankers think that expanding this application might not be worth it. Many bank industries by using this application are achieving their goals. In this period banks have to use these applications because the size of the data is huge and the competition in the market is increasing than before (Garg et al., 2017). One of the major challenges for big data analysis is to find the correct data and useful information from the huge amount of data (Abinaya, 2015). For big data analysis, banks need to provide accurate data, quality data, and secured data that helps to do the job properly. As a result, even though banks see the value of Big Data Analytics these challenges stop them from using their large amounts of insecure and low-quality data (Shaw, 2013).

1.6 Objectives of the study

This paper aims to narrow down the present scenario of Artificial Intelligence and Big Data Analysis specifically in the Banking sector of Bangladesh. The objective of this study is divided into two categories-

- a) **Primary objective:** The primary objective of the study is to gain insight into how AI and Big data analysis have made a difference in the banking sector.
- b) **Secondary objective:** The secondary objectives are listed as follows-
 - To know about the general work responsibilities of the HR department.

- To dig into the perception of Professional HR employees towards Artificial Intelligence (AI) and Big Data Analysis.
- To gain insight into the types of software used by the HR department and the AI features of these systems.
- To understand the challenges of implementing HR systems with AI features across various organizations.
- To explore the grounds of the belief that AI might replace HR employees' activities at the root level.

Chapter Two: Literature Review

Due to the technological revolution, Banks have been changing to digital transformation. For Banks to implement this transformation it is now necessary that they increase administrative operations. Focusing on the consumer and creating better service techniques both are equally important. Based on data solutions can now offer better customer service because of Big data analytics and artificial intelligence. This technology has made it easier to develop a lot of new features, which has increased customer interest. The research indicates that Artificial intelligence and Big data analysis are used in Banking operations in Bangladesh as well as globally (Indriasari, Gaol, & Matsuo, 2019). With the usage of AI, banks can reduce credit risk, enhance payment security, automate compliance-related operations, and boost overall business performance (Königstorfer & Thalmann, 2020). AI is also doing employee monitoring by doing their performance evaluation. Though managers are responsible for monitoring employees' performance because of AI technology, computerized monitoring has increased rapidly (Bales & Stone, 2020). AI technology adoption can redefine traditional banking processing. AI promotes new ways of connecting with customers, understanding their expectations, and adjusting to robust services provided by banks to stay ahead of the competition. AI gives quick responses to the customer in a variety of events. AI and Big data together can make banking operations more efficient. Big data platforms offer the technology required for keeping and managing the huge amount of data that artificial intelligence systems need to develop and generate accurate predictions. Combining Big data analysis and Artificial Intelligence allows banks to prevent fraudulent transitions, measure customer satisfaction, customer loyalty, and customer experience, and drive creativity. The banking sector focuses largely on Big data which mixes Artificial Intelligence with huge amounts of data to enhance productivity and make improved decisions that align with the organizational goals. Large amounts of data are maintained by AI-driven technology and create better models for data and better financial decisions made by AI technology (Chui, Manyika, & Miremadi, 2018). Research also indicates that Big data analysis is the key element of the banking industry in the future because of its smart management system (Rajaraman & Mookerjee, 2020). Ai-based judgements are more efficient than humans. Big data

is an essential tool of a bank that helps banks better understand their customer needs and expectations. Everyday Banks receive huge amounts of data from customer transitions and other activities. By investigating this data banks can get a clear perspective about their customer needs and what they like. This view can help banks to offer their customer service like what they really like. Banks can offer their customers the best loan, easy installments, and financial products for each person based on their situation (McKinsey & Company, 2018). Another very important thing big data can do is detect fraud dental transitions. Artificial intelligence is able to handle large amounts of data quickly and which can help banks to find out suspicious transactions. AI can help to do tasks like loan applications, answering customer services. It helps to bank faster and securely. AI also helps to save time and because of AI banks are making less mistakes and customers are more satisfied (Brynjolfsson & McAfee, 2017). AI and Big data can predict customer suspicious movement for example AI can identify signs of fraud in real time, while Big Data can track trends in customer's behavior to spot potential fraud. For example, if a customer's transaction pattern suddenly changes from a tiny amount of money to a large amount of money, AI will notice this and prevent potential fraud ((Bose, 2021). The combination of AI and Big Data helps in the banking sector to enhance customer experience and customer satisfaction. Because they are getting fast services, they are getting trendy and new services, banks are offering new services and customers are benefiting from those. AI and Big Data help banks to stay competitive in the market. In recent times customers expect fast service so AI and Big Data are providing this secure and fast service and help banks in many security issues like finding fraud transactions, by spotting patterns in how customers behave, banks can predict which customer will pay back the loan. Big Data banks can easily find the customer expectations and they can take steps on those and they can offer new services, improve existing ones and these tools help banks to make better decisions based on the data (Davenport et al., 2020). AI helps banks to provide new solutions or more customer friendly solutions for example, by checking the customer spending patterns, transitions history and customers desire AI can suggest services that fit their needs. Based on these, AI can suggest to a customer which savings plan they can choose and how they will spend their money and their future goals. So, it makes customers feel more confident and improves their overall banking experience (Huang & Rust, 2021). Artificial Intelligence is becoming an important tool for banks and financial institutions to fight against fraud and wrong doing. Fraud has been a big problem for the financial industry for many years,

and it keeps getting worse. For example, in 2016, 15.4 million people in the U.S. were victims of identity theft, leading to \$16 billion in losses, much of which came from credit card fraud. To better detect and stop fraud before it happens, banks are using machine learning. Unlike people, machine learning can quickly go through large amounts of transaction data, finding patterns and suspicious activities faster and more accurately (Jouini, Ben Ghalia, & Atri, 2017).

Chapter Three: Methodology

3.1 Type of Data

This study falls mainly in the qualitative and quantitative categories. To fulfill the objectives of this study, two types of data are collected:

- **Primary Data:** Primary data, also known as pure raw data, are data which has no statistical operations performed on them. These data are collected by the researcher himself/herself through specially designed interviews. For this study, primary data has been collected via interviews and a structured questionnaire, the transcript of which has been attached in the appendix for reference. The questionnaire consisted of short questions and detailed interviews.
 - ◆ Primary data was gathered through face-to-face interviews with six professionals from various departments of Premier Bank Limited. A structured questionnaire, consisting of 15 short and detailed questions, was used to guide these interviews. The interviews focused on topics such as the software used in HR, the adoption of AI tools, and their impact on banking operations.
 - ◆ Interview responses were recorded, transcribed, and analyzed using thematic analysis. Key themes, such as the effectiveness of AI tools in streamlining HR activities, were identified and documented for further interpretation.
- **Secondary Data:** Secondary data is information that has already been collected for a different purpose. Researchers use this data to answer new questions or look at a topic in a different way.
 - ◆ Secondary data was sourced from research articles, blogs, online newspapers, and websites. These sources provided contextual information and supported the primary data findings. All secondary data sources are cited in the bibliography following APA 7th edition guidelines.

3.2 Data Sample Size

The main goal of this research is to understand how AI and big data analysis have impacted the banking industry. To gather primary data, six professionals from different departments were randomly selected and interviewed. These individuals included HR professionals and people at mid and senior levels within the organization

3.3 Sampling Techniques

I selected employees from Primer Bank Limited Bangladesh as the target group for my research sampling. HR managers, employees, and the foreign exchange department participated in the sampling process. A mixed-method approach was employed, incorporating quantitative methods, such as short questionnaires, and qualitative methods, like more detailed interviews, to ensure a better understanding of the research.

3.4 Limitations of Data Collection

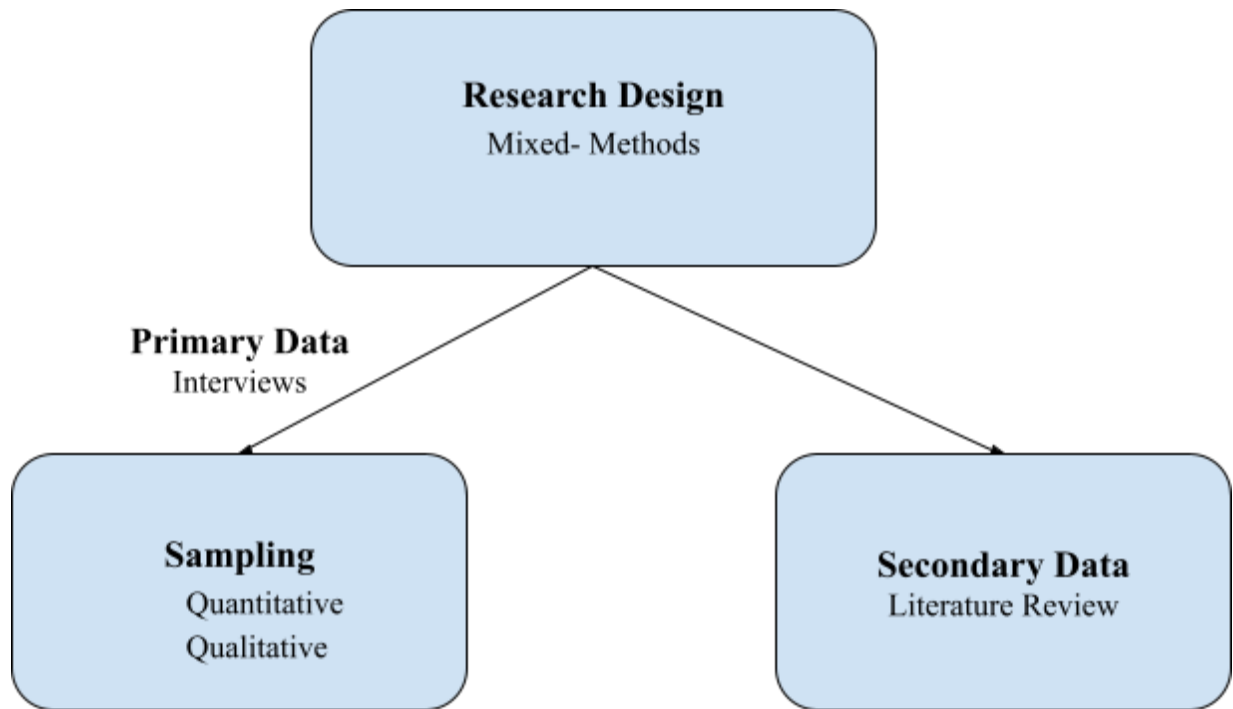
Despite the positive engagement of all participants, the study faced several limitations:

- The sampling technique was convenience-based, which may not represent the broader banking industry.
- The small sample size limits the ability to generalize findings to other organizations or sectors.
- The focus on a single bank narrows the scope of the study.

To address these limitations, future research should:

- Include multiple organizations to provide comparative insights.
- Use stratified random sampling to ensure a more representative sample.
- Incorporate larger sample sizes for greater statistical validity.

3.5 Model:



Chapter Four: Findings and Discussion

4.1 Demographic Information

Six employees from the Human Resources (HR) department and Foreign currency department of a Premier Bank in Bangladesh were interviewed to gather information on the relationship between Artificial Intelligence (AI) and their respective professions. All the respondents are Bangladeshi citizens. I asked them a series of questions, and they provided their responses as follows:

Question	Answer
→ How has AI changed the banking work at Premier Bank?	Premier Bank hasn't used AI yet. They think banking, especially customer service, needs a personal touch. While technology can help, they believe some tasks are better done by people who can build relationships and make thoughtful decisions.
→ What are the main benefits of using AI?	Premier Bank sees how AI could help with tasks like making reports, handling disciplinary issues, and writing letters. But they believe it's important for people to check these tasks to make sure everything is accurate and personal.

→ Can you tell me what the HR department does at Premier Bank?	key functions of HR department: - Recruitment: HR collects CVs, sorts through them, arranges interviews, and selects the right candidates. Once hired, HR decides which branch the new employee will work at. - Payroll and Benefits: HR ensures employees are paid on time and determines salary increases based on the economy. - Promotions: HR handles promotions and adjusts employee salary structures accordingly. - Disciplinary Issues: HR manages complaints, issues warning letters, and handles employee concerns. - Employee Contracts: HR manages temporary employee contracts and replacements. - Internal Announcements: HR is responsible for communicating company updates and policies to staff.
→ How do you feel about using AI and Big Data in HR work?	Premier Bank uses tools like Excel to manage and analyze big data. They don't rely on AI for this and prefer to handle the data manually, using human judgment to find the most important information. This confirms the data is used properly.

→ How has the role of the HR department changed with the use of new technology like AI?	Premier Bank believes that even with new technology, HR still needs human involvement. They think tasks like hiring, promotions, and dealing with employee concerns are best handled by people. Because of this, AI hasn't really changed how HR works at the bank.
→ What software does HR use at Premier Bank to manage employee information?	HR uses a software called "Scaled" to keep track of employee records. It helps manage everything, from personal details to work history, and is updated regularly to make sure the information stays accurate.

→ Do any of the HR software systems use AI? If so, how does it help?	No, Premier Bank doesn't use AI in their HR software because they're concerned about privacy. While AI could make things more efficient, they worry about the security of employee data. They prefer to have people check the process to make sure the information is safe and accurate.
→ What challenges has Premier Bank faced while using AI in HR?	They haven't faced many challenges with AI because they do not rely on it much. They prefer human decision-making.
→ How do you manage the changes when introducing AI in HR?	AI is not used much in important HR tasks at Premier Bank. It's mainly used for writing reports, handling disciplinary issues, and generating basic reports. Other HR tasks are done manually because they believe human involvement is key to making accurate decisions.
→ Do you think AI could take over some HR jobs in the future?	Premier Bank employees don't think AI will replace HR employees. They're worried about data privacy and they think people are better at understanding employee needs and handling complex data.
→ What HR tasks do you think AI can do well and what still needs a human touch?	AI is good for tasks like making reports, handling disciplinary issues, and writing letters. But for important decisions like hiring and employee issues, humans are still needed. So far, AI hasn't caused any major problems in banking.

→ Are HR employees worried that AI might replace their jobs at Premier Bank?	They're not really worried about AI taking their jobs. They said AI is great for things like writing reports, but when it comes to the more personal and human side of the job, it still needs a real person. So, for now, they see AI as a helpful tool, not a threat.
→ How does Premier Bank make sure the human touch is kept while using AI in HR?	Premier Bank uses AI for simple tasks like making reports, but for important things like hiring or solving employee problems, they make sure HR departments are involved to keep things personal.
→ How does a premier bank balance using AI and keeping human workers in HR?	They use AI for generating reports and handling basic administrative work, they still rely on humans for important HR decisions like hiring and addressing employee issues.

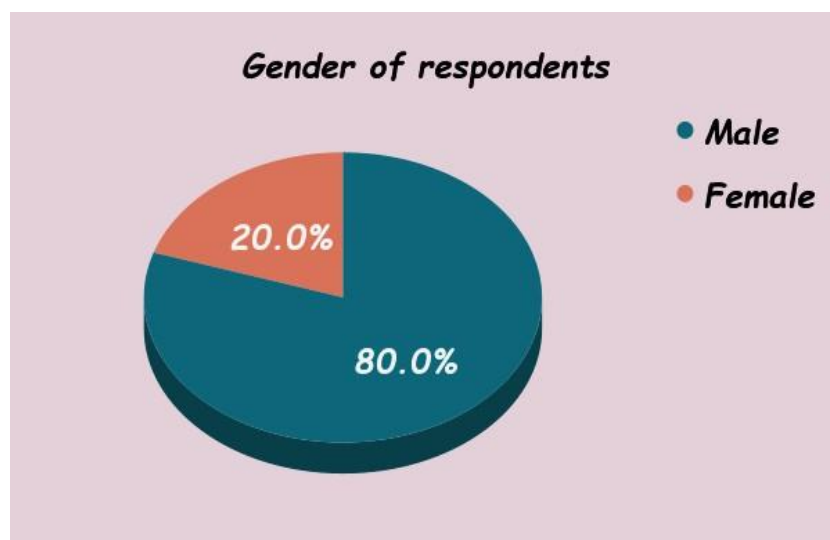


Fig 1: Gender of respondents

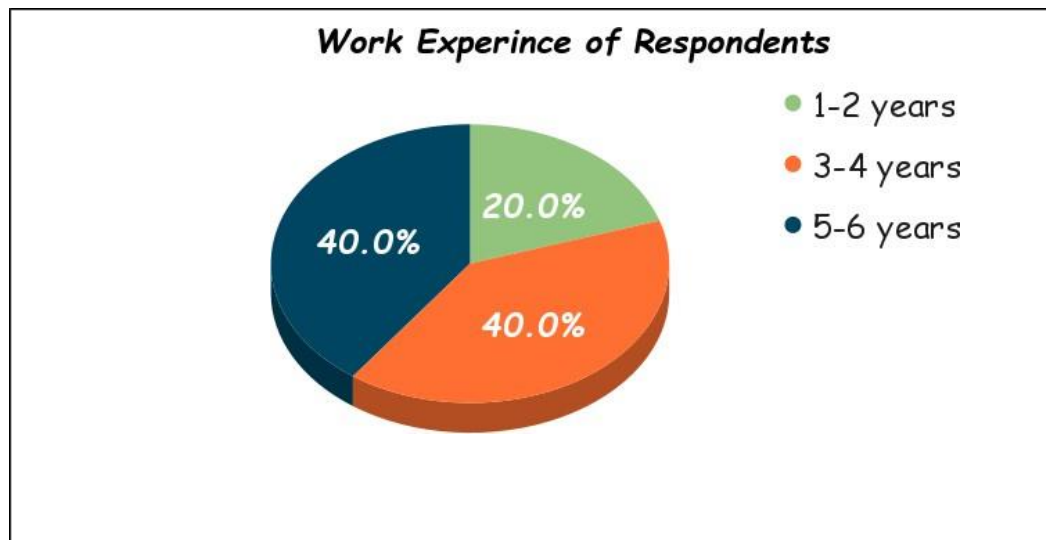


Fig 2: Work Experience of Respondents

As shown above, respondents have work experience of 1 to 6 years. The majority of the respondents are male. They work in the HR department and I also interviewed one of their Foreign currency department employees and he told me about CBS and Bank ultima's.

4.2 Comparison and Analysis

Participants were asked about challenges they faced while fulfilling their job responsibilities using an AI system. The analysis revealed that 80 percent of respondents provided positive feedback about the use of AI in the HR department. They highlighted AI's ability to streamline tasks such as generating reports, handling disciplinary issues, and analyzing data, which allows HR professionals to focus on higher-value responsibilities and strategic projects. Big data also plays a significant role in helping the HR department swiftly analyze large amounts of information, enabling informed decisions regarding salary increases, promotions, and employee evaluations.

Based on their requirements they find the important information from Big data. AI is more accurate and faster than human touch. AI makes sure that repetitive tasks like writing reports or disciplinary letters are done correctly and consistently, reducing human error. By automating basic tasks like disciplinary issues and managing writing tasks AI can reduce the cost of administrative work. AI can also track the attendance of employees and they can evaluate employee performance so; that premier banks can use AI to evaluate employees' performance evaluation. AI has the potential to complete administrative work by automating processes like monitoring disciplinary actions, creating reports, and keeping track of attendance. This makes the space for HR professionals to look after the other employees' development and organizational planning. Big Data is also essential for the HR department's ability to swiftly evaluate huge amounts of data, helping in their decision-making about pay raises, promotions, and other important matters.

However, 20 percent of respondents expressed concerns about data security. They emphasized that using AI tools to manage sensitive employee information might lead to privacy issues and potential security risks. While AI has proven useful for administrative tasks, the respondents agreed that these results still need human review to ensure accuracy and personalization.

In an interview with the HR team at Premier Bank, employees shared that AI hasn't caused any negative impact yet, but they still have some concerns. One big concern is data privacy. The HR team is concerned that using AI tools to handle important employee information could lead to privacy issues. They're also concerned that sharing data with AI might make it less secure. They

also agree that AI can help save time and make tasks like generating reports or processing data faster. However, they mentioned that the results still need to be reviewed by humans to make sure everything is accurate and personal.

The respondents collectively deduced that AI cannot replace HR employees due to the complex and judgmental nature of many HR functions, such as hiring, addressing employee concerns, and ethical decision-making. These tasks require a level of understanding, empathy, and adaptability that AI cannot replicate. While AI may reduce the need for HR employees to perform repetitive bookkeeping tasks, it cannot replace higher-value responsibilities that demand human expertise.

Moreover, the HR team highlighted that their roles might evolve as AI becomes more integrated into the workplace, but their presence will remain essential. They noted that regular updates in the organizational environment often require nuanced human intervention to adapt to unique changes. Respondents agreed that while AI can effectively handle simple tasks like writing reports and disciplinary letters, it cannot function as an independent system. Decision-making, a core responsibility of HR, often involves ethical considerations and historical context that AI cannot provide.

While they think AI might work well in other areas of the bank, the HR team feels it's not fully suitable for HR. Many HR tasks, like hiring and solving employee problems, require a human touch and understanding that AI can't provide. HR team at Premier Bank sees AI as a helpful tool for simple tasks, but they believe that human judgment and data privacy are still essential in HR work.

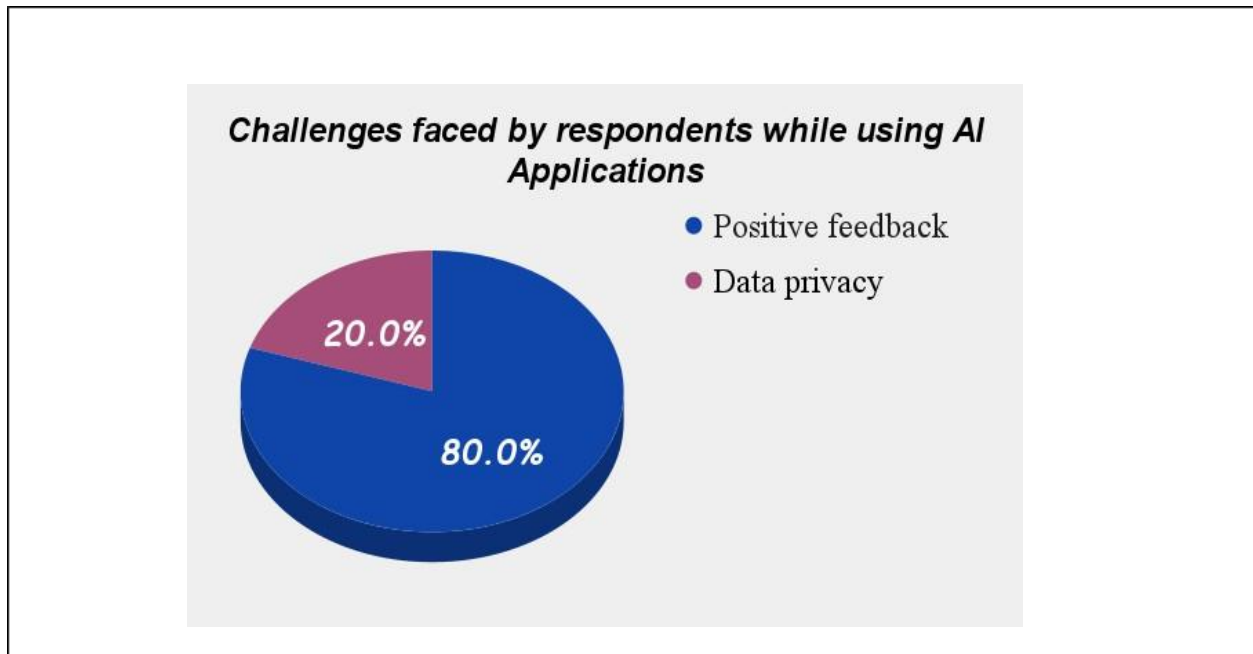
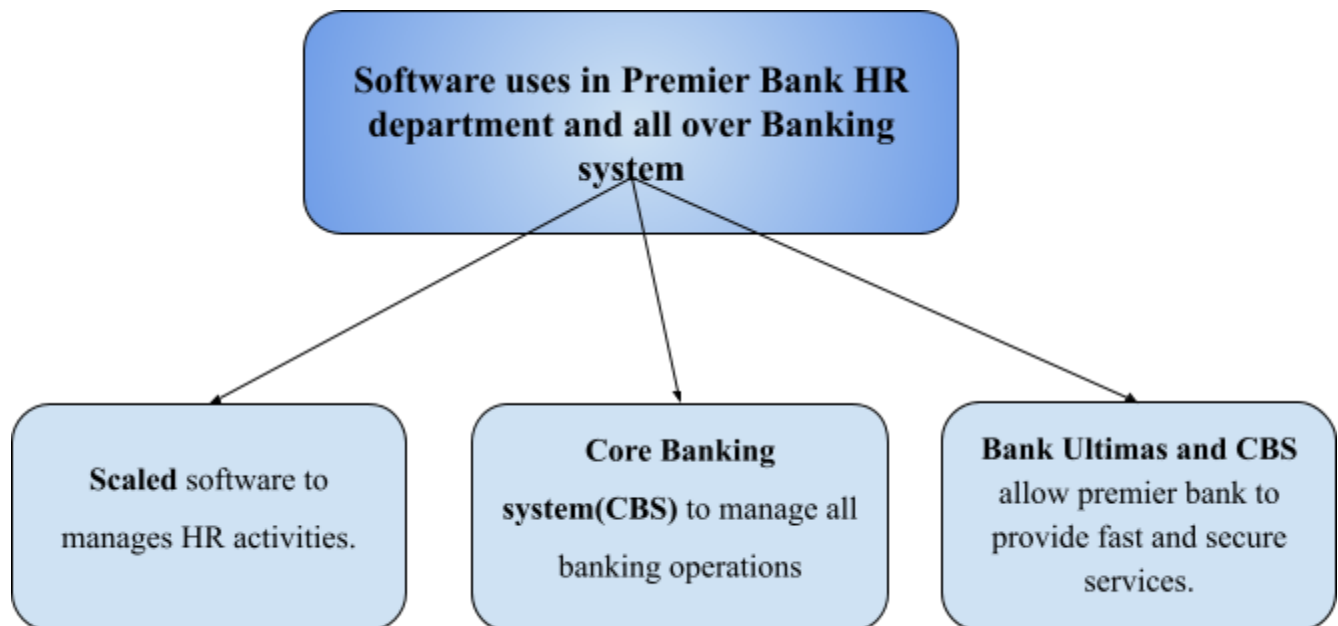


Fig 3: Challenges faced by respondents while using AI applications

Participants were asked about challenges they faced while fulfilling their job responsibilities using an AI system. So, 80 percent of respondents had positive feedback about the use of AI in the HR department. Moreover, regular updates of the environment are introduced frequently where a human is more fit to deal with these unique changes. AI may reduce the need for HR employees to do process-driven or repetitive bookkeeping tasks, but not higher-value HR tasks. All the respondents share the view that any AI system can never be an independent system. However, they agree with the fact that AI can be a good replacement for report writing, disciplinary letters, and other simple administrative jobs. One of the major factors of the HR department is decision making so AI cannot think ethically, about past issues to make fair decisions. An AI system will fail to provide a distinctive solution without the expertise of human professionals. This clearly shows that AI could not possibly replace HR employees shortly.

4.3 Software Used by the respondents



- **Scaled Software:** HR manages all employee records accurately and easily with an application called "Scaled." With details of an organization like evaluations, and training records, this platform also records many kinds of personal contacts and addresses. The goal of Scaled is to improve the HR system so that employees in HR have simple access to any updated employee information. Additionally, by combining a variety of HR management facts, such as hiring, performance reviews, and promotion, Scaled helps HR managers to maintain an organized, productive, and user-friendly environment.
- **Core Banking System(CBS):** Most banks in Bangladesh use advanced Core Banking Systems to manage day-to-day banking operations, including account management, transactions, and reporting. This centralizes all banking activities, enabling better management of customer accounts and services. Core Banking System (CBS), which is regularly upgraded to enhance operational efficiency. Integration of offshore banking, trade finance automation, and digital payment systems like "P" money apps. Seamless integration ensures the free flow of data across departments, leading to improved efficiency, better decision-making, and enhanced customer service.

→ **Bank Ultimas:** Bank Ultimas that helps manage the key operations of its banking system. It works together with the Core Banking System (CBS) to process transactions quickly and securely. Bank Ultimas helps make sure everything runs smoothly, from basic deposits and transfers to more complex tasks. It also keeps customer data safe, ensuring both the bank and its customers are protected. Together, CBS and Bank Ultimas allow Premier Bank to provide fast, reliable, and secure banking services to customers at all branches.

Chapter Five: Conclusion

In Bangladesh, many big industries are starting to use AI technology as part of the competition globally. Companies, especially in areas like mobile finance, are seeing better productivity thanks to AI tools. However, smaller businesses find it harder to set up and use AI. There is also a lack of skilled workers and knowledge to manage these systems, which is a big challenge in a developing country like Bangladesh. Other problems like poor internet connections also make it harder to use AI. AI is a tool that is changing our society. Rich and powerful countries use AI a lot because they have more money and resources. In Bangladesh, we use AI on a very small scale because we don't have the same resources or enough skilled workers. To start using AI, we need to train our employees and use the technology in a positive way. Instead of using it for spreading rumors or cyberattacks, we should focus on using AI as a tool to save time and do our jobs more accurately in different sectors. AI has the chance to change industries if used correctly. It can improve business operations and create new growth opportunities. But AI can't replace HR workers because human judgment is needed for things like employee decisions. While AI can do some tasks more quickly, HR professionals will still be needed to make decisions that involve ethics and understanding of the workplace. Before using AI, companies need to train their workers to avoid problems. While AI can save time and improve efficiency, there is still a risk of losing data security. Most HR workers agree that AI should help them, not replace them. Businesses need to adopt AI to stay competitive and innovate. AI can help companies improve their strategies, build better customer relationships, and find new ways to grow globally.

As AI continues to improve, it has the potential to change many industries in Bangladesh, helping the economy grow and driving innovation. But more research is needed to figure out the best ways to use AI and what are the benefits of using AI.

Bibilography

- Baldegger, R., Caon, M., & Sadiku, K. (2020). Correlation between entrepreneurial orientation and implementation of AI in human resource management (HRM). *Technology Innovation Management Review*, 10(4), 72-79.
- Bales, R. A., & Stone, K. V. W. (2020). The invisible web at work: Artificial intelligence and electronic surveillance in the workplace. *Berkeley Journal of Employment & Labor Law*, 41(1), 1-62.
- Bose, R. (2021). "Big Data and Artificial Intelligence: A New Era for Banking Security." *International Journal of Computer Applications*, 175(1), 12-19
- Chedrawi, C., & Haddad, G. (2022). The rise of quasi-humans in AI fueled organizations, an ultimate socio-materiality approach to the lens of Michel Serres. *Pacific Asia Journal of the Association for Information Systems*, 14(2), 5-24.
- Chiu, S. S., & Chan, T. (2018). *Big Data Analytics in Banking: Opportunities and Challenges*. *International Journal of Bank Marketing*, 36(6), 1032-1048
- Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). "How artificial intelligence and Big Data are transforming the banking industry." *Journal of Strategic Marketing*, 28(6), 486-502.
- Davenport, T. H. (2019). Is HR the most analytics-driven function? *Harvard Business Review Digital Articles*, 2-4
- Garg, A., Grande, D., Macias-Lizaso, M. G., Sporleder, C., & Windhagen, E. (2017). Analytics in banking: Time to realize the value. *McKinsey & Company*. Retrieved October 26, 2018, from <https://www.mckinsey.com/industries/financial-services/our-insights/analytics-in-banking-time-to-realize-the-value>
- Huang, M., & Rust, R. (2021). "AI in service management and customer experience: Opportunities and challenges." *Journal of Service Research*, 24(3), 245-258.

- Harry, O., & Thomas, J. (2023). Data Governance's Vital Role in Mitigating AI Risks in Banking
- Indriasari, E., Gaol, F. L., & Matsuo, T. (2019). Digital banking transformation: Application of artificial intelligence and big data analytics for leveraging customer experience in the Indonesian banking sector. In *Proceedings of the 8th International Congress on Advanced Applied Informatics (IIAI-AAI)*. <https://doi.org/10.1109/IIAI-AAI.2019.00175>
- Joseph, O., & Thomas, J. (2023). Quantum Leap in Data Integrity: AI/ML's Impact on Banking Security.
- Jouini, M., Ben Ghalia, M., & Atri, M. (2017). "A survey of fraud detection techniques in financial institutions." *International Journal of Advanced Computer Science and Applications*, 8(7), 184-190.
- Kamal Singh (2021). Banks banking on AI. *International Journal of Advanced Research in Management and Social Sciences*. Vol. 9. No. 9. ISSN: 2278-6236
- Kiron, D., Shockley, R., Kruschwitz, N., Finch, G., & Haydock, M. (2011). Analytics: The widening divide. *MIT Sloan Management Review*, 52(4), 1-22.
- Königstorfer, F., & Thalmann, S. (2020). Applications of artificial intelligence in commercial banks: A research agenda for behavioral finance. *Journal of Behavioral and Experimental Finance*, 100352. <https://doi.org/10.1016/j.jbef.2020.100352>
- Khatab, Jawdat Jaafar. (2020). The Role of Artificial Intelligence in Improving Banking Performance: Empirical Evidence from Erbil/ Iraq. *Journal of Critical Reviews*. Vol. 7. DOI: 10.31838/jcr.07.19.373
- McKinsey & Company. (2018). "How Big Data is Transforming the Banking Industry." *McKinsey & Company Report*.
- Ngai, E. W., Xiu, L., & Chau, D. C. (2009). Application of data mining techniques in customer relationship management: A literature review and classification. *Expert Systems with Applications*, 36(2), 2592-2602. <https://doi.org/10.1016/j.eswa.2008.01.032>
- Nguyen, Q. N., Sidorova, A., & Torres, R. (2022). Artificial intelligence in business: A literature review and research agenda. *Communications of the Association for Information Systems*, 50(1), 175-207
- Praveen Kumar Donepudi (2017). Machine Learning and Artificial Intelligence in Banking. *Asian Business Consortium, Engineering International*, Volume 5, No 2. ISSN 2409-3629. DOI: <https://doi.org/10.18034/ei.v5i2.490>

- Sharma, M. (2023). A Study: How AI is Incorporated in the Middle East Banking. *Journal for Research in Applied Sciences and Biotechnology*, 2(3), 202–208. DOI: <https://doi.org/10.55544/jrasb.2.3.27>
- Svoboda, A. (2023). The Impact of Artificial Intelligence on the Banking Industry. *Journal of Banking and Finance Management*. ISSN: 2642–9144. Volume 4, Issue 1. DOI <https://doi.org/10.22259/2642-9144.0401002>
- Shaw, G. (2013). Data analytics: Actionable information to improve healthcare. *FierceHealthIT*. Retrieved from <http://www.fiercehealthit.com/offer/dataanalytics?source=library>
- Tulcanaza-Prieto, A.B., Cortez, A., & Lee, C.W, & Salamanca, Y. (2023). Influence of Customer Perception Factors on AI-Enabled Customer Experience in the Ecuadorian Banking Environment. *Sustainability*. 15. 1-22. <https://doi.org/10.3390/su151612441>
- Wibowo, S., Deng, H., & Duan, S. (2022). Understanding digital work and its use in organizations from a literature review. *Pacific Asia Journal of the Association for Information Systems*, 14(3), 29-51

Appendix

Transcription of Questionnaire:

Statements	Responses
Department that Premier bank uses AI	Premier Bank hasn't used AI much yet. They believe HR department and other customer services their bank still need the human touch
AI Technology in HR department	AI could help with tasks like report writing, letters but human engagement are still the key factors.
Major Responsibility of HR department of Premier Bank	HR handles recruitment to find the right candidate for the organization, payroll and benefits that make sure a compatible salary with other banks. They also manage the disciplinary issues if any employee faces any problem they use to solve that problem. HR is also responsible for posting employees from one branch to another. They also share company updates by giving them the notice.
HR's view on using AI	They have a positive reputation. They feel that important tasks such as recruitment, managing other employees should be managed by humans.
Technology use in HR	The HR department uses software called "Scaled" and "Excel" to manage employee record and HR activities. They think I have data security issues.

Challenges premier Bank faced while using AI	They don't usually face any challenges because they don't rely on AI for any task.
What tasks are done by AI technology?	AI used for basic tasks like generating reports, handling some simple disciplinary issues. For important decisions and tasks, we still need the Human touch.
Why does HR still need human touch?	The HR department believes that all tasks require human judgment, data security and in the decision making process it cannot be done by any technology.
Concerns about AI replacing jobs	HR employees at Premier Bank are not worried about AI replacing their jobs. They view AI as a helpful technology for managing simpler tasks, but they believe that personal involvement is always needed in HR activities.
AI and Human Roles	AI is used for basic tasks while human roles are to manage every task and take important HR decisions that need personal judgement.
Software uses in all over banking system	They use Core Banking System (CBS) to manage all banking operations like foreign exchange department and other activities managed by software called Bank ultimas. This software provides a fast and secure banking system.
Core Banking System (CBS)	They use this system to manage foreign exchange department and all financial services.

Bank ultimas	This system makes sure everything runs smoothly, private and quickly.
Does Premier Bank have any plans to adopt more AI in HR processes in the future?	Premier Bank doesn't plan to use more AI in HR because they prefer Humanize decisions.
Manual Data Management	HR relies on manual processes to ensure that all employee data is accurate and secure.
What types of reports does Premier Bank use AI for in HR?	AI is used to generate reports related to disciplinary issues.
How often Premier banks update HR data?	It's updated regularly and manually to make sure they can have access to personal details and work history.
Human review or manual review	Even with AI-generated reports, HR still reviews to ensure accuracy of data.
Final Decisions	HR improves the workplace by talking directly with employees and also follows the same process for decision making.

The impact of AI and Big Data Analytics on Human Resource Managment A Case Study of Premier.pdf

ORIGINALITY REPORT

10%	9%	4%	6%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to University of Liberal Arts Bangladesh Student Paper	4%
2	aisel.aisnet.org Internet Source	1%
3	content.yudu.com Internet Source	1%
4	ro.uow.edu.au Internet Source	1%
5	"Applications of Block Chain technology and Artificial Intelligence", Springer Science and Business Media LLC, 2024 Publication	1%
6	www.coursehero.com Internet Source	<1%
7	eprints.ugd.edu.mk Internet Source	<1%
8	pdfcoffee.com Internet Source	<1%

9	Submitted to University of Bradford Student Paper	<1 %
10	www.myviewresearch.com Internet Source	<1 %
11	Submitted to Norbuling Rigter College Student Paper	<1 %
12	pdfs.semanticscholar.org Internet Source	<1 %
13	wunwun.com Internet Source	<1 %
14	www.researchgate.net Internet Source	<1 %
15	camosun.ca Internet Source	<1 %
16	www.slideshare.net Internet Source	<1 %
17	findresearcher.sdu.dk Internet Source	<1 %
18	pesjournal.net Internet Source	<1 %
19	pt.scribd.com Internet Source	<1 %
20	virtusinterpress.org Internet Source	<1 %

21

etd.aau.edu.et
Internet Source

<1 %

Exclude quotes On

Exclude bibliography On

Exclude matches Off