Report On

"Impact of AI on Recruitment in the Pharmaceutical Industry of Bangladesh"

By

Fatima-Tuz-Juhana

20304023

An internship report submitted to the Brac Business School in partial fulfillment of the requirements for the degree of
Bachelor of Business Administration

BRAC Business School

Brac University

September, 2024

Declaration

It is hereby declared that

1. The internship report submitted is my/our own original work while completing degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I/We have acknowledged all main sources of help.

Student's Full Name & Signature:

_____

Fatima-Tuz-Juhana

20304023

Supervisor's Full Name & Signature:

_____

Dr. Nusrat Hafiz,PhD

Assistant Professor

BRAC Business School

Letter of Transmittal

Dr. Nusrat Hafiz,PhD

Assistant Professor

BRAC Business School

BRAC University

Kha-224 Merul Badda, Dhaka-1212

Subject: Submission of Internship Report on Impact of AI on Recruitment in the Pharmaceutical Industry of Bangladesh.

Dear Madam,

My internship report for the Summer 2024 semester, titled "Impact of AI on Recruitment in the Pharmaceutical Industry of Bangladesh" is being submitted.

In the report, I have reflected on my experience and analyzed trends in evolving the impact of AI on Recruitment in the Pharmaceutical Industry of Bangladesh. The paper reflects about the impacts & significance of it as well. Thank you for providing me with this opportunity and for your guidance and support throughout my internship. Please let me know if you require further information.

Sincerely Yours,

_____

Fatima-Tuz-Juhana

20304023

BRAC Business School

BRAC University

September 28, 2024

Non-Disclosure Agreement

This agreement is made and entered into by and between SMC Enterprise Ltd and the undersigned student at Brac University.

As an intern, I understand and agree that any and all proprietary and sensitive information revealed to me while I'm working with the company is confidential. I thus pledge to keep such information private and not to divulge it to anybody else without the Company's prior written authorization. Once my internship with the company comes to an end, I will still be obligated to fulfill this duty.

Student's Full Name & Signature:

_____

Fatima-Tuz-Juhana

20304023

Supervisor's Full Name & Signature:

_____

Md. Shahan Shah

Assistant Manager

Human Resources & Administration

SMC Enterprise Ltd

Acknowledgement

All praises to the Supreme Almighty. Without His good grace, it would not be possible to prepare this Internship report in time and maintain due diligence.

I owe my deep appreciation to Dr. Nusrat Hafiz,PhD, Assistant Professor, BRAC Business School, BRAC University, who took a keen interest in my internship and guided me until the completion of the internship. This report would not have materialized had she not reviewed the report and supervised me constantly.

I also thank my Co-Supervisor Ms. Takmilla Tabassum, Lecturer, BRAC Business School, BRAC University, for her genuine support and valuable guidance throughout the internship period.

I convey my deepest appreciation to Mr. Abu Obayed Ahmed, Manager of Human Resources, SMC Enterprise Limited, who has given me his generous guidance and shared valuable insights. The experience I have gained here will be a privilege for my future career.

I would like to thank my supervisor Md. Shahan Shah, Assistant Manager - Impact of AI on Recruitment in the Pharmaceutical Industry of Bangladesh, SMC Enterprise Limited for their cordial support during the whole tenure of my internship.

A special word of appreciation goes to all SMC Enterprise Limited employees for their generous cooperation and assistance during my entire internship period.

Finally, I thank my family, friends and well-wishers for supporting me.

Executive Summary

This report looks at the use of AI in human resource management for employers within the pharmaceutical industry in Bangladesh particularly for SMC Enterprise Ltd, Square Pharmaceuticals Ltd and Beximco Pharmaceuticals Ltd. AI has impacted the process of screening resumes, short listing candidates and evaluation, and it minimizes discrimination based on race, gender and the likes. But still, there is criticism regarding the bias of the algorithms used in the study. Nonetheless, the larger perspective is that AI can increase the fairness, objectivity or transparency of, and efficiency in, the recruitment process. Betterments in selection methods like Natural Language Processing are anticipated to bring in additional progress in the hiring transparency and process. So, it is therefore necessary that ethical models be developed that can reflect the technological dynamics of introducing Artificial Intelligence in decision-making systems.

Table of Contents

Chapter 1: Overview of Internship

1.1 Student Information

Name: Fatima-Tuz-Juhana

Student ID: 20304023

Programme: Bachelor of Business Administration

Specializations:

Major - Human Resource Management

Minor - Computer Information Management

Department: BRAC Business School

Session- 2020-2024

1.2 Internship Information

1.2.1 Period, Name,Department, Address

Period: 3 Months (15 May 2024 - 14 August 2024)

Company Name: SMC Enterprise Limited

Function: Recruitment & Selection Process

Department: Human Resources & Administration

Corporate Head Office Address: SMC Tower, Banani C/A, Road 17, Dhaka 1213

1.2.2 Supervisor's Information:

Name: Md. Shahan Shah

Designation: Assistant Manager,HR & Admin

1.2.3 Job Responsibilities

1.Interview call

2.Assessment sheet

3.CV checking

4.Written script code

5.Recruitment note

6. searching TIN info

7. finding file from excel

8. joining process

9. appointment letter database

10. filing selected candidates

1.3 Internship Outcome

1.3.1 Contribution of Student

During my three-month internship at the HR & Admin Department of SMC Enterprise Ltd, I made significant contributions towards the organizations collecting & sorting out resumes of job candidates. My one of responsibilities was to arrange interview sessions, take written exams & create assessment sheets. I also played a critical role in recruitment notes, joining process &

employee documentation. Another significant task I handled was the entry appointment letter database. I also found the file from excel & searched TIN info from the employee file. Lastly, I filed the selected candidates with proper documents. In conclusion, I am part of the organization's recruitment and selection process throughout the 3 months. For example, I have worked on the recruitment process of over 200 people and been part of the joining process of over 70 people. So, it was a great learning experience for me that will help me to establish myself in a better position.

1.3.2 Benefits to Student

While working at SMC Enterprise Ltd. I had the enjoyment of working with a group of professionals. Their proficiency and experience supported me to bridge the gap between theoretical learning and real-world application of knowledge achieved. Additionally, I had the chance to interact with many people during the interview session. Moreover, working with several involved respectful employees helped me to enhance my overall soft skills such as communication skills, adaptability, negotiations skills & so on. Also, this internship involved a lot of multitasking work for which it supported me to do better in facing stressful conditions so it became even better for my career growth.

1.3.3 Difficulties

Since this was my first time to work, it could prove very challenging for me to manage the use of the new environment. As the HR & Admin team of SMC Enterprise Ltd handles many tasks at once, it did not take me long before learning how to multitask efficiency.Each function within

SMC has some issues regarding a great number of obligations & responsibilities.surroundings. As the HR & Admin team of SMC Enterprise Ltd deals with multiple duties at a single time, it took me time to adapt to such multitasking proficiency. Almost every function at SMC faces some complications with a huge burden of work & tasks. Moreover, the documents of the HR were rather sensitive, and one human error might lead to significant issues in locating precise files and documents. Hearing also averts possible difficulties such as arranging information for such a huge company of employees, which is an extremely challenging part. Almost all the records and information received were unavailable to other employees apart from the HR and Admin employees and though I had to gather data from the employees and could not disclose the overall details to them this was a little bit challenging for me. Furthermore, handling files and sorting them one by one was not very easy if there were more than 70 people. Lastly sometimes there was a coordination difficulty with the Factory HR when there was recruitment proceeding on in the factory.

1.3.4 Recommendations

- Scope of adjusting latest Software & technologies.

- Opening of HRIS,SAP & AI based software & tools.

- Creating emptiness according to the necessities of the departments.

- Training for HR professionals in data administration.

- Coordination between head office & other Factories should be improved.

Chapter 2: Organization Part

2.1 Introduction

SMC is the Bangladesh government's biggest and most effective ally in its efforts to reduce national population growth. Also successful application of social marketing concepts by Social Marketing Company (SMC) in 2014 in providing health and services in many sectors including diarrheal disease management, family planning, reproductive health, child health and nutrition, feminine hygiene, HIV prevention, and referral of Suspects, SMC formed a for-profit subsidiary called SMC Enterprises Limited (SMC EL) to help separate its profitable operations from its unprofitable operations, thereby facilitating a growing and complex consolidation. operation. A board of directors, comprising members of the SMC board, will supervise the SMC enterprise, ensuring that the goals of both companies generally align. Although it may be able to use the facilities already existing at SMC under a standard service agreement, SMC Enterprise manages its core functions: prompting, distribution, manufacturing, supply chain accounting, and finance; Human resource management is another area where it may be able to use existing facilities. From an idea to a vibrant social economic company, SMC is now one of the top of the Government of Bangladesh (GOB) in the fields of health, family planning and nutrition. SMC and SMCEL continue to strive to expand the portfolio of public health and products while maintaining high standards of quality through ongoing development and facilitating "living better".

2.2 Overview of the Company

2.2.1 History of SMC Enterprise Ltd.:

Having a history of successes, Social Marketing Company (SMC) is quite valuable for Bangladesh's National Health and Family Planning Programme. The company was established in 1974 supported by USAID, as an FPSMP, or Family Planning Social Marketing Project, as the fast population increase of the nation demanded. In 1990 the leadership of the project decided to turn it into a non-profit entity run under a volunteer board of directors. SMC became totally viable in 2012 after eliminating and recovering all non-programme expenses. To run a sophisticated and large profitable company and maintain its profitable and unprofitable businesses separate, it established a wholly-owned subsidiary, SMC Enterprises Limited (SMC EL) in 2014. From its founding, SMC has run with the tenet "profit must first contribute to social betterment." "No one should suffer, especially the impoverished, because of reasonably priced, high-quality medications." This was the impetus for SMC EL's 2017 pharmaceutical division debut. It currently sells 33 different goods to consumers: antibiotics, ulcerants, NSAIDs, antihistamines, asthma, antispasmodics, and mineral supplements. Established in 2018, 'SMC Niltara Clinic' at Dhaka Udyan, Mohammadpur, Dhaka is SMC's attempt to offer people of all economic levels in the area low-cost, high-quality treatment and diagnosis. Additionally housed in the clinic is a model pharmacy. Inspired by the great experience of the present clinic operation, SMC has established another clinic called "SMC Clinic" at SMC Tower-2, Darussalam, Mirpur, Dhaka, to provide reasonably priced quality medical treatments. At modest rates, the clinics provide complete medical services including consultations with specialists, first-rate diagnostics, and drugs. The major part of SMC's flagship brand, ORSaline-N, with a 61% market share, child mortality due to diarrhea diseases has dropped dramatically during the previous 35 years. From

SMC since 2008, zinc tablets—an adjuvant medication for diarrhea in children—have been available. To avoid iron deficiency, use micronutrient powder (MNP) labeled as Monimix. Children from six to nineteen months have anemia. Designed by UNICEF and WHO, "Monimix Plus" is part of SMC's initiatives to raise the nutritional quality of the children and adolescents aged 5 to 12 years. "Femicon" (the most often used low-dose OCP) has the second largest user count among all the brands of oral contraceptives supplied in the nation. Millions of women have come to appreciate Femicon because of its accessibility, comfort, and utility. Teenagers and low-income women have come to love SMC's 'Zoya' sanitary napkin because of its reasonably priced tag-on. When 'Vermicide' deworming tablets were introduced in 2020, SMC sought to assist households all around to raise the nutritional quality for their children. 'Full Care,' a public health solution scheduled to be introduced by SMC in 2021 will greatly increase the range of products the company offers. Pregnant women can worry-free utilize Fulcare, a multi-micronutrient supplement. Iron and folic acid among fifteen micronutrients are vital for the mother's, fetus's, and child's health. Furthermore developed by SMC EL are new generation birth control pills called "SmartPill," a safe confection called "Super Kid," which is both nutritious and delicious, a ready-to-drink electrolyte drink called "SMC Plus," and "SMC Fruity," flavored saline to strengthen immunity in children. A national campaign to improve health behavior among rural people was a great success; SMC's behavior change communication initiatives such family planning, nutrition, child health, adolescent health, mother health, hygiene, tuberculosis, and clinical contraceptive referral services will continue to improve.

2.2.2 Contribution to the National Economy:

By giving 62 percent of condoms,47 percent of pills, and 33 percent of injectables, SMC has

greatly helped to contribute to the contraceptive prevalence rate at the national level, according to the our country Demographic and Health Survey in 2017–18. Today, SMC is considered one of Bangladesh's most essential and useful allies, helping the government reach its national objective.

2.2.3 Mission:

"To help SMC grow as a successful social company by directing surplus revenues from profitable operations towards programme activities that promote social good."

2.2.4 Vision:

"To be a world-class social enterprise acknowledged for its contribution to the development of social marketing ideas, concepts, and practices, striving to improve the health and welfare of women, children, families, and the society."

2.2.5 Purpose and Values:

1.Their organizational priority is first; they never compromise on quality or meet the needs of their customers.

2.They motivate themselves daily to reach more and do better.

3.They really appreciate loyalty and fairness as well as integrity.

2.3 Management Practices

2.3.1 Organizational Structure

The Human Resources department has been trying to make sure that all employees have a better job experience, more open communication, and fair procedures. The department is in charge of hiring people and teaching them for the company. They also keep track of success and handle things like pay and promotions. They are also in charge of the rules and laws that the company follows. The company gives medical benefits to workers who have any kind of health problems, and the HR department keeps an eye on them. This department also helps workers who need to borrow a car or motorbike. The HR Officer carefully checks that every employee shows up to work every day. A lot of attention is being paid to each employee's file and papers by the HR department. On top of that, they work on things like mobile allowances, lunch requests, transportation requests, equipment requests, holiday reminders and more.

2.3.2 Recruitment & Selection

Talent Acquisition Process

SMC Enterprise Limited's steps for hiring people are broken down into small, clear steps:

1. The first Step is CVs are gathered when a notice is sent out. CVs come from both inside and outside the company. In this type of sourcing, staff use their own networks to find candidate CVs. Besides that, they also accept straight applications through circulars. As soon as the CVs are received, the HR Talent Acquisition Team sorts them into groups based on certain factors.

2.The second step is the initial interview, which is done by both the Talent Acquisition Manager and the Functional Manager. The person can only move on to the next step after passing the first

one. Before the first interview, there may also be a written test that is given in person.

3.Third step is online Predictive Index (PI) tests are given out. This PI test is made up of two tests, for example

i. A behavioral test checks for honesty in behaviors.

ii. A cognitive test checks for logic, knowledge, and how much you know.

If a candidate passed the third step, they will be called by the talent acquisition team for more paperwork, such as a full-body medical checkup and showing proof of their credentials, such as TIN, photo, nomini details, NID, Secondary and Higher Secondary Certificates, Bachelors and Masters Certificates, and a clearance certificate from their previous employer. If everything checks out well, the applicants will be hired.

2.3.3 Training & Development

SMC Enterprise cares about its workers' professional growth, it works to give them options for the right training and development. Most of the time, they use the following different ways to train. The workers can do this self-paced learning at any time that works best for them through a number of different e-learning platforms. SMC runs most of the training programmes around the world. New hires, younger officers, and even interns are often taught their new duties on the job by coworkers or more senior officers. By letting them try out the new responsibilities for themselves, they help them get used to them more quickly.

1.Trainer-led courses: They also have a variety of trainer-led courses in sales, Microsoft Excel, Power Point (Slide Making), giving presentations, and developing leadership skills. These

courses are given by experts in their fields.

2.Case Studies and Quizzes: SMC also uses case studies, research articles, written and quizzes to train their workers.

3.Workshop: SMC Enterprise offers a range of training, such as business communications and excel skills, because technology is always changing. It holds regular workshops for its workers, especially those who work in sales. Since sales are what SMC Enterprise is mostly about, it puts a lot of emphasis on meeting sales goals.

2.3.4 Compensation & Benefits

A lot of benefits and incentives are given to SMC workers. These include a share of the profits, a production bonus, competitive pay, health insurance, 25 days of paid vacation every year, and annual holiday bonuses. Outstanding performers get honorary crests, and people who meet their monthly sales goals get extra praise and fancy holidays from the company. Employees may also be able to get better interest rates on loans for cars and homes. On top of that, employees get special gifts from the company for 9 months after baby births. The company pays for employees' first-class car travel and lodging when they are on official work trips. The company's dedication to making the workplace safe and enjoyable is shown by these perks and awards. So, it shows how committed the company is to making the workplace a good place to work where everyone feels valued for their work.

2.4 Marketing Practice

Social marketing uses main strategies to get people to buy and spread information about goods

and services that clearly help people at prices that maximum people can afford. The main goal of social marketing is to make sure that it's affordable, high-quality health services are easy for everyone to get. This company is one of the most well-known, useful, and completely useful ways to sell products directly to customers and through dealers in Bangladesh. Elven offices based in the country's main division and district towns work to cover the whole country. They are led by two regional offices. This makes it possible for SMC's sales team to send goods to stores far away on a regular and fast basis. The large sales and distribution network that SMC has allows its products to be sold in many stores across the country. A big part of SMC's strategies is still effective positioning, brand development, market segmentation, and brand promotion. The company now offers a wide range of pills and condoms that are focused at different market segments, with advertising and promotion that is specific to each brand. Bangladesh's amazing successes and size have made a model of good behavior and brought it to the attention of people all over the world.

2.4.1 Marketing Issue and Gaps

SMC needs to fix its marketing problems and issues if it wants to stay ahead of its rivals and be successful in the long term. Here are some of the business problems and holes that SMC has to fill:

Sustainability Communication:

- Concern: SMC Customers don't know that it focuses on being environmentally friendly in how it runs its business.

- Solution: SMC should now focus on long-term market plans, which they can do by being open and honest in their marketing. Aside from that, they should focus on marketing plans based on results that customers don't know about, like reducing carbon emissions.

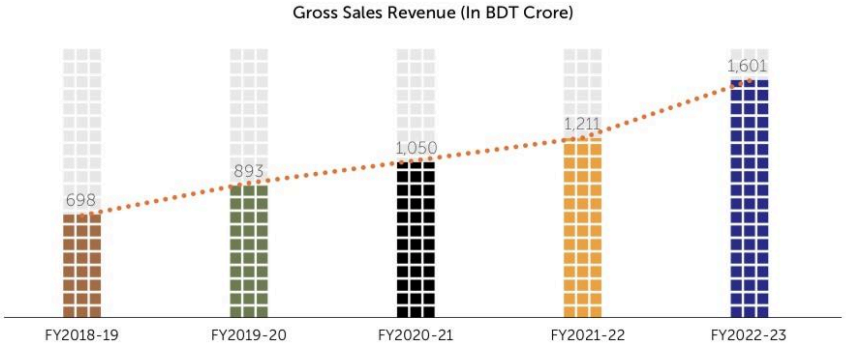
Social Media Engagement:

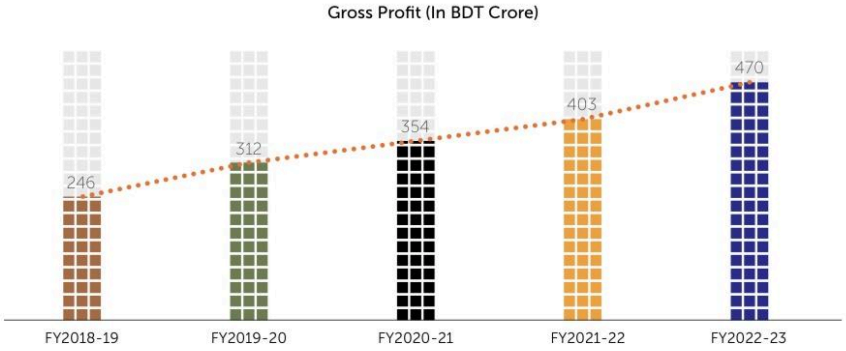
- Concern: Because social media is such an important part of how people act these days, SMC needs to improve its social media profile.
- Solution: SMC should interact more with their customers on social media who are looking for questions or opinions. They should use this material and data to make promotions and marketing campaigns more relevant to each person. Customer involvement can be raised with email marketing, loyalty programmes, and personalized product suggestions.

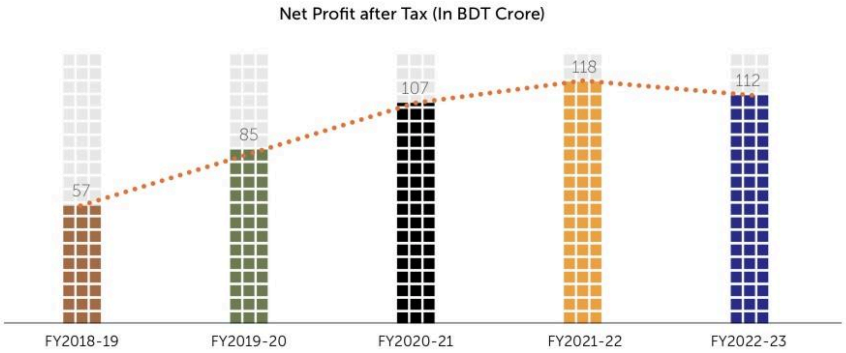
To fix these marketing problems and holes, we will have to keep looking at, making changes, and spending money on marketing plans that adapt to how people's tastes change and how the business changes. SMC Enterprise can keep and improve its market place by staying flexible in the face of these problems.

2.5 Financial Performance and Accounting Practices

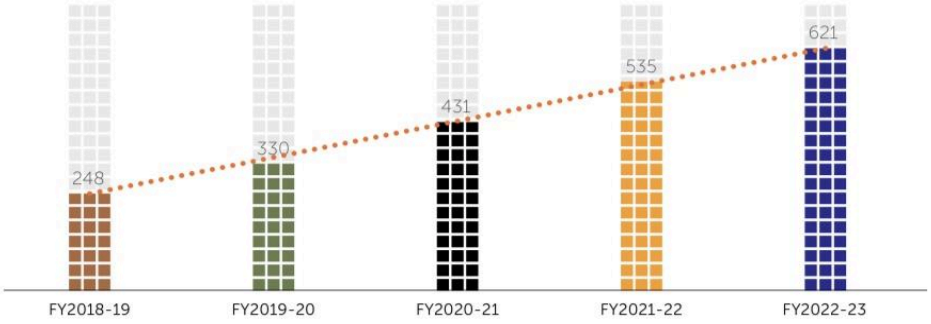
LAST FIVE YEARS TREND ANALYSIS



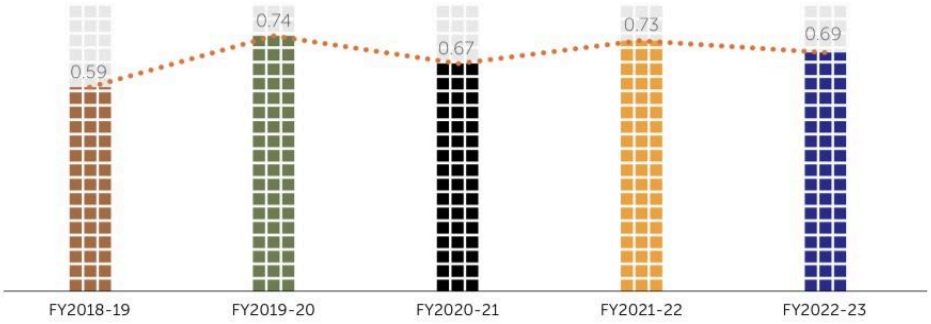




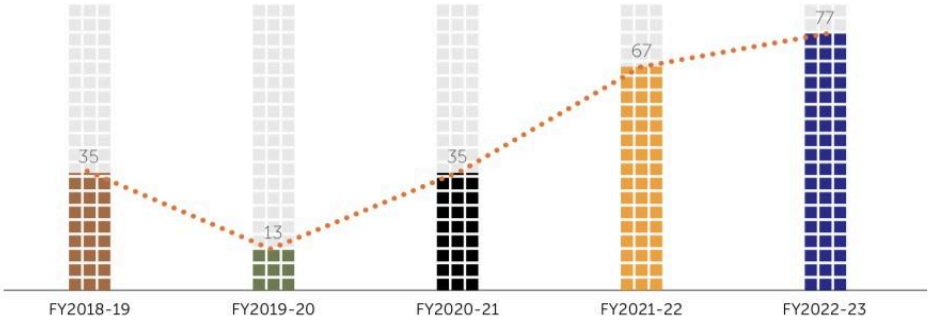
Shareholders Equity (In BDT Crore)



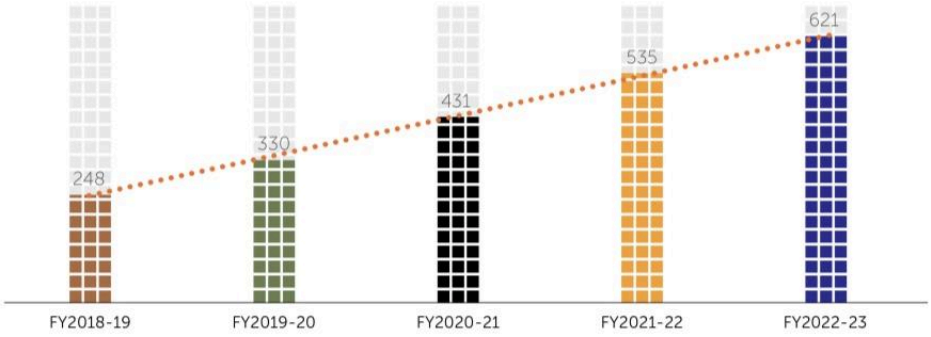
Debt-equity ratio



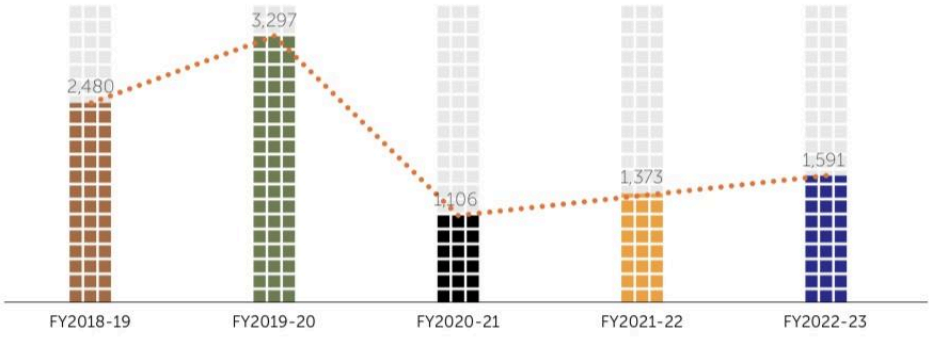
Dividend per share



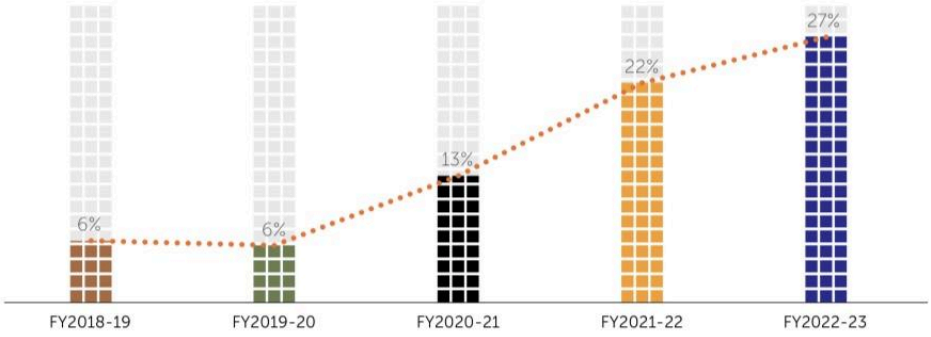
Net Asset Value (In BDT Crore)

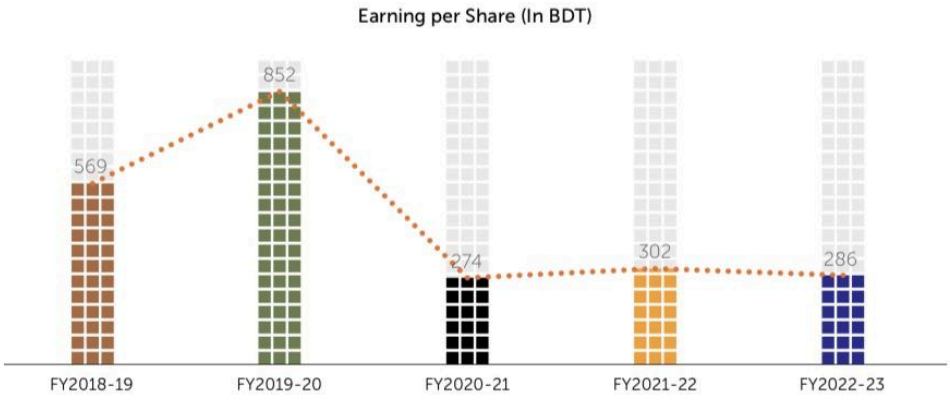


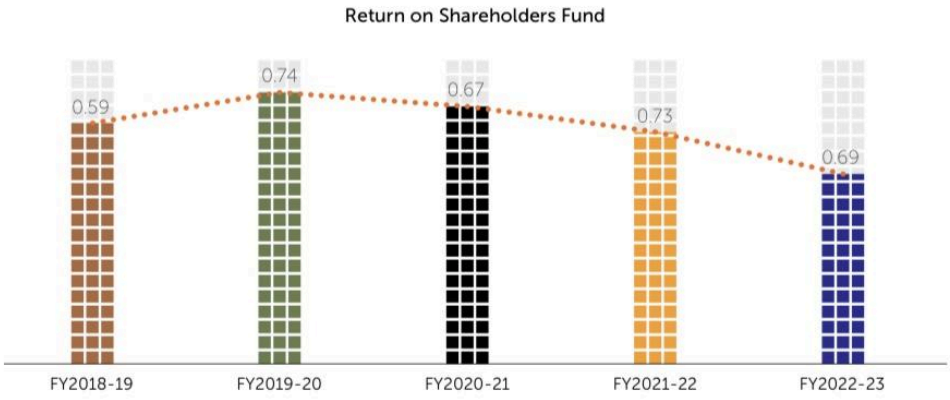
Net Asset Value Per Share (In BDT)



Dividend payout ratio







Overview of SMC Financial Performance

SMC financial records over the last five years demonstrate consistent growth between 2018-2023, gross revenue climbed by BDT 698 to 1601 core , while gross profit increased by 246 to 470 crore and net profit increased by 57 to 112 crore. Shareholders equity and Net asset value increased from 248 core in 2019 to 621 core in 2023. On the other hand, the debit per ratio

and dividend per share increase in 2023 was 0.69% and 77% while in 2029 it was 0.59%, and 35% increase in the last five years. The net asset value per share in 2019 was 2480 while in 2023 it decreased to 1591. Total dividend payout ratio in the last five years increased from 6% to 27%, it increased 21%. Equity Ratio Distribution was quite good compared to the total assets & profit margin. In the year 2019, SMC increased the return on shareholders fund 0.59% to 0.69%. So, after analysis can say that SMC was able to maintain on the growth track like the years before the pandemic.

2.6 Operation Management and Information System Practices

The manager of the Information Technology Department is in charge of all of the department's work and making sure that all of the company's departments get good technical help. Here are some of the things that the IT Department is responsible for:

1. Give all sections the proper electrical equipment they need based on the request.

2. Giving each employee a fingerprint so that start and end times, attendance, short hours, and extra hours can be tracked.

3. Overseeing and managing the company's update SAP system for keeping information about workers up to date and keeping track of their all details.

4. Help new technology users get started by giving them IT help, training, and direction.

5. Figures out what's the issue with IT systems and networks and fixes when they do.

2.7 Industry and Competitive Analysis

2.7.1 Porter’s Five Forces Analysis

Porter's Five Forces analysis is a way to look at the competitive forces and factors that affect how profitable a business is and how well it does in its field. A look at Social Marketing Company through the lens of Porter's Five Forces Business Power of Suppliers:

Low Supplier Power: SMC Enterprise works in the pharmaceutical business, which usually has a lot of medicine suppliers. There are a lot of small and large markets in this business. Because there are so many providers, each one has less power in negotiations. Still, suppliers may have more power when it comes to some drug goods.

Power to Buy: Both big store chains and individual customers can buy things in the pharmaceutical industry. When buying more, big stores have more power because they can negotiate better terms and prices, but small stores and customers don't have as much power. It is very important for SMC to address customer preferences and health issues because these things can affect their buying decisions.

Threat of New Entrants: This industry has to spend a lot of money on things like processing plants, delivery systems, and making sure they follow the rules. SMC may make it hard to get in because it has a reach and well-established marketing networks. On the other hand, they give needed goods access to delivery networks, they may not be in much danger.

Threat of Substitutes: Few direct alternatives exist for pharmaceutical goods, so they don't pose much of a threat. Even though people are becoming more interested in options, companies like SMC Holding Ltd. still control the market.

Rivalry among existing competitors: There are not many straight alternatives to products that have the same important features. Even though there is more interest in other options, pharmaceutical goods are still the market leaders.

To sum up, SMC Bangladesh has moderate to low seller and buyer power because of the way the pharmaceutical business works. There is a small risk from new players because of the current players and the need for money. Alternatives aren't very dangerous because there is still a big market for traditional pharmaceuticals. The competitors are very competitive with each other in many areas, such as price, coming up with new products, and marketing. As a major player in the pharmaceutical industry, SMC pharma products need to stay competitive by changing with the times and adjusting to new customer choice and market conditions.

2.7.2 SWOT Analysis

SMC SWOT analysis can show Bangladesh's strengths and flaws on the inside as well as its chances and threats from the outside. The strategy planning and decision-making processes of the organization can be improved by looking at this. Let's look at SMC's SWOT analysis:

Strength:

- Vast Presence around the country: SMC can reach a wide range of markets thanks to its well-established global presence and more than 11 regional and area offices.

- Diverse Product Portfolio: SMCEL provides a variety of pharma products such as health and nutrition,pills, clinical items, hygiene and pharmaceuticals with serving a wide spectrum of consumers.
- Focus on Sustainability: Customers who care about the environment like this company because it is strongly committed to sustainability and has taken steps to be more eco-friendly.
- Strong Brand Recognition: SMC collogs a number of well-known familiar brands that are recognized in a variety of areas, such as Dhaka, barisal, Khulna kushtia, rajshahi, rangpur, Sylhet, chattagram, Comilla, Mymensingh

Weaknesses:

- Limited Control over Supply: SMC may not have complete control over the supply that its supplier, due to its cooperative structure,
- Strong Competition: The business is very competitive, with many competitors like Square,Beximco in the country. This could put pressure on prices and earnings margins.

Opportunities:

- Diversification: SMC should appeal to a growing market of environmentally concerned and health-conscious consumers by extending the range of items it offers. Two products with further health benefits that might be sold in view of the increasing consumer attention on health and wellbeing are probiotics and functional pharma products.
- Emerging Markets: SMC might find fresh development opportunities by joining growing pharma product consuming markets.

- **E-commerce:** It presents an opportunity to directly engage with consumers and increase client base by means of its expansion.

Threats:

- The growing popularity of business alternatives like Square and Beximco puts sales under jeopardy.
- Changing client tastes towards organic could affect the product range.
- Strict safety, labeling, and environmental sustainability policies affect the products and can increase running and compliance costs.

All things considered, SMC offers a great spectrum of benefits including its area coverage, choice of products, and sustainability commitment. However, they have shortcomings including reliance on strong competition and little control over supply. While addressing concerns from alternatives and shifting consumer tastes, the corporation can use possibilities in diversification, health and wellness trends, and emerging markets. For SMC to keep and improve its competitive position, effective strategy planning and industry trend adaptation will be absolutely vital.

2.8 Recommendations

● Now SMC should consider increasing production if she wants to compete with other medications in the local market. Bangladesh's pharmaceuticals industry will be in contact with the Global Standards since it already shows great potential. Right now, SMC makes goods in just 11 national regions.

● Every day new technologies are launched into the market; so, SMC has to be adaptable and maintain current with modern technical SAP upgrades as their present management approach could change at any moment. They have to also improve the business experience by using contemporary technologies. Furthermore, using technologies more widely could help the talent acquisition strategies to be improved.

● Think about using Instagram and SnapChat among other social media platforms to reach potential customers via marketing campaigns. Using these websites might be a clever way to identify new customers as they have a clientele not on LinkedIn or Facebook likewise.

2.9 Conclusions

Having been in operation for many years, SMC is among the largest cooperatives in the world of medications. Maintaining a strong strategy based on sustainable goals and effective resource management has helped it to overcome both the Russian-Ukrainian war and the economic crisis brought about by COVID-19. SMC has successfully balanced its finances unlike other competitors in the sector. Together with a solid work culture, the company developed great management by means of constant training and development. New tools like chat stealth writer, chatgpt and artificial intelligence tools could, however, upset the company's present management and marketing strategies given the fast development of technology. The SMC management has earlier banned their employees from using open artificial intelligence systems.

Chapter-3

3.1 Introduction

Using AI to recruit means incorporating AI technology into the hiring process to automate and simplify different parts of the hiring process. In Bangladesh, the impact of AI on the recruitment pharmaceutical industry is revolutionizing hiring processes by enhancing efficiency, reducing bias, and improving candidate selection. So, the new era of recruitment, with the help of artificial intelligence, is making it easier for companies to find the right people.

3.1.1 Background

AI means computer systems that can act like humans when they do intelligent things. It has many uses, such as natural language processing, machine learning, and prediction analytics. Human resource management uses AI to streamline and enhance tasks such as recruiting new employees, maintaining employee engagement, performance management, and more. Also, AI tools can look at huge amounts of data, find patterns, and make predictions that help HR pros make better choices. HRM is the process of finding, assigning, hiring, and overseeing the work of an organization's workers. It encompasses a wide range of tasks, including hiring, development, performance management, and employee retention. The HR department's primary responsibility is to recruit new employees, and the recruitment process is the first step in gaining a competitive advantage and an edge in hiring (Hamza, 2021). Recruitment is the process of finding and getting the best people to fill a job opening. It has several steps, such as finding people, screening them, interviewing them, and choosing the best ones. AI makes hiring easier by automating tasks such as reviewing resumes, finding candidates, and conducting initial tests.

This includes tasks like setting up interviews, selecting the best candidates, and getting people to submit their resumes without meeting in person (Pan and Zhang, 2020). On the other hand, Bangladesh's pharmaceutical business is an important part of the country's economy. Researching, developing, making, and selling medicines are all part of it. The industry needs workers with a lot of specialized skills, which makes hiring hard, especially in a competitive market. In Bangladesh, the pharmaceutical business is starting to use AI to help with hiring to fix problems like a lack of skills, inefficiency, and bias. AI recruitment reduces cost-per-hire by up to 30% (Khaled Hussein,2024). AI speeds up the hiring process by making it more data-driven and less reliant on people's personal opinions. Almost 96% of recruiters think AI can help them in their current jobs, but 60% are afraid it will one day put them out of work (Khaled Hussein,2024). This is very important in an area like pharmaceuticals where accuracy and knowledge are very essential. AI shortens the time it takes to hire someone and lowers the cost of hiring, which is crucial in the fast-paced pharmaceutical business. Using AI, pharmaceutical companies can be sure they hire people with the right skills and the best chance of long-term success. Furthermore, it helps reduce bias in hiring, which leads to more diverse and open hiring practices that are important for innovation in the pharmaceutical sector. So, the hiring process is being changed by artificial intelligence (AI). That is why it's not a surprise that 43% of HR workers are already using AI to hire people (Jobylon, 2023).

3.1.2 Objectives:

The literature study shows that little research has examined the recruitment process in Bangladeshi culture. So, this research sets the following goals:

- To explore the efficiency of AI-based recruitment tools in Bangladesh's pharmaceutical sector.
- To goal is also to assess how AI can effectively reduce biases in the recruitment process.
- To explore the possible risks and benefits through the implementation of an AI-based recruitment process.

3.1.3 Significance

The first part of this study looks at how well AI-based hiring tools work in Bangladesh's pharmacy industry. This helps businesses simplify their hiring processes, reduce the time it takes to hire someone, and better utilize their resources. Another goal is to test AI's ability to eliminate hiring bias. In addition, this study helps find candidates whose skills match the job requirements by using AI-based hiring tools. Stated differently, the system will unquestionably reject any attempts at prejudice (Berta Melder, 2018). Therefore, this study holds significant importance as it examines the hiring practices of the pharmaceutical industry and the perceptions of potential threats and opportunities presented by AI. Overall, this study is significant as it bridges significant research gaps and demonstrates how AI can transform job recruitment in the pharmaceutical industry, benefiting companies in Bangladesh from both strategic and operational perspectives.

3.2 Methodology:

Qualitative research involves gathering information from people through open-ended conversations. This type of research is based on social sciences such as anthropology,

psychology, and sociology. The research methods allow for in-depth research and aim to understand the behavior and thought processes of a specific group of people. Also, the qualitative method of analysis has been taken into consideration. Examples of the research methods include conversations, focus groups, content analysis, ethnographic research, and case study research.

However, this study focuses on adopting qualitative research methodology as it explores the impact of AI on Recruitment in the Pharmaceutical Industry of Bangladesh. As a specific feature of this research methodology, one has to choose a specific data collection method.

3.2.1 Interviews

In research, there are several methods to collect information, including interviews, organized interviews, semi-structured interviews, focus groups, and observations. In this study, a semi-structured interview will be used due to limitations in time and funds. In a semi-structured interview, the interviewer prepares a few set questions in advance, while the rest of the questions are spontaneous. This approach allows for an objective comparison of candidates and enables discussion of issues related to the candidate in real-time (Pollock, 2022). This analysis chose the semi-structured interview to explore the impact of AI on Recruitment in the Pharmaceutical Industry of Bangladesh.

3.2.2 Sampling strategy and Sample Size

Convenience sampling is a type of non-probability sampling that involves gathering data from individuals who are easy to reach and willing to participate in the study. This method is known as

"convenience sampling" and is easily accessible as it involves collecting data from people wherever they are available, typically at a convenient location. Unlike other sampling methods, convenience sampling does not use any specific inclusion criteria, allowing anyone from any field to participate (Convenience Sampling: Research Methodology, 2022). For our study, we selected participants using a convenient sample to accommodate their busy schedules (Islam et al., 2019). From the three companies, I selected six people for my interview because I believed they could give me all the information about the department correctly.

3.2.3. Thematic Analysis

The research employed thematic analysis to explore and comprehend the data, which was chosen due to its compatibility with the interpretivism study paradigm (Peterson, 2017). Thematic analysis involves condensing qualitative data by coding interviews and identifying the main themes. Its flexibility makes it applicable to various study areas (Maguire & Delahunt, 2017). So, the primary focus of the data analysis becomes the themes derived from thematic analysis, that is compared to both the theoretical framework and the selected model.

3.3 Finding and Analysis

The method I will be adopting here is the primary method. Under that, I will employ primary data by overwhelmed

Organization Name	Position
SMC Enterprise Limited	1. Manager of HR & Admin 2. Assistant HR manager

Organization Name	Position
Square Pharmaceuticals Ltd	1. Manager of HR & Admin 2. Senior Executive
Beximco Pharmaceuticals Ltd.	1. Executive of HR 2. Sr. Officer of HR

These interviews were conducted in Bengali language and spoke to most of the people face to face and also through LinkedIn. Moreover, I'll seek information from the internet using secondary data as well like different published articles, peers, websites and their LinkedIn profile.

- **AI make the recruitment process more efficient**

The modern approach to the recruitment process has been simplified through the introduction of the concept of artificial intelligence. In the case of Bangladesh pharmaceutical industries, SMC Enterprise Ltd, Square Pharmaceutical Ltd and Beximco Pharmaceutical Ltd rely on the use of AI technology to improve recruitment policies. All the participants from these companies believe that AI enhances the recruitment efficiency through factors such as time efficiency in resume scraping and analysis, candidate engagement, and application review.

There are in fact several benefits of AI in recruitment, the most notable of which is the screening of the resumes in record time as compared to the time taken by the human resources. In the past, when it comes to filtering hundreds or even thousands of resumes, we know this process is highly time consuming and riddled with error-prone subjectivity. Employers may miss good candidates because of tiredness or even bias which they are probably not aware of. However, AI brings the kind of conversion and reliability that human recruiters cannot be able to replicate.

Through machine learning, one can easily scan resumes and determine which applicant meets what job description or not. All the participants involved in the interview from SMC Enterprise Ltd., Square Pharmaceutical Ltd., and Beximco Pharmaceutical Ltd. asserted that by using AI, the remaining screening process is significantly shortened. This means that instead of having to spend days or weeks going through heaps of applications and sifting through heaps of applications, AI algorithms can sort through huge amounts of data within minutes. This not only saves time, but also means that the process will be more objective as an AI system can rank applicants based on their credentials, knowledge and experience only. Also, with screening, AI can be set to get more proficient identifying the precise qualifications that are more suitable to the organization. For instance, if a company is searching for a chemist then with the help of AI algorithm it can be programmed to call only the resumes that include some key terms agreed by both the company and the algorithm let's say clinical research or drug development then AI will forward only the best candidates for clinical research jobs to human recruiters for the next stages of recruitment.

Another area where AI has found wide engagement is the recruitment process, particularly about first-time candidate interactions through chatbots. These chatbots are effective for handling routine activities that include answering common questions and questions to do with basic candidate information, as well as setting interviews. As much as the participants from the pharmaceutical companies said, this automation tended to minimize the time taken to hire and allow human beings to follow general hiring and screening of candidates that meet specific slots created for hiring. In the first sense, through AI chatbots, the first communication is automatically made, making sure candidates receive early responses and improving the candidate

experience. In the current world where the best candidates are going for interviews in different organizations, time is important. Thus giving candidates prompt communication makes them stick to the hiring process without being hired by other employers. Furthermore, they are not bound by the operating hours hence candidates can get to interact with the company at their own suitable time. This is admittedly beneficial for companies all over the world such as Square Pharmaceuticals and Beximco Pharmaceuticals in which most applicants may apply during different times of day. All the participants argued that the use of such an application gives employers the ability to offer constant interaction as a key means of speeding up the hiring process.

The pharmaceutical industry in Bangladesh like many industries is flooded with mass applications for very few vacancies available in the company. With the flood of applications more often than not AI can be used to process large portions of data in a matter of minutes. Several participants from the three pharmaceutical companies revealed that hiring via AI is a faster process than using other conventional methods, especially when there are many applications incoming. The outlook of large datasets of applications makes it easier for the AI to analyze the application pool, and the existing patterns to make the right decision for the recruiter. For instance, AI can go through historical hiring data and suggest candidates that are most likely to perform better given the fact that the system already has information on their qualifications, experience and even personality. Thus, this count predicts the capabilities of a candidate, helping the recruiters to direct their attention to the right candidates in an organization effectively sparing much time on unsuitable candidates. In addition, organization policies and laws can be inspected by the AI to guarantee that any application contains all the necessary components so that it

complies with the necessary certifications or years of experience needed. It makes the recruitment process more efficient and minimizes the error occurrence from the candidate who does not meet the required qualifications.

The use of AI in recruitment has been a boon to pharmaceutical companies, including SMC Enterprise Ltd., Square Pharmaceutical Ltd., and Beximco Pharmaceutical Ltd. Through AI systems, companies were able to filter out and engage candidates on various platforms faster than before, while they also received large volumes of data to go through; this had significantly changed. These advancements allow recruiters to step up and perform some of the tasks more efficiently than undertaking high-level hiring decisions. With future developments still uncertain, the use of AI appears to have a broader scope in terms of recruitment and consequent employment selection throughout the various occupations.

- **AI have on getting rid of biases in recruitment**

The effects of AI on bias minimization in recruitment is a topic full of multi-layered discussions and constantly changing. Different participants from different pharmaceutical firms such as SMC Enterprise Ltd., Square Pharmaceutical Ltd., and Beximco Pharmaceutical Ltd., have also disclosed a feeling about the impact of AI in reducing bias in the recruitment process. For some optimism, AI can help in the process of the fight against bias while for others AI may bring new biases or strengthen existing ones when the former is not controlled.

SMC Enterprise Ltd. and Square Pharmaceutical Ltd. participants concurred that where name, gender, or ethnicity can influence the recruiter, they are hidden through AI. Since these inventions cancel out personal details, AI helps to give employment to those who deserve it impartially. Recruiters are protected from making decisions on employment based on appearances, race, gender, or age by anonymization, which can lower prejudices by narrowing down the qualifications of the candidate. This method is effective during the initial steps of recruitment which are normally characterization, resume and application. For instance, some applications are designed with AI these days that look for resumes and rank them obtained from different facets of the list through a set method that doesn't incorporate human prescripts hence filtering out any bias. Still, the representative of Beximco Pharmaceutical Ltd., the Executive HR, dismantled the point claiming that anonymizing candidate information will not solve the problem entirely. While one would assume that anonymity minimizes biases in as much as some are eliminated through the processes like training datasets, proxy variables and the AI design; it does not offer a perfect solution. For example, proxy variables may disclose certain information about a candidate's background or other characteristics that AI may also identify and bring biased results. Furthermore, the bias may still be latent in the different models even when programs that select candidates use falsified names as well as other features.

Another issue that was brought to a broad discussion by participants from Beximco Pharmaceutical Ltd. is that AI can actually just amplify existing biases. This is something of a worry because AI models are built in a way that they learn from past data, which potentially includes previous biases of employers. If the training data for the AI systems is itself skewed by

issues of area of focus, gender, racial, or educational preference when selecting applicants for training, the AI system may repeat the same bias in the hiring process in the future.

Despite these concerns, all respondents from the three firms of the pharmaceutical companies SMC Enterprise Ltd., Square Pharmaceutical Ltd., and Beximco pharmaceutical Ltd. concur that the AI algorithms can be molded and not select people based on any other prejudices. AI developers need to make algorithms explicit, impartial, and void of bias by utilizing diverse, balanced training data. They can also include Fairness checks and doing recurrent audits to ensure that their AI models used in the recruitment process do not worsen the bias. In order to mitigate this bias, organizations can use artificial intelligence systems that can learn from a diversity of data over time. The drawback of this approach is that the AI that is programmed needs to be trained using data sets that are not skewed, but encompass the diverse population of candidate demographics. In this way, AI plays a role in making the hiring process fair, and equal, giving each candidate an equal chance irrespective of the color of their skin, their gender, or origin.

Other major benefits of using AI, as pointed out by all participants are it helps in ensuring that the evaluation is done on standard criteria even during the hiring exercise. Specifically, it is free from some factors such as emotions, which may work against candidature at times, and fatigue. Since AI is able to take as many iterations as it wants to while looking for relevant information, it is also able to apply equally rigorous and equally consistent criteria when evaluating each candidate, when it is a task of selecting employees, thus guaranteeing that the candidates are evaluated fairly and objectively. For instance, in the screening process, one can develop an

algorithm that directs the system's attention to particular qualifications or experiences that are correlated with the job in question and not the superficial characteristics of applicants that may be all but correlated with particular human traits that the screening system may develop in the course of its work. This consistency also assists in do away with bias and all the candidates are suppressed by fair judgment.

- **Using AI possible risks and benefits**

In the following discussion, there is concern the use of Artificial Intelligence in recruitment has elicited different views concerning its strengths and drawbacks. This divide is seen at Bangladesh's SMC Enterprise Ltd., Square Pharmaceutical Ltd, and Beximco Pharmaceutical Ltd., where participants had different views regarding the usage of AI. When looking at AI turning the recruitment processes upside down, it is important to find out the SWOT, as well as the opinions of HR specialists.

One issue that has arisen is that bias fundamentally crops up where it is not foreseen or can be exacerbated wherever AI is utilized. Like it was said before, any AI systems trained to perform a particular task can only be as bias-free as their data feed. The problem with AI systems is that when the data fed on the algorithms involved is biased in some way, such biases are also reflected in the recruiting process. A few of the past and present, HR professionals interviewed including but not limited to SMC Enterprise Ltd employees have noted the need to tackle this problem to avoid passing on the discrimination habit to the next generations. However, it is not

true according to an Assistant HR at SMC and an Executive at Beximco Pharmaceutical Ltd, as they emphatically conveyed that the presence of bias at the time of deployment of AI is something that is a separate set of bias added only if AI is utilized inappropriately. While the respective AI systems are logically and mathematically flawless, their weakness lies in the inability to grasp such subjective characteristics as compatibility with organizational culture or employee's emotional intelligence level. Beximco Pharmaceutical Ltd. underlined this statement insisting that excessive use of artificial intelligence in hiring causes de-humanized procedures that eliminate suitable applicants who would be otherwise good assets to the company in terms of organizational culture. As with most soft skills like creativity, ability to learn, and teamwork, judgment is often left in the hands of the human resource department. Essentially, if AI is the determining factor in the recruitment process, then it might be difficult for those intricacies to be seen and in the long run create even less diverse workplaces. As Beximco mentioned, a "balanced hybrid approach", where AI is used to take advantage of the constant analytical capabilities but not replace the intuition of a person, means an optimal solution increasing the effective use of the company.

At the same time, it is possible to trace several undeniable advantages of AI related to the recruitment process. Everyone understands how AI helps to reduce the time spent on the search and, therefore, improve the process. Both participants from Square Pharmaceutical Ltd. and Beximco Pharmaceutical Ltd. showed high levels of confidence that AI saves on recruitment costs. Here, the use of AI in recruitment is aware of repetitive tasks such as shortlisting and matching job vacancies with candidates. The speed, accuracy, and high degree of effectiveness in candidate matching resulting from the usage of social media potentially result in huge savings on

the expenses incurred during the recruitment exercise. These companies understand that financial returns are possible through the use of AI, for instance, in cutting the amount of time and effort that normally would be spent on paper based recruitment. Moreover, it can enhance the potential candidate matching by examining big data within a short span of time. By applying AI algorithms AI can scan resumes, assess candidate profiles and correlate applicants to the jobs ads depending on certain search criteria such as skills, experience and education. This efficiency enables the elimination of qualified candidates in a big applicant pool therefore making the recruitment process more efficient. Another area that AI can help improve is the candidate experience through the personal interactions that are conducted with the participants from SMC Enterprise Ltd strongly agree with AI. This makes it possible for candidates to get prompt response to their inquiries, notice of status change on their application as well as feedback on the same non-automated means. With this, recruitment is made more interactive and friendly to the candidates hence they can be made to feel that they are participating in making recruitment decisions. Yet, there is no consensus over this point even amongst the participants; employees at Square Pharmaceutical Ltd and Beximco Pharmaceutical Ltd are still not fully convinced that AI brings a significant positive impact on the candidate experience. Hiring speed is another important advantage of AI that can play a big role in reducing the time spent on recruitment. Specifically, AI tools may scan through applications, sort resumes and rank candidates much faster when compared to the comparable processes with human beings. It also has the advantage of opening up more speed in the recruitment process while at the same time enhancing its efficiency according to the findings from both Square Pharmaceutical Ltd. and Beximco Pharmaceutical Ltd. Employing AI, applicants are sorted and the best candidates selected meeting set standards cuts time taken in the hiring process and companies can fill a position

faster. As a result, this saves costs because vacancies are occupied faster, and the demand for services within the process of recruitment is less. Nevertheless, the participants of SMC Enterprise Ltd. comment that instead of leaning on the AI as the key for speed and efficiency improvement in the process, that AI may improve some of the aspects of recruitment but should not eliminate decision-making from human input. They support the reasonable collaboration between AI and traditional assessment approaches and are based on the advantages of the AI approaches in terms of big data handling and fast processing compared to the human-based methods that should remain the key in the assessment of candidates.

3.3.1 Discussion

3.3.2 Recruiting automation vs Recruitment AI

The first step for the company is to establish recruitment goals, which should include the number of positions to be filled and the qualities, such as work experience, soft skills, and education, that the ideal candidate should possess. The second step is to create a plan. This leads us to the step, known as the hiring process. Decisions are made regarding hiring strategies, selecting agents, and extending job postings during this phase. The organization explains Breaugh's employment process from the first to the third step. Moving on to the fourth step, the job applicant becomes variable. We take into consideration the interests of applicants, including their perception of the job's appeal, their expectations from the offer, and their awareness of other opportunities. This also encompasses the applicant's self-awareness and decision-making process. The final step involves employment results. The recruitment process connects these results to all other steps,

representing the culmination of the entire hiring process. The hiring process should align with the company's initial hiring objectives and demonstrate a clear development of strategy and execution of hiring activities (Breaugh, 2018).

But technology doesn't have the ability to learn or make decisions like AI does. As per research, 52% of companies think of AI as automation, but the two are not the same (Khaled Hussein,2024). Also, 81% of recruiters are using AI to speed up their employment process (Khaled Hussein, 2024) Artificial intelligence takes employment automation to the next level by making it more useful. AI-powered sourcing tools actively search through job boards, professional networks, and social media to find passive people who meet specific job requirements and get in touch with them. They look at the online profiles of candidates, judge their skills and experience, and then make a list of the best prospects to look at in more detail. AI reacts to data and keeps getting better at doing tasks by copying knowledge that humans have.

3.3.3 Evolution of AI in Recruitment

With the rise of AI technologies, the pharmaceutical industry in Bangladesh has undergone significant changes, especially in the realm of recruitment. The hiring process in this field involved manual applicant screening, lengthy interviews, and subjective decision-making. However, the increasing popularity of AI has streamlined these steps, making the hiring process faster and more data-driven. Initially, HR departments primarily employed AI tools to automate mundane tasks like CV screening, thereby simplifying their workload. According to a study by Kapoor in 2021, early AI applications focused on automating routine tasks, resulting in

significant time and cost savings for rapidly expanding sectors like pharmaceuticals. As AI technology advanced, businesses began leveraging machine learning algorithms to effectively assess potential candidates based on their skills and experience (Rahman, 2022).

In recent years, AI has evolved within the pharmaceutical hiring process to encompass predictive analytics. This involves using AI models to forecast a candidate's suitability based on historical data. The integration of artificial intelligence into the hiring process has yielded cost savings and quality benefits for both employers and candidates (Khandelwal and Upadhyay, 2018). This has proven particularly valuable in identifying candidates who exhibit the potential for long-term success in specialized pharmaceutical roles that require expertise and precision (Chowdhury, 2023). Employers now employ AI-powered chatbots to engage with candidates, offering instant responses to inquiries, scheduling interviews, and delivering real-time feedback, thereby enhancing the overall candidate experience (Islam & Ali, 2021). Despite these advancements, challenges persist. Resistance to AI utilization in the pharmaceutical hiring process has emerged in Bangladesh due to concerns regarding inadequate digital infrastructure and apprehensions about algorithmic biases (Hossain & Karim, 2022). Nevertheless, the industry is gravitating towards more sophisticated AI applications, such as AI-driven assessment centers and simulations, which assess candidate problem-solving abilities and technical skills critical to pharmaceutical research and development (Ahmed, 2023).

3.3.4 Recruitment Practices in the Pharmaceutical Industry

Many people work in research and development, quality assurance, production, and other areas related to the pharmaceutical industry in Bangladesh, which is crucial for the country's economic

growth. Even though the world is moving towards digitalization, the hiring process in this industry still largely relies on traditional methods. Manual shortlisting of candidates is often part of the screening process, which is time-consuming and can lead to errors (Ahmed et al., 2021). After shortlisting, candidates go through multiple rounds of interviews, including technical assessments and scenario-based questions, which are typically conducted in person. The final hiring decisions often heavily rely on subjective evaluations by hiring managers (Chowdhury & Hasan, 2023). However, larger pharmaceutical companies are starting to use more updated hiring tools, such as applicant tracking systems (ATS), to efficiently manage large pools of applicants (Hossain, 2022). Nonetheless, smaller companies often struggle to adopt new technologies like AI due to limited resources and inadequate technological infrastructure. As a result, smaller businesses tend to hire employees at a slower pace, increasing the likelihood of mismatched skills with the job requirements (Rahman & Islam, 2022). Furthermore, pharmaceutical companies in Bangladesh encounter challenges in retaining skilled workers due to high demand, making employee retention a top priority. To address this, companies are focusing more on workplace branding and creating a positive candidate experience to attract top talent (Ahmed et al., 2021). However, the adoption of more advanced hiring methods is progressing slowly due to various obstacles, including limited technology proficiency among HR staff.

3.3.5 Impact on AI in Recruitment

The COVID-19 pandemic has made it much harder to hire people in many businesses around the world, including the pharmaceutical industry in Bangladesh. In the past, the pharmaceutical industry relied on face-to-face contact and manual screening processes. They had to quickly

adjust to the new challenges that lockdowns, social distance measures, and changing workforce demands brought. One of the most noticeable effects was the quick move to digital HR processes. Companies had to switch to virtual platforms for interviews, tests, and onboarding processes when it became impractical to do interviews in person. It also says that many drug companies in Bangladesh switched to using online platforms like Zoom and Microsoft Teams for interviews, which sped up the hiring process and made sure that safety rules were followed (Rahman, 2021). This change also helped businesses find more qualified people because physical barriers were less of a problem when hiring candidates virtually. In addition, the pandemic sped up the use of AI and automation in hiring, which was already a big trend before COVID-19. According to Ahmed and Chowdhury (2022), pharmaceutical companies use AI tools more and more to deal with the increased number of applications during the pandemic. This was due to the high volume of job seekers and the significant demand for healthcare workers. We used AI to automatically screen and shortlist candidates. This freed up HR teams to work on more important tasks and cut down on hiring delays. However, the outbreak also presented certain challenges. It can be hard to get people to take part in pharmaceutical studies, so more and more research is being done on how to make it easier to find individuals to take part (Treweek et al., 2018). Additionally, the rapid and remote nature of the hiring process resulted in incomplete evaluations of candidates, potentially leading to a mismatch between candidates and job openings (Hasan, 2021). Because of COVID-19, there was a huge need for people to work in the pharmaceutical industry, especially in jobs related to research, development, and the supply chain. In 2020, Bangladesh suspended nearly 90% of non-commercial research (Hossain and Karim, 2022). During a period of high unpredictability, pharmaceutical companies had to strike a balance between hiring quickly and ensuring quality hires.

3.3.6 Advantages of AI in Recruitment

In Bangladesh's pharmaceutical industry, AI has greatly impacted the hiring process, offering many benefits such as expediting hiring, aiding in decision-making, and enhancing the candidate experience. AI-powered recruitment tools automate repetitive and time-consuming tasks like CV screening, candidate shortlisting, and interview scheduling, streamlining the process for quick and effective resume screening (Chris Collins, 2018). According to Ahmed in 2023, automated systems can process a large number of applications much faster than a human recruiter. Additionally, AI-powered employment platforms use machine learning algorithms to analyze candidate data in greater detail, predicting how well candidates will perform on the job and matching them with suitable roles in the pharmaceutical field (Hossain & Karim, 2022). Predictive analytics can help companies find individuals with the right mix of skills, experience, and long-term success prospects. Furthermore, AI has the potential to reduce human bias in hiring by basing decisions solely on data, which is particularly significant in Bangladesh, where hiring decisions often reflect personal opinions (Berta Melder, 2018). This has contributed to creating a more diverse and inclusive workplace. AI-powered tools such as chatbots and automated contact systems keep candidates informed and engaged throughout the hiring process, improving the candidate experience (Chowdhury, 2023) and minimizing uncertainty. In a competitive industry like pharmaceuticals, providing a positive candidate experience can also enhance a company's reputation. AI systems generate valuable information and data that enrich hiring strategies, helping companies select the best candidates and predict their performance. By continually learning from past hiring experiences, AI assists companies in refining their hiring tactics for better future results.

3.3.7 Challenges of AI in Recruitment

Despite the increasing use of AI in hiring, the pharmaceutical industry in Bangladesh continues to face numerous challenges. The lack of internet infrastructure is one of the main problems. This is because a lot of pharmaceuticals, especially smaller ones, don't have the technology or knowledge to use AI-driven hiring systems correctly (Hossain & Karim, 2022). This hinders the widespread adoption of AI, thereby limiting its potential benefits. Another significant issue is the potential for algorithmic bias. This occurs when AI systems use outdated data to make decisions. Biased data can lead to unfair outcomes in the hiring process. This issue is particularly concerning in a field like pharmaceuticals, where having a wide range of skills and perspectives is important. Additionally, both HR professionals and job candidates have doubts about AI-driven recruitment. Many human resources managers in the pharmaceutical industry are hesitant to use AI to make significant hiring decisions because they believe important human traits like creativity, empathy, and problem-solving skills might be overlooked (Ahmed, 2022). On the candidate side, people often doubt the fairness of AI-based tests, which makes them concerned about the transparency and accountability of the hiring process (Islam & Ali, 2021). Finally, social concerns and compliance with regulations pose significant challenges. The pharmaceutical business is subject to numerous regulations, and any AI tools used for hiring must adhere to strict legal and ethical guidelines. Legal privacy issues may arise when using external data sets (Chichester Jr. and Gifen 2019). Gathering more information can also raise concerns regarding law, ethics, and privacy (Akerkar 2019). So, constant monitoring and adjustments are necessary to ensure AI systems are transparent, fair, and free from discrimination.

3.3.8 Case Studies: AI Implementation in Pharmaceutical

The pharmaceutical industry in Bangladesh is increasingly turning to AI technologies to overcome recruitment challenges. Several companies have successfully integrated AI into their hiring processes, leading to improvements in efficiency and decision-making.

Case Study 1: Square Pharmaceuticals Ltd.

Square Pharmaceuticals, one of the leading pharmaceutical companies in Bangladesh, implemented AI-based recruitment tools in 2021 to streamline its hiring process. Initially, the company concentrated on utilizing AI for candidate screening and shortlisting, resulting in a 40% reduction in the time required for manual CV reviews. AI could become an innovation tool to increase industry efficiency (Drug Discovery, 2019). We programmed AI algorithms to filter candidates based on predefined criteria like relevant skills, experience, and qualifications. That saved time and ensured that only the best candidates were interviewed. Moreover, Square Pharmaceuticals introduced AI-powered chatbots to enhance candidate communication. The chatbot handled initial inquiries, provided updates on application status, and scheduled interviews, leading to a 25% increase in candidate satisfaction (Hasan & Chowdhury, 2023). The company's HR team reported a significant reduction in the administrative burden, allowing them to focus on higher-value tasks such as strategic planning and talent development.

Case Study 2: Beximco Pharmaceuticals Ltd.

In 2022, Beximco Pharmaceuticals adopted AI technology to improve the quality of their hires and reduce recruitment biases. They implemented machine learning algorithms to assess candidates' qualifications, previous work performance, and cultural fit within the organization. A

recruitment process entails having the perfect plan at the correct time for the right candidates (Link and Saxena, 2014). By incorporating AI-driven predictive analytics, Beximco Pharmaceuticals reported a 30% improvement in employee retention rates within the first six months of employment. Additionally, the implementation of AI reduced unconscious bias in the recruitment process by removing identifiers such as names and addresses during the initial screening phase. This led to a more diverse talent pool being considered for higher-level positions, fostering a more inclusive workplace culture.

Case Study 3: SMC Pharmaceuticals Ltd.

In 2022, SMC Pharmaceuticals used AI-driven recruitment tools to improve hiring. The organization initially used AI to automate candidate screening and shortlisting, which cut manual resume review time by 35%. The AI system evaluated applicants based on specific skills, qualifications, and work history. Automation accelerated the recruitment process and chose just the best candidates for interviews. With AI-powered virtual assistants, SMC Pharmaceuticals improved applicant communication and streamlined candidate screening. These virtual assistants coordinated initial candidate interactions, provided real-time application status updates, and scheduled interviews, increasing candidate engagement and satisfaction by 20%. SMC Pharmaceuticals' HR staff found that AI reduced their operational workload, freeing up time for strategic activities like workforce planning and employee development. In this case study, SMC Pharmaceuticals used AI to improve its recruitment process, including efficiency, applicant experiences, and talent acquisition.

3.3.9 Future Trends in AI for Recruitment

It is evident that AI is having a major impact on everyday life and the economy, creating opportunities for new businesses, changes in job roles, and more (Kavitha R., 2023). With the evolving landscape of the pharmaceutical industry in Bangladesh, AI is expected to play a larger role in recruitment and in developing new methods to address the needs of the growing sector. Future forecasts suggest a rising reliance on AI-driven talent analytics. To achieve this, companies utilize complex algorithms that analyze extensive employee data. This enables them to forecast their future workforce requirements, identify top candidates, and pinpoint skill gaps within their organizations. AI will not only facilitate the identification of suitable hires, but it will also aid in workforce planning and in devising strategies to maintain employee satisfaction. Simply put, the system will not tolerate any forms of bias (Berta Melder, 2018). The recruitment process is increasingly integrating natural language processing (NLP) and conversational AI. NLP assists AI in better comprehending and interpreting candidate responses during the recruitment process, such as in video interviews or written assessments. This provides employers with deeper insights into a candidate's communication qualities and cultural alignment. These AI tools will increasingly assess not only technical competencies but also "soft skills," which are becoming increasingly crucial in the pharmaceutical industry. Moreover, we anticipate the widespread use of AI-powered simulations and virtual testing centers. Candidates can utilize these platforms to engage in virtual job scenarios that mimic real pharmaceutical tasks. This provides a more accurate assessment of their problem-solving abilities and decision-making skills (Hossain, 2022). This trend is particularly significant for highly specialized roles in the pharmaceutical industry, where practical experience and industry knowledge hold great importance. The ethical use of AI is also poised to become increasingly vital in pharmaceutical

employment in Bangladesh. Overgrown traditional prejudices related to bias in online versus offline recruitment are still present, and the recent findings indicate that the application of social networks can be more effective than face-to-face and other offline recruitment approaches (Brøgger‐Mikkelsen et al., 2020). This involves the establishment of AI governance frameworks that prioritize fairness, accountability, and transparency. Lastly, a new trend involves the combined use of AI and blockchain technology to securely and the primary reason why recognition is preferable to rejection is that the benefits of AI far outweigh the drawbacks (Iyer V., 2023).

3.4 Summary and Conclusion

The pharmaceutical sector in Bangladesh is undergoing a significant transformation as a result of AI in the recruitment process. This is due to increased efficiency, decreased biasness, and an improved hiring experience overall. AI's speedy and unbiased processing of massive amounts of data makes it easier to find qualified applicants, which lowers costs and promotes quicker hiring and better job matching. Despite these benefits, there are still obstacles to AI adoption, especially for smaller businesses without the required technology infrastructure. There are still concerns about algorithmic bias and AI's limitations in evaluating human qualities such as empathy and creativity. But as AI-powered technologies become more widely used, the pharmaceutical industry stands to gain from inclusive, data-driven hiring processes. Future developments in AI, including natural language processing, predictive analytics, and ethical AI governance, will continue to influence the nature of employment in Bangladesh's pharmaceutical sector. This study highlights how AI has the ability to improve hiring practices and solve important issues with equity and talent acquisition in a sector that is changing quickly.

3.5 Implications

AI may have a significant impact on Bangladesh's pharmaceutical industry's hiring practices. It could improve the sector's hiring process efficiency, accuracy, and streamlining. AI determines each applicant's matching result based on factors related to the organization's culture as well as criteria relevant to the job (Neelie, 2017). For those in charge of making decisions, it also presents opportunities and problems. The research on artificial intelligence in hiring will shed light on how automation affects hiring decisions, how to lessen human prejudice, and how to enhance the candidate experience. Using AI in the recruitment process can make it easier to handle a huge volume of applications, allowing for quick and effective resume screening (Chris Collins, 2018). By automating the screening of resumes, setting up interviews, and utilizing predictive analytics to evaluate candidate profiles, AI-driven recruiting can assist companies in the pharmaceutical industry in finding outstanding talent more quickly. To make well-informed judgments about the use of AI technology, HR managers, legislators, and industry stakeholders in Bangladesh may find great value in this data. AI can also lessen the time it takes to acquire new employees, increase diversity in the hiring process, and assist the pharmaceutical industry in overcoming its difficulties in locating specialized talent. All of these benefits will eventually boost employee engagement and retention. Nonetheless, to preserve a fair hiring process, decision-makers must take into account moral considerations, training needs, and the human element. For HR specialists, scholars, and business executives looking to maximize hiring tactics in Bangladesh's pharmaceutical sector, these findings may be a vital resource.

Reference

1. Agouridis, A. (2023, February 9). *How AI is Transforming the world of Recruitment* . Jobylon. https://www.jobylon.com/blog/how-ai-is-transforming-the-world-of-recruitment

2. K, D. (2024, September 17). *AI Recruiting: The Complete Guide*. Recruiterflow Blog. https://recruiterflow.com/blog/ai-recruiting/

3. Vedapradha, R., Hariharan, R., & Shivakami, R. (2019, April). Artificial intelligence: a technological prototype in recruitment. *Journal of Service Science and Management*, *12*(03), 382–390. https://doi.org/10.4236/jssm.2019.123026

4. *Fraij, J., & László, V. (2021). A literature review: Artificial intelligence impact on the recruitment process. International Journal of Engineering and Management Sciences, 6(1), 108-121.* https://ojs.lib.unideb.hu/IJEMS/article/view/8288/8452

5. Henstock, P. V. (2019). Artificial Intelligence for pharma: Time for internal investment. *Trends in Pharmacological Sciences*, *40*(8), 543–546. https://doi.org/10.1016/j.tips.2019.05.003

6. Kulkov, I. (2021). The role of artificial intelligence in business transformation: A case of pharmaceutical companies. *Technology in Society*, *66*, 101629. https://doi.org/10.1016/j.techsoc.2021.101629

7. Jatobá, M., Santos, J., Gutierriz, I., Moscon, D., Fernandes, P. O., & Teixeira, J. P. (2019). Evolution of artificial intelligence research in human resources. *Procedia Computer Science*, *164*, 137–142. https://doi.org/10.1016/j.procs.2019.12.165

8. Johansson, J., & Herranen, S. (2019). *The application of Artificial Intelligence (AI) in Human Resource Management: Current state of AI and its impact on the traditional recruitment process*. DIVA. https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1322478&dswid=-1615

9. Chen, Z. (2022). Collaboration among recruiters and artificial intelligence: removing human prejudices in employment. *Cognition Technology & Work*, *25*(1), 135–149. https://doi.org/10.1007/s10111-022-00716-0

10. Mirza, M., Siebert, S., Pratt, A., Insch, E., McIntosh, F., Paton, J., Wright, C., Buckley, C. D., Isaacs, J., McInnes, I. B., Raza, K., & Falahee, M. (2021). Impact of the COVID‐19 pandemic on recruitment to clinical research studies in rheumatology. *Musculoskeletal Care*, *20*(1), 209–213. https://doi.org/10.1002/msc.1561

11. Bhalgat, K. H. (2019). *An exploration of how Artificial Intelligence is impacting recruitment and selection process*. (Master's thesis, Dublin Business School). https://esource.dbs.ie/bitstream/10788/3956/1/mba_bhalgat.pdf

Appendix

"Impact of AI on recruitment in the pharmaceuticals industry of Bangladesh"

- How does AI make the recruitment process more efficient?

1. Does AI help in screening resumes faster than human recruiters?
2. Can AI chatbots handle initial candidate interactions and scheduling?
3. Does AI reduce the time-to-hire by automating repetitive tasks?
4. Is AI capable of analyzing large volumes of applications quickly?

- What effect does AI have on getting rid of biases in recruitment?

1. Does AI help to reduce bias by anonymizing candidate information?
2. Can AI algorithms be designed to avoid racial bias in candidate selection?
3. Is AI able to ensure a more diverse pool of candidates by broadening the search criteria?
4. Does AI assist in maintaining objective evaluation criteria?

- In terms of AI in employment, what are the possible risks and benefits?

1. Can AI potentially introduce new forms of bias if not properly managed?

2. Does AI help in enhancing the candidate experience through personalized interactions?

3. Is there a risk of over-reliance on AI leading to a lack of human judgment in recruitment?

4. Can AI reduce recruitment costs significantly for companies?