

Internship Report on
Streamlining Regulatory Compliance and
Business Administration of Siemens Healthineers



Submitted to

Islamic University of Technology

in partial fulfillment of the requirements for the degree of
BBA in Business and Technology Management (BTM)

Submitted by:

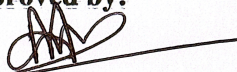
Shayan Farshid

ID: 180061116

I understand that my final report will become part of the permanent collection of the Islamic University of Technology BBA in Business and Technology Management Program. My signature authorizes the release of my final report to any reader upon request.

Date of submission: 12 May, 2023

Approved by:



Md. Abdullah Al Mamun

Assistant Professor, BTM Department

Islamic University of Technology



**Streamlining Regulatory Compliance and
Business Administration of Siemens Healthineers**

Letter of Transmittal

May 19, 2023

Md. Abdullah Al Mamun
Assistant Professor
Department of Business and Technology Management
Islamic University of Technology

Subject: Internship report submission on “Streamlining Regulatory Compliance and Business Administration of Siemens Healthineers”

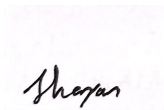
Sir,

I am pleased to submit the Internship Report that is required to submit as part of the internship course, BTM 4800 in my 8th Semester. I have been working as a Business Analyst Intern at “Siemens Healthcare Ltd.”. This report contains my experience in the company.

It is my immense pleasure in presenting you this report based on my observations and experiences during my internship period, starting from January 01, 2023 to March 31, 2023. During this period, I worked under the supervision of Afeef Mahmud, Business Administration Professional as well as under A. S. Md. Manjur, Manager, Performance Controller of Siemens Healthineers.

I hope that the report will reflect my learning during the internship program, and that you will find it in order.

Sincerely yours,



Shayan Farshid
ID: 180061116
Department of Business and Technology Management
Islamic University of Technology

Declaration

I, Shayan Farshid, ID 180061116, student of Business and Technology Management in the Islamic University of Technology, declare that this BBA internship report is accurate and completed on the topic "Internship Report on Streamlining Regulatory Compliance and Business Administration of Siemens Healthineers". The report has been delivered to the Islamic University of Technology (IUT) under the guidance of Md. Abdullah Al Mamun, Assistant Professor, Department of Business and Technology Management, Islamic University of Technology (IUT). This is my own work, and it has not been submitted for a certificate or degree at any other institution or institute.

I further declare that I am solely responsible for any error that may have been entered into my internship report.



Shayan Farshid
ID: 180061116
Department of Business and Technology Management
Islamic University of Technology

Acknowledgment

I express my utmost appreciation to the Almighty for granting me the opportunity and endurance to complete my internship program and prepare this report within the designated timeframe. I wholeheartedly thank my institution, the Islamic University of Technology, for arranging the internship program as a part of the BTM 4800 course. I am also grateful to Siemens Healthcare Ltd in Bangladesh for recruiting me as an intern.

I would like to take this opportunity to express my gratitude and heartiest regards to my internship supervisors, Afeef Mahmud, Business Administration Professional, and A. S. Md. Manjur, Manager, Performance Controller at Siemens Healthineers, for their exemplary guidance, encouragement, and monitoring throughout my internship program for three months. I firmly believe that the blessings, guidance, and cooperation provided by them from time to time shall carry me on a long path in the journey of my life.

I am deeply grateful to the officials and colleagues who have supported me during my internship at this esteemed organization. I extend my heartfelt thanks to Md. Hafizur Rahman (Managing Director), Md. Golam Mortuza Menon (Executive Director), Nihad Sultana (Head of Sales), Monir Hossain Rana (Associate Manager, Sales), Shamimul Haque Tanjil (Sr. Manager, Sales), Md. Abdullah Al Mahmid (Sr. Manager, Sales), Abu Saleh Md. Musa (Senior Executive, Business Administration), Abdul Wazed (Portfolio Manager), Israt Jahan (Customer Service Professional), Imran Hossain (Logistics Support Manager), and others, and I humbly apologize for not being able to mention everyone's credentials. I can boldly say that without their guidance and support, completing my internship would have been impossible.

I would also like to humbly thank and express my deepest gratitude to my academic supervisor, Md. Abdullah Al Mamun, Assistant Professor, Department of Business and Technology Management, Islamic University of Technology for his kind support, help, and inspiration throughout the duration of the internship, which has undoubtedly pushed me beyond my limits in working hard and strengthened my confidence in learning through the internship program.

Last but not least, I extend my sincere appreciation to my parents and my partner for their unwavering support and invaluable guidance throughout my entire internship journey. I am also grateful to my friends for providing me with the mental fortitude and encouragement to prepare this report and for their support throughout the past four years.

Executive Summary

The internship report highlights the major activities and research carried out by the author regarding academic and non-academic perspectives. This report aims to identify and emphasize the analysis carried out, projects completed, and experience gained and focuses on the accomplishments and opportunities for growth and development identified during the internship.

The author was assigned to Siemens Healthcare Ltd in Bangladesh, the local office of Siemens Healthineers AG as an intern to complete his internship. During the period of three months, the author got the opportunity to learn from the dynamic environment of the renowned multinational company. This provided a unique learning experience and helped the author understand the company's operations comprehensively. The author also had the opportunity to contribute to ongoing projects and collaborate with team members, which further enhanced their skills and knowledge.

Siemens AG, founded in 1847, is a global powerhouse in engineering. With approximately more than 405,000 employees, it has expanded its business reach to more than 190 countries and approximately 500 manufacturing sites in 51 countries. Siemens Bangladesh Limited (SBL), established in 1974, is a leader in communications, transportation, medical equipment, power generation and distribution, information technology, and other sectors. Siemens Healthcare Limited, a top provider of medical equipment, IT services, and solutions, separated from Siemens Bangladesh Limited in December 2016. Their vision is to facilitate sustainable business growth and provide about 95% uptime service in the medical field, playing a vital role in improving patient diagnosis and care in hospitals in Bangladesh.

The purpose of this report is to provide an experiential overview of the operations, regulations, and commercial activities of Siemens Healthcare Ltd. It also aims to introduce the sector, products and services, marketing strategies, major customers, and competitors. The report summarizes the major learning outcomes achieved during the internship program, obtained through practical observation and on-the-job training. The information gathered for this report was primarily obtained through observation and oral presentations by staff members across different levels of the organization. Most of the data was sourced from internal documents and reports provided by the company. However, due to confidentiality policies, some data related to reporting requirements were inaccessible. As the report had a limited timeframe, it primarily covers the major topics, with supporting information and process explanations (not practically approached) included in the Appendix section.

After completing the internship, the author feels more confident, skilled, and professional than before. The experience has provided him with invaluable insights and practical knowledge that he can apply to his future endeavors.

Contents

Chapter 1: Introduction	01
1. Introduction	02
1.1 Objectives	02
1.1.1 Broader Objectives	02
1.1.2 Specific Objectives	03
1.2 Scope	04
1.3 Methodology	04
1.4 Limitations	05
Chapter 2: Company Overview	07
2. Overview of Siemens AG	08
2.1 About Siemens Healthineers	08
2.1.1 About Siemens Healthcare Ltd	09
2.1.2 Core Elements	09
2.1.3 Strategic Objectives	11
2.1.4 Company History	12
2.2 Siemens Healthineers Operations	12
2.2.1 Products and Services	14
2.2.2 Customers	15
2.3 Siemens Healthcare Ltd.	16
2.3.1 Siemens Healthcare Ltd. Operations	17
2.3.2 Organogram	17
2.4 Company Analysis	19

Chapter 3: Industry Analysis	20
3.1 Industry Size	21
3.1.1 Growth Trends	21
3.1.2 Maturity of the Industry	22
3.2 External Economic Factors	23
3.2.1 Managing External Factors and Effects on Industry	24
3.3 Seasonality	24
3.4 Technological Factors	24
3.4.1 Managing Technological Factors	25
3.5 Regulatory, Political and Legal	25
3.5.1 Managing Uncertainties	26
3.6 Competitive Environment	26
3.6.1 Managing Competitive Environment	26
3.7 Industry Overview using PESTEL	27
Chapter 4: Description of main duties	27
4. Internship Description	30
4.1 Corporate Culture at Siemens Healthcare Limited	30
4.1.1 Categorization of Employees	31
4.2 Onboarding at Siemens Healthcare Limited as an Intern	31
4.3 Professional Activities and Responsibilities	31
4.3.1 Using the System Application Program (SAP)	31
4.3.2 Working with Circadian	32
4.3.3 Generating Invoices	35
4.3.4 Organizing and Processing Service Invoices	36
4.3.5 Streamlining Regulatory and Tender Process	37
4.3.6 Visiting on-site with the Sales Team	38
4.3.7 Creating Letter of Credit (L/C)	38
4.3.8 Managing Expense Reimbursement	39

4.4 Non-Professional Activities and Responsibilities	39
4.4.1 Scanning, Photocopying, and Shredding	40
4.4.2 Documentation Management	40
Chapter 5: Analysis	41
5. Analysis of Duties in the Internship Site	42
Conclusion and Recommendations	45
Conclusion and Recommendations	46
Recommendations	46
Conclusion	47
References	48
Appendices	49

List of Figures

Figure 1: About Siemens Healthineers	08
Figure 2: Core Elements of Siemens Healthineers	10
Figure 3: Siemens Healthineers Strategy Implementation Timeline	11
Figure 4: Global Operations of Siemens Healthineers	14
Figure 5: Organogram of Siemens Healthcare Limited	18
Figure 6: Siemens Healthineers Performance Graph	21
Figure 7: Patient Touchpoints	23
Figure 8: Import Requisition via Circadian	32
Figure 9: Bill Sticker Details in Circadian	33
Figure 10: Contract Details in Circadian	34
Figure 11: Invoices for Goods and Services	35
Figure 12: Sample of a Service Report	37
Figure 13: Values of Siemens Healthineers	42

List of Tables

Table 1: Strategic Objectives of Siemens Healthineers	12
Table 2: Government Hospitals and Healthcare Organizations Clients of Siemens Healthcare Ltd.	15
Table 3: Non-Government Hospitals and Healthcare Organizations Clients of Siemens Healthcare Ltd.	16
Table 4: Operating Business Units of Siemens Healthcare Ltd.	17
Table 5: SWOT Analysis of Siemens Healthcare Ltd	19
Table 6: BCG Matrix	43

Chapter 1: Introduction

1. Introduction

The Department of Business and Technology Management (BTM) of the Islamic University of Technology started its journey back in 2017 with a batch of approximately 90 students to strengthen and integrate the business and management knowledge of graduates along with technical skills to expand the horizon of the job prospects of the students in crucial areas like management, marketing, accounting, finance, economics, technology, and other relevant sectors.

The internship is one of the most critical phases for a student to gain practical experience working in a real-world office, business, or institution. As students, we receive a lot of knowledge from books, newspapers, journals, and internet sources, but most of it is theoretical and does not provide us with a practical understanding of how all of these things work in the real business world. I looked into all of the well-known companies and multinational corporations to pursue my internship program, which led me to Siemens Healthcare Limited, one of Bangladesh's most prominent medical equipment service providers. I was always fascinated by how they became so popular in their respective fields, which led me to choose this reputable multinational corporation.

1.1 Objectives

This report aims to provide a thorough overview of my internship experience at Siemens Healthcare Limited, with a particular emphasis on regulatory affairs and business administration. This report consists of important interpretations and comprehensions regarding business administration as well as regulatory compliance of Siemens Healthcare, and my offerings to the organization in the internship period. Furthermore, the report will explain how my experience has aided in advancement of my career goals and professional development in the relevant fields.

1.1.1 Broader Objectives

Siemens Healthcare Limited is a well-known multinational corporation committed to giving its interns a rewarding and engaging experience that will prepare them for successful careers in the healthcare industry. The goal of this report is to document my internship experience while also highlighting the program's larger goals, which include:

- Providing interns with career development support and guidance to ensure they have a clear and thorough understanding of the entire company's operations as well as their career objectives.
- Making realistic projects and decision-making tasks available for on-the-job training and experience.

- Developing skills, expertise, and qualities that will allow interns to compete in the job market and contribute to the future success of the company.
- Providing learning and professional development opportunities through career development programs and opportunities.
- Introducing the interns to the facilities of Siemens Healthcare Limited and operations and the healthcare industry to increment their understanding of the role of the organization in meeting the demands of healthcare.

By implementing and achieving these aforementioned goals, Siemens Healthcare Limited wishes to positively impact each and every one by providing them with the resources, tools, and practical experiences they need to kick-start their careers.

1.1.1 Specific Objectives

As an intern, I was able to gain practical experience with the operations and administration company. More specifically, I gained a thorough understanding of Siemens Healthcare Limited's regulatory affairs and business administration processes. My goals for participating in the internship program are as follows:

- Examining and improving Siemens Healthcare Limited's current regulatory and business administration processes.
- Gaining an understanding of the regulatory compliance requirements in the healthcare industry and how they apply to Siemens Healthcare Ltd.
- Creating recommendations for Siemens Healthcare Ltd to improve regulatory and business administration processes, including cost-cutting, efficiency-boosting, and overall effectiveness strategies.
- Determining the potential impact of recommended improvements on the company's operations, customer satisfaction, and overall competitiveness.
- Discussing the challenges and opportunities associated with streamlining regulatory affairs and business administration at Siemens Healthcare Ltd, as well as potential solutions.
- Analyzing how suggested improvements might affect the business's operations, client satisfaction, and general competitiveness.

- Discuss alternative solutions as well as the opportunities and challenges involved with streamlining regulatory affairs and business administration at Siemens Healthcare Ltd.

1.2 Scope

The internship report provides a summary of my work experience during the internship at Siemens Healthcare Limited, focusing primarily on streamlining, regulatory affairs, and business administration. The history of Siemens Healthcare Limited, its activities, and how the internship helped me comprehend the theoretical ideas I studied in school are all covered in this report. The duties I was given to do during the internship, such as process streamlining, regulatory matters, and company administration, will be detailed in the report. I will discuss my learning process, give examples of how I completed these activities, and point out any difficulties I encountered. Additionally, this study will include suggestions for improving the effectiveness and efficiency of certain procedures. The pieces of advice are based on my observations and experiences only.

1.3 Methodology

The methodology for this internship report is based on the experience and expertise gained from the internship between January 1 and March 31, 2023. Observation, participation, and interviews with company employees served as a few of the primary sources of information for the report. This report's methodology is intended to give the readers a thorough understanding of Siemens Healthcare Limited, its operations, and how streamlining, regulatory compliance, and business administration are carried out in the real world.

Research Design

This report is descriptive encompassing the knowledge I gained from case studies, articles, and my three-month internship. Primary and secondary data have been collected and used to administer it. To learn more about the company, secondary data was mostly required, along with direct interviews.

Sources of Data

The intended outcomes of this internship report, which are primarily qualitative and experience-based, guided the choice of data collection techniques. The validity, reliability, generalizability, trustworthiness, and transparency criteria for measuring the quality of the research were all supported in this paper.

Primary Data: This report was created using an extensive amount of primary data obtained from various sources through Siemens Healthcare Limited. The procedures that follow are the primary data collection methods used in this report:

- Direct interviewing: Using well-designed questionnaires, I conducted interviews with relevant personnel, including managers and employees, to gain insights into various organizational processes related to streamlining, regulatory affairs, and business administration.
- Personal communication: Through personal conversations with personnel, I was able to gain a better understanding of the role of business administration, regulatory, commercial activities, sales, and service within Siemens Healthcare Limited.
- Method of observation: To gain a practical understanding of how these concepts are implemented, I observed various organizational processes related to streamlining in various departments of Siemens Healthcare Limited.
- Practical work: During my internship, I was assigned a variety of practical tasks and projects, which allowed me to gain hands-on experience and a deeper understanding of the organization.

Secondary Data: For gaining a broader understanding in the duration of my internship period at Siemens Healthcare Limited, I had utilized and applied various primary and secondary sources of data. Trustworthy secondary data sources such as official documents, case studies, and websites were used to supplement the primary data..

- Official Documents: Official documents included internal reports and documents, as well as publicly available information such as annual reports, manuals, brochures, and other publications
- Case Studies: Case studies were analyzed using published research reports, brochures, guides, and articles to analyze Siemens Healthcare Limited's strategic direction..
- Websites: Siemens Healthcare Limited's official website provided an enormous amount of information about the company's history, operations, and culture

1.4 Limitations

During my internship period, I faced some unforeseen limitations which barred me from accurately describing some relevant details. Few of these constraints have been pointed out:

- Data confidentiality: The organization has implemented thorough data confidentiality to protect sensitive data from leakage. As such, I could not retrieve some data or information that could have provided a holistic view of some of the organization's procedures.
- Insufficient transcribed documents: Only a small number of transcribed documents were accessible to gather information relevant to the report. Some of the departments did not have the appropriate documentation, creating difficulty to collect information on particular processes.
- Limited internship scope: My activities as an intern were restricted to certain areas of the company. As a result, there could have been some gaps in my comprehension of it.

Despite the constraints I faced during my internship at Siemens Healthcare Limited, I did my best to present a complete and detailed picture of my experience and the organization's role in streamlining regulatory affairs, and business administration. I have attempted to provide accurate data and insights while also adhering to the organization's confidentiality and privacy policies. By recognizing these limitations, I am drawing attention to potential gaps in my data collection and analysis process. I also want to express my commitment to providing the most accurate and comprehensive picture of my experience and the organization to the best of my ability.

Chapter 2: The Company Overview

2. Overview of Siemens AG

In 1847, Werner Von Siemens and George Halske founded Siemens AG, one of the most successful global powerhouses in the field of electronics and electrical engineering. Despite its beginnings as a telegraph manufacturing company, it has evolved over time and expanded its business reach into almost every sector of electronics and electrical engineering. They have played an important role in its overall development since then. Siemens AG is now one of the world's largest corporations. They have successfully expanded their business in more than 190 countries, with over 405,000 employees, and approximately 500 manufacturing sites in 51 countries (Siemens Asia 2012).

2.1 About Siemens Healthineers

A German-based manufacturer of medical machinery, Siemens Healthineers (formerly known as Siemens Healthcare, Siemens Medical Systems, and Siemens Medical Solutions). Its head offices are located in the city of Erlangen in Germany, and it obliges as the conglomerate for a quantity of medical technologies businesses. Diagnostic imaging and laboratory tests are among the company's goods and services. More than 50,000 people work for Siemens Healthineers worldwide, and the company is present in more than 70 nations. The company's goal is to support healthcare practitioners enlarge value by allowing them to advance precision medicine, change the means through which care is delivered, and enhance patient satisfaction.



Figure 1: About Siemens Healthineers (Siemens Healthineers Annual Report 2020)

As of September 2022, ¹Siemens Healthineers employed 69,500 people and had revenues of Euros 21,714 million and furthermore a net profit of Euros 2,054 million. In almost 70 countries throughout the world, Siemens Healthineers is directly present and holds a dominant market position in growth areas. Germany, China, and the United States are where they mostly have production facilities. They create, produce, and market a wide variety of cutting-edge therapeutic and diagnostic-related services and goods to healthcare practitioners in more than 180 countries with holistic system competency. The four divisions of their operations of the business are diagnostics, imaging, Varian, and advanced therapies. They are the top global provider in each of the markets.

2.1.1 About Siemens Healthcare Limited

Siemens Healthcare Limited has been managed independently within Siemens since October 1, 2014. This gives them more innovative business autonomy to customize business processes to customer requirements. Their goal is to assist them in meeting the challenges of a changing business environment and successfully transitioning to next-generation healthcare. Currently, about seventy people are employed in their head office in Bangladesh, with their office based in Gulshan-1, Dhaka.

Their medical technology expertise is critical to the well-being of patients in both private and public hospitals. Siemens Healthcare Limited's vision is to enable long-term business growth and 95% uptime in the medical field. They have foreign-trained engineers, an excellent service center with modern infrastructure including a spare parts bank, an electronic and mechanical workshop, computer support, and so on. Siemens Healthcare Limited has become the country's technology of choice thanks to an efficient customer care model, earlier diagnosis, pre-symptomatic monitoring, detection, and problem prevention. Their Healthcare Sector achieved its largest order for the Bangladesh market to date in the Financial year 2011 (From October 1st, 2010, to September 30th, 2011), which was worth approximately EUR 5 million.

2.1.2 The Core Elements

The three dimensions of health management of Siemens Healthcare Limited and Siemens Healthineers are People, Workplaces, and Culture. They are especially dedicated to fostering a healthy and positive work environment for the staff members and inspiring them to take responsibility for their own health and well-being. These initiatives are aimed at keeping all Healthineers physically fit for duty as well as enhancing their personal well-being to help them reach their maximum potential. In FY 2022, they introduced a newer global health-management policy that encircles the international framework and the total aspiration of Siemens Healthineers

¹ Siemens Healthineers. (2021). Annual Report 2020

based on the promotion and protection of the health and well-being of all Healthineers. They require a multidimensional and interdisciplinary approach that are involving employees, senior leaders, supervisors, managers, human resources, and EHS.

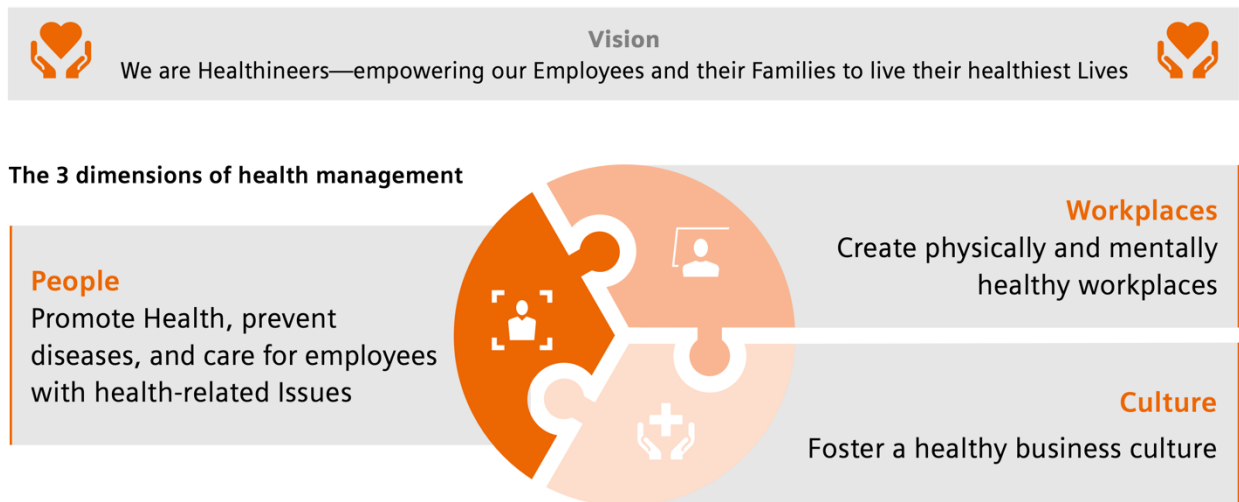


Figure 2: Core Elements of Siemens Healthineers (Siemens Healthineers Annual Report 2020)

Vision

The Vision of Siemens Healthineers is “*We are Healthineers—empowering our Employees and their Families to live their healthiest Lives.*” Following their vision, they have identified the following three domains: People, Workplaces, and Culture, all of which they believe are vital for addressing health management holistically.

Mission

The mission statement of Siemens Healthineers is “*To enable healthcare providers to increase their value by empowering themselves on the expedition towards intensifying precision medicine, renovating care delivery, and refining patient experience, which is all permitted through digitalizing the healthcare.*”

Purpose

The purpose of Siemens Healthineers is “*We pioneer breakthroughs in healthcare. For everyone. Everywhere.*” This is what they're known for as a leader in the healthcare sector: With the power to influence the patients’ well-being and healthcare globally and to increase access to easy and budget-friendly care for those who need it, Siemens Healthineers aspires to play an even bigger role in the healthcare industry.

Their goods, services, and solutions aid medical professionals in both preventing illnesses from happening and correctly diagnosing and selecting the most effective treatments for patients who do become ill, allowing them to recover more quickly. For the betterment of patients, medical professionals, and the entire society as a whole, they are always improving, raising the bar, adapting to new difficulties, and bringing ground-breaking innovations to the market.

Core Values

The three fundamental elements define the corporate culture of Siemens Healthineers: purpose, values, and behaviors. It brings together 69,000 Healthineers from more than 70 countries, including Varian, Corindus colleagues, and ECG Management Consultants. These values demonstrate clear commitments to achieving their goal: listen first, learn passionately, win together, take bold steps, and own it. These values are at the heart of everyday work. They demonstrate how members collaborate with one another and function within the societies in which they live, and they serve as the benchmarks against which they hold themselves accountable.

2.1.3 Strategic Objectives

Engineering quality and innovation are important to staying a successful competitor in the domains of medical imaging, engineering, and diagnostics.. Siemens Healthineers' strategic focus is on assisting healthcare providers, and its customers, in increasing efficiency and lowering costs through the development of new and innovative product solutions. These strategic goals are also reflected in the company's new name, "Healthineers," which blends the themes of "engineering success" and "healthcare pioneering." The achievement of the strategic objectives, on the other hand, is heavily reliant on the performance of the company's risk management strategies in relation to risks coming from its internal and external surroundings.

Siemens Healthineers has set forth its unique and visionary strategic goals for guaranteeing its continued competitiveness following 2025. To carry out Strategy 2025, they have put in place three phases: "Reinforcing," "Upgrading," and "New Ambition."



Figure 3: Siemens Healthineers Strategy Implementation Timeline (Siemens Healthineers Annual Report 2020)

The Safety and Health Culture Change Program is built on three value statements, which are supported by workstreams on safety and health culture assessments, leadership involvement, and incident prevention:

1. Take care of yourself and of others.
2. Do not compromise on safety and health.
3. Think, plan, and learn—every day.

Table 1: Strategic Objectives of Siemens Healthineers

Strategic Objectives of Siemens Healthineers				
Expand the portfolio of medicine and digital healthcare solutions	Increase revenue growth in core businesses	Drive operational excellence and productivity	Expand market presence and customer base	Drive sustainability and social responsibility

2.1.4 Company History

Siemens Healthineers is a German medical technology enterprise which specializes in medical equipment and technology development, manufacturing, and distribution. The company has a long and rich history, dating back to 1847, when Werner von Siemens founded Siemens & Halske, a telegraph technology specialist.

Siemens introduced the first X-ray tube in the year 1896, laying the groundwork for the company's entry into the medical technology market. Siemens continued to develop new medical equipment and technologies over the next several decades, including ultrasound systems, CT scanners, and MRI machines.

Siemens Medical Solutions was established in 1998 to consolidate the company's various medical technology under a single umbrella. Siemens Healthcare became a separate legal entity in 2008 and was renamed Siemens Healthineers in 2016. In December 2016 Siemens Healthcare Limited had become separated from Siemens Bangladesh Limited.

2.2 Siemens Healthineers' Operations

Siemens Healthineers is a global medical technology company that offers healthcare providers a variety of diagnostic and therapeutic solutions. Diagnostic imaging, laboratory diagnostics, point-of-care testing, and advanced therapies are among the services provided by the company.

Diagnostic imaging is one of Siemens Healthineers' key operations, offering a variety of solutions such as X-ray, computed tomography (CT), magnetic resonance imaging (MRI), and molecular imaging. These solutions are intended to help healthcare providers diagnose and monitor a variety of medical conditions. The company also provides laboratory diagnostics, which includes clinical laboratory testing solutions such as hematology, chemistry, and immunoassay.

Globally, Siemens Healthineers also has a significant point-of-care testing segment, which provides a variety of diagnostic tests that can be conducted at the patient's bedside, in the emergency room, or in other non-laboratory settings. The advanced treatments section of the organization provides novel solutions for treating a variety of medical problems, including cancer and neurological illnesses.

The main business operations are divided into four unique segments: Imaging, Diagnostics, Varian, and Advanced Therapies. These are detailed below:

1. **Imaging:** This division develops and markets a wide range of imaging systems and solutions for medical diagnosis and treatment, such as X-ray, CT, MRI, and ultrasound devices, as well as image capture, processing, and analysis software.
2. **Diagnostics:** This segment provides a comprehensive portfolio of clinical laboratory diagnostic instruments, reagents, and services, including automated analyzers for blood tests, urine tests, and infectious disease screening, as well as molecular diagnostic tools for genetic testing and personalized medicine.
3. **Varian:** This division offers innovative radiotherapy and radiosurgery solutions for cancer treatment, including linear accelerators, brachytherapy equipment, and treatment planning and management software.
4. **Advanced Therapies:** This category is dedicated to the development of novel technologies and solutions for minimally invasive surgical procedures such as robotic-assisted surgery, interventional cardiology, and endovascular therapies.

Siemens Healthineers is led by industry-standard global leaders, who follow certain hierarchies and have numerous years of experience in their respective fields, and are responsible for maintaining the flow of information between countries and respective branch offices. A sample operational duties and responsibilities are given below:

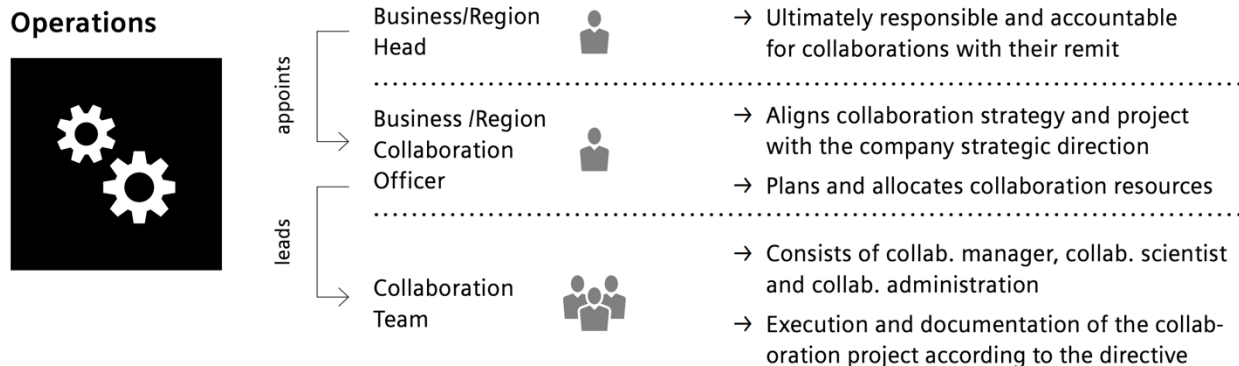


Figure 4: Global Operations of Siemens Healthineers (Siemens Healthineers Sustainability Report 2022)

2.2.1 Products and Services

Siemens Healthcare Limited provides comprehensive healthcare via a single origin, integrating cutting-edge laboratory diagnostics, imaging technologies, and specialist information technology. Siemens Healthcare has acquired a 52% market share in Bangladesh with the following medical goods and services:

1. Systems for Angiography
2. Lithotripsy Devices
3. Systems for Magnetic Resonance Imaging (MRI)
4. Mammography Equipment
5. C-Arm Systems on Wheels
6. CT (Computerized Tomography) Systems
7. Doppler Color Machine
8. Digital Grayscale Ultrasound Systems
9. Simulator and Linear Accelerator Systems
10. Nuclear Medicine Systems (Gamma Camera & PET)
11. Systems for X-Ray (Radiology and Fluoroscopy)
12. Mobile X-Ray Equipment

13. Echocardiography Simulator OT Table
14. Ultra-Sonogram
15. Anesthesia Machine
16. OPG
17. Dental X-Ray
18. Servo
19. Ventilator
20. Dental Chair
21. OT Light
22. Patient Monitoring
23. Gas Pipeline and others.

2.2.2 Customers

Siemens Healthcare Limited provides a wide range of machines to both public and private hospitals. Some of their most important clients are listed below:

- **Government Clients**

Table 2: Government Hospitals and Healthcare Organizations Clients of Siemens Healthcare Ltd.

Government Hospitals and Healthcare Organizations	CMSD, Dhaka (comprised of 180 clinic/hospital users)
	BSMMU in Dhaka
	NICVD in Dhaka
	Dhaka Cancer Hospital
	Dhaka's Combined Military Hospital (CMH)
	NITOR (Dhaka)
	ICMH, Dhaka
	AEC (comprised of ten NMC)

- **Non-Government Clients**

Table 3: Non-Government Hospitals and Healthcare Organizations Clients of Siemens Healthcare Ltd.

Non-Government Hospitals and Healthcare Organizations	Dhaka Apollo Hospitals
	Ibn-Sina Trust, Dhaka (comprising about six clinics/hospitals)
	Lab Aid, Dhaka
	Dhaka's United Hospital
	Popular in Dhaka (has 5 diagnostic centers)
	Square Hospital in Dhaka
	BIRDEM in Dhaka
	Chittagong Chevron

2.3 Siemens Healthcare Limited

Siemens Healthcare Limited Bangladesh, with its head office located in Gulshan 1, is a subsidiary of Siemens Healthineers AG, a German corporation. The company has a hierarchical structure, with the top management team overseeing the company's overall operations and strategic direction. The Bangladesh subsidiary is in charge of distributing

Siemens Healthineers' medical imaging and diagnostics products in the laboratories, and providing customers with technical support and service. The company prioritizes quality and customer satisfaction, and it aspires to provide innovative solutions to improve healthcare outcomes in Bangladesh. Siemens Healthcare Limited has a matrix structure that combines geographic and functional divisions.

2.3.1 Siemens Healthcare Limited Operations

Siemens Healthcare Limited, after the acquisition of Varian Medical Systems, currently deals with three segments of its core business operations- Imaging, Diagnostics, and Varian. They are currently divided into 3 major departments to facilitate their local operations in medical services – Sales, Service, and Commercial. They manage all aspects of the entire company’s operations.

Table 4: Operating Business Units of Siemens Healthcare Ltd.

Business Unit	Description
Sales	Responsible for various hospitals, clinics, and other healthcare providers in Bangladesh by promoting and selling Siemens Healthineers' products and services, and maintaining customer retention and satisfaction in close collaboration with the Service team.
Service	Offers installation, repair, and upgrade services as well as technical support for the products and solutions of Siemens Healthineers, and proactively maintains and monitors equipment to guarantee high uptime and dependability.
Commercial	Manages procurement, logistics, and supply chain for Siemens Healthineers' Bangladesh operations, and works closely with the Sales and Service teams to ensure that products and services are delivered to customers on time.

2.3.2 Organogram

Siemens Healthcare Limited has a total of approximately 70 employees, consisting of contractual as well as permanent employees. It is currently headed by Md. Hafizur Rahman Khan, Managing Director. The entire organogram of Siemens Healthcare Limited is illustrated:

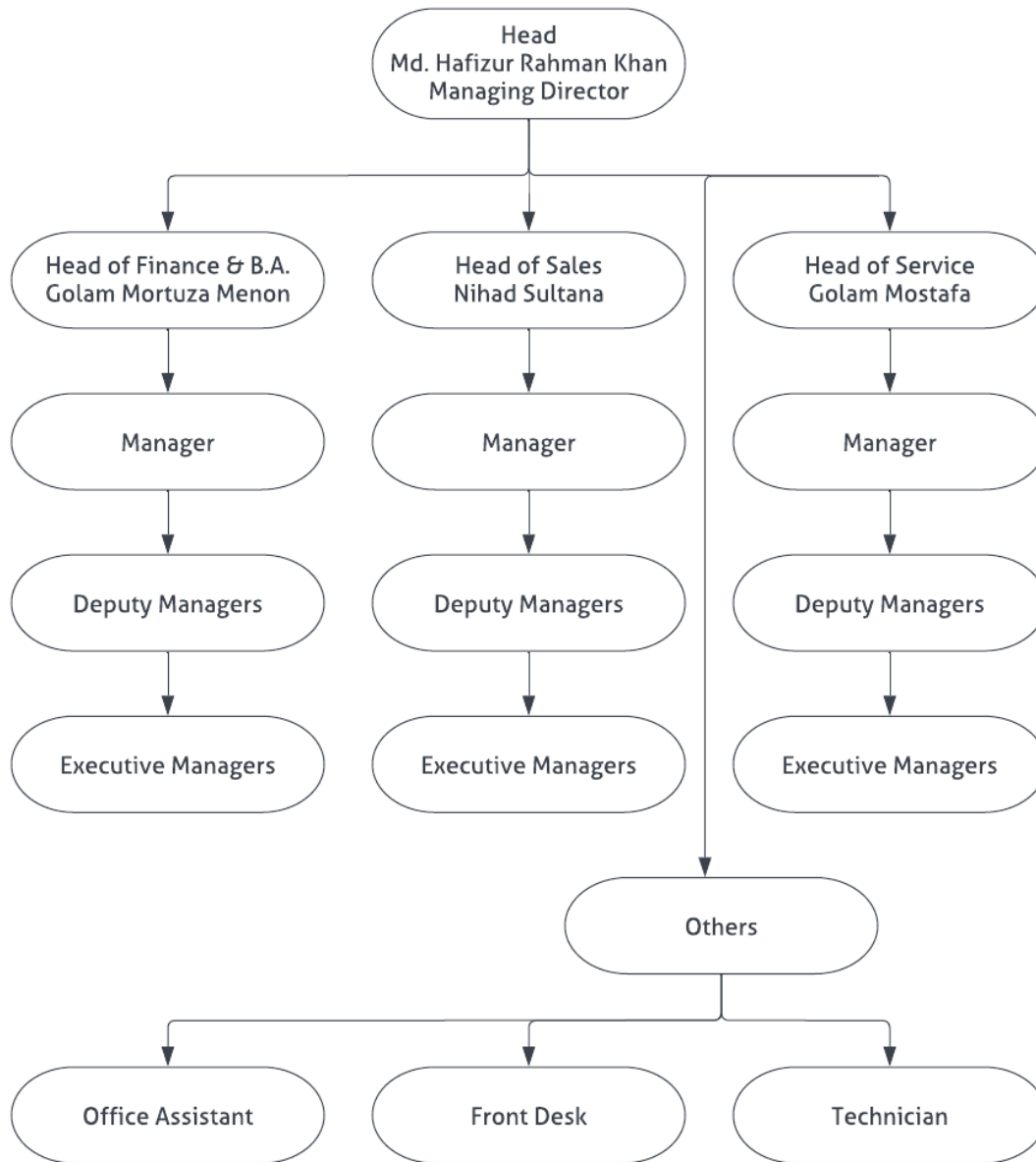
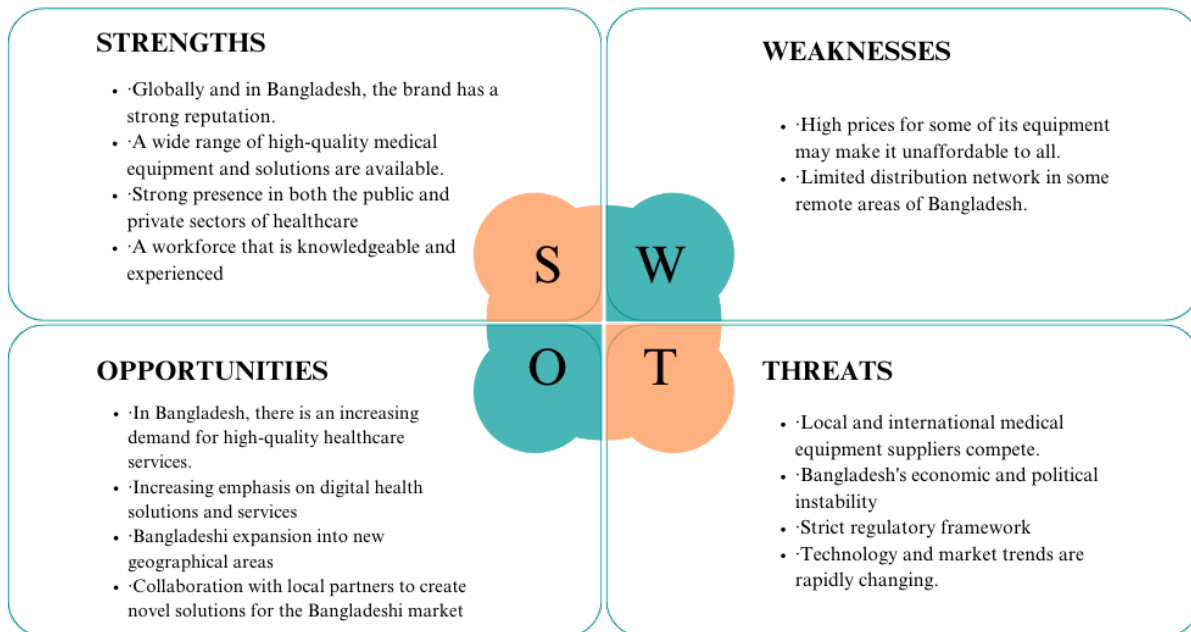


Figure 5: Organogram of Siemens Healthcare Limited

2.4 Company Analysis

A SWOT analysis showing the strengths, weaknesses, opportunities, and threats of Siemens Healthcare Limited is given below:

Table 5: SWOT Analysis of Siemens Healthcare Ltd.



Chapter 3: Industry Analysis

3. Industry Analysis

Industry analysis is a component of strategic planning for a company or organization. Industry analysis is concerned with analyzing the industrial environment in which firms operate.

3.1 Industry Size

In the Fiscal Year 2022, Siemens Healthineers acquired goods and services worth about EUR 10,300 million from third parties, accounting for over forty percent of the total revenue. They have a mentionable massive presence and a strong market position in emerging markets and are directly represented in over 70 countries around the world. The primary manufacturing locations are in the United States, Germany, as well as China. They have an international supplier network of around 40,000 people.

3.1.1 Growth Trends

Siemens Healthineers is a global market leader in healthcare technology. In accordance with Grand View Research, the international medical technology market was worth USD 425.5 billion in 2020 and is forecasted to grow at a 5.7% CAGR from 2021 to 2028. The market share for Siemens Healthineers is expected to increase as demand for medical technology products and services rises. The company reported revenue of €14.5 billion in 2020, a 6% increase over the previous year. Profitability has risen as well, with a net income of €1.9 billion declared in 2020.

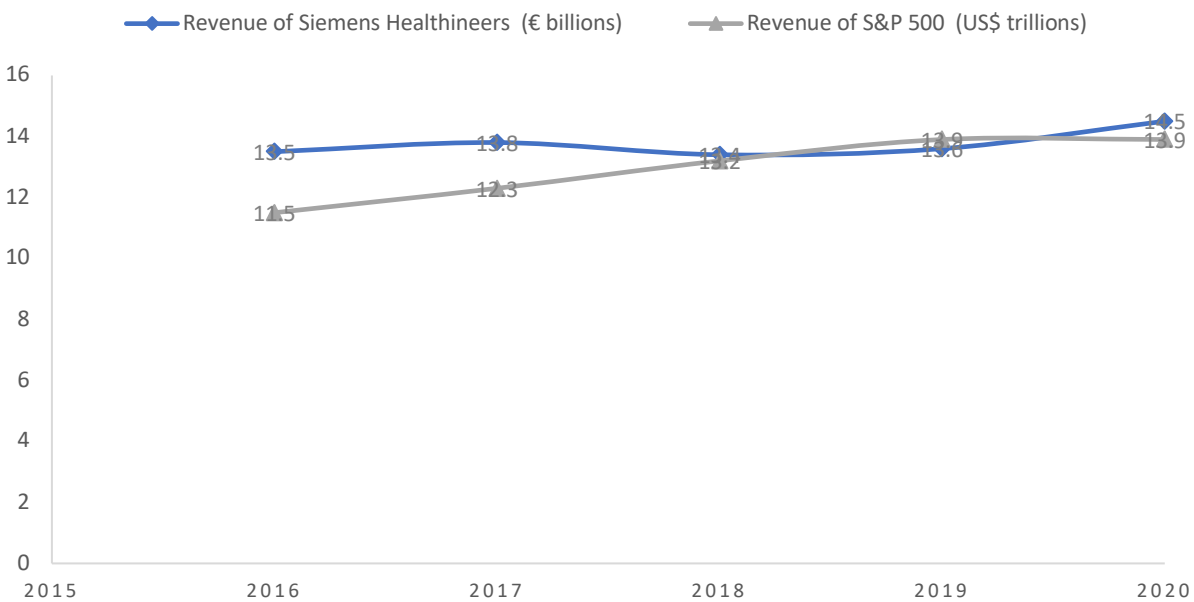


Figure 6: Siemens Healthineers Performance Graph (SHL Internal Audit Report 2021)

Performance Graph

From 2016 through 2020, the table shows Siemens Healthineers' revenue and net income in billions of euros. It also shows the revenue of the S&P 500 in trillions of US dollars for the same years. Siemens Healthineers' revenue has been continuously expanding, with a large increase from 2019 to 2020, according to the data. Net income has likewise gradually increased throughout the years. The S&P 500's revenue, on the other hand, has been expanding, albeit at a slower rate than Siemens Healthineers'. In terms of sales and net income, Siemens Healthineers is rising faster than the S&P 500, according to the data.

3.1.2 Maturity of the Industry

Siemens Healthineers has done well in this mature industry, as evidenced by its five-year revenue and net income growth. ²Revenue has increased from €13.5 billion in 2016 to €14.5 billion in 2020, while net income has increased from €1.4 billion in 2016 to a whopping €1.9 billion in 2020. In addition to its financial performance, Siemens Healthineers has been investing in R&D to remain competitive in the industry. In 2020, the company will invest €2.2 billion in R&D, accounting for 15.2% of its revenue.

The number the individuals spotted and cured with the in vivo products in Diagnostic Imaging, Advanced, and Cancer Therapies, as well as patients being aided with in vitro diagnostic tests in clinical laboratories or at the point of care, is indicated by patient touchpoints. Overall, they hope to extend the patient touchpoints in marginalized countries by above 75%, from about 147.5 million in the fiscal year 2020 to 220 million in the fiscal year 2025 and more than 260 million in the fiscal year 2030. They successfully achieved the reach of 212 million patient touchpoints in FY 2022 and are on target to meet the goal.

² Siemens Healthineers. (n.d.). Sustainability Report 2022

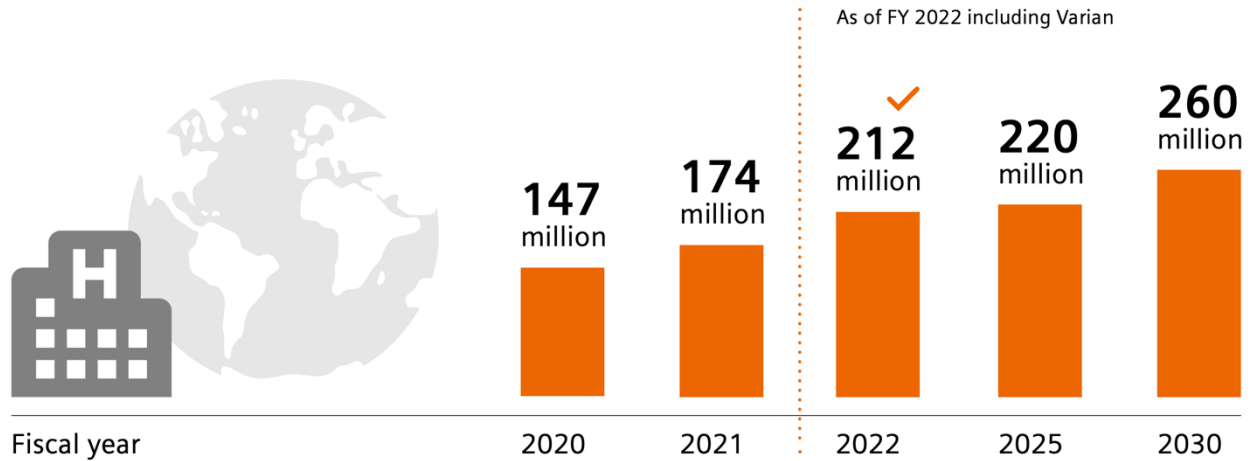


Figure 7: Patient Touchpoints (Siemens Healthineers Annual Report 2020)

3.2 External Economic Factors

Siemens Healthineers, as a major player within the medical sector, is influenced by an array of external economic factors that have an impact on its business operations. Global economic conditions, such as major countries' economic policies, trade regulations, and currency instability and fluctuations, have an impact on the company's revenue and profits. Changes in government regulations, policies, and healthcare spending have an outcome on the business's growth and profitability. Changes in technology, competition from other market players, and customer demand for new products and services are all external factors affecting Siemens Healthineers. In order to remain highly competitive as well as continue to grow its business, the organization cannot but adapt to the external economic factors that are mentioned.

3.2.1 Managing External Factors and Effects on Industry

Like any other firm, Siemens Healthineers is impacted by external economic forces that may have an impact on its operations. External variables may include:

1. **Economic Conditions:** The accomplishment of Siemens is persuaded by the worldwide economic conditions. Its revenue is produced from plentiful regions, and a slump in any of these regions' economies could have an after-effect on the business's revenue.
2. **Foreign Exchange Rates:** Siemens functions across a number of countries, and disparities in foreign currency exchange rates can have a significant influence on revenue and profitability. For instance, if the dollar of the United States strengthens against the Taka, Siemens

Healthineers' revenue, and profitability will suffer as its products become expensive to Bangladeshi customers.

3. **Regulation Environment:** The healthcare business is controlled strictly, and deviations in the regulatory framework can have a substantial influence on Siemens Healthineers' functions. In order to pledge that its products and services are in harmony with regulatory requirements, the company has to stay current on regulatory changes and compliance needs of the host country.
4. **Competitive Environment:** Siemens Healthineers faces intense competition in the healthcare market. General Electric and Philips are two of the market's major competitors. To be competitive, Siemens Healthineers must continue to develop and provide high-quality products and services.
5. **Technological Advances:** Improvements in technology have the potential to significantly alter the healthcare industry. In order to offer innovative products and services, Siemens Healthineers must keep up with technical changes.

3.3 Seasonality

Seasonality is a year-to-year variance in revenue or sales that occurs at specific times of the year. Seasonality affects different industries and regions in different ways. Seasonality may arise in the case of Siemens Healthineers in Bangladesh due to factors such as public holidays and the monsoon season. Public holidays in Bangladesh, such as Eid-ul-Fitr, Eid-ul-Adha, Easter Holidays, Durga Puja, and others, can have an impact on the demand for healthcare services, including those supplied by Siemens Healthineers. Many people travel to their hometowns or take duty away from work during these holidays, which may lead to a decrease in demand for healthcare services. Demand also fluctuates during peak and off-peak seasons related to healthcare products and services necessities.

3.4 Technological Factors

Siemens Healthineers is a key player in the healthcare business in Bangladesh. Besides, it has made significant contributions to innovations in the sector. Some of the technological factors influencing Siemens Healthineers in Bangladesh are as follows:

1. **Digitalization:** To provide accurate and timely disease diagnosis, Siemens Healthineers has implemented digitalization in its product offerings, including advanced diagnostic imaging and laboratory diagnostics equipment. Bangladesh's healthcare services have improved as a result of digitalization.

2. **Automation:** Siemens Healthineers has also used automation in Bangladesh's healthcare industry, which has decreased human error and increased productivity in diagnostic and laboratory procedures. Automation has sped up the diagnosing process and helped shorten the time needed for laboratory tests.
3. **Artificial intelligence (AI):** AI has been implemented into Siemens Healthineers' products and services, which has improved the precision of diagnosis and treatment. AI has been applied to imaging and laboratory diagnostics in Bangladesh to increase the efficiency and precision of diagnosis.

Various other relevant technological factors have also been implemented through the products and services offered by Siemens Healthineers.

3.4.1 Managing Technological Factors

Managing Siemens Healthineers' technological factors entails staying current on the latest technological advancements in the healthcare industry, identifying the potential impact of these advancements on the company's products and services, and adapting to changes as needed. This necessitates investment in R&D to create innovative products and services that are in line with the changing needs of customers and the healthcare industry.

Siemens Healthineers ensures that all of its products and services adhere to all applicable regulations and standards. The company prioritizes data privacy and security while maintaining high product quality and reliability standards. Furthermore, they have a well-defined strategy for incorporating new technologies into existing products and services, as well as developing new products and services that leverage emerging technologies.

3.5 Regulatory, Political and Legal

The healthcare regulatory environment is highly complex, with stringent regulations and compliance requirements. Siemens Healthineers must adhere to and comply with a number of laws and regulations in Bangladesh, including those governing data privacy, product safety, and quality control. Changes in government policies and trade rules can also have a direct effect on the operations of the organization. Suits, intellectual property rights, and anti-corruption compliance are all legal considerations that can have an impact on a company's reputation and financial success. Siemens Healthineers must negotiate these regulatory, political, and legal factors in order to assure compliance and mitigate any potential risks depending on our nation's rules and regulations as put forth by the government.

3.5.1 Managing Uncertainties

Siemens Healthineers must successfully manage regulatory, political, and legal factors to ensure the smooth operation of its operations in Bangladesh. Staying current on regulatory and compliance changes, as well as maintaining positive relationships with government officials and key stakeholders, are all part of this. The corporation must also obey all applicable laws and regulations to avoid legal complications that could hurt its business. Effective handling of these issues can help Siemens Healthineers develop a strong presence and expand its business in Bangladesh.

3.6 Competitive Environment

Siemens Healthineers competes in an intensely competitive environment in Bangladesh. The healthcare business in Bangladesh is rapidly expanding, with various domestic and international players competing for market share. Siemens Healthineers is a company that competes with firms such as GE Healthcare, Philips Healthcare, Mindray, and others. To remain competitive, Siemens Healthineers must constantly develop and provide high-quality products and services. The company's reputation for cutting-edge technology and high-quality products has helped it to establish a significant position in the Bangladesh healthcare sector. Furthermore, Siemens Healthineers' strong partnerships with local distributors and healthcare providers have aided the company in establishing a strong presence in the region.

3.6.1 Managing Competitive Environment

Siemens Healthineers focuses on offering innovative and high-quality products and services, maintaining strong customer relationships, and continuously adapting to changing market dynamics in order to manage the competitive environment in Bangladesh. To keep up with technological advancements and stay ahead of the competition, the company prioritizes investments in research and development. Furthermore, Siemens Healthineers invests in marketing and branding initiatives to raise brand awareness and improve its market reputation. Effective competitive environment management assists them in establishing a strong presence in Bangladesh and driving business growth.

3.7 Industry Overview using PESTEL

1) Political factors:

Regulations: Siemens Healthineers is conditional on a variety of healthcare, safety, and ecological regulations. Regulation compliance is critical for avoiding fines and maintaining a positive reputation.

Government policies: Government policies affecting healthcare funding and reimbursement can have a significant impact on Siemens Healthineers' revenue.

2) Economic Factors:

Global economic conditions: Because Siemens Healthineers generates revenue from multiple regions, the company's performance is linked to global economic conditions.

Foreign currency exchange rates: Because Siemens Healthineers works in numerous countries, oscillations in foreign currency rates can have an impact on revenue and profitability. Inflationary pressures can have an impact on the company's cost structure and margins.

3) Social Factors:

Demographics: An aging population increases demand for healthcare services such as medical imaging and diagnostics, which Siemens Healthineers specializes in.

Health consciousness: As people become more health-conscious, there is a greater demand for preventative healthcare services and medical devices.

4) Technological Factors:

Innovation: Technological advancements can have a significant impact on the healthcare industry. As such, Siemens Healthineers invests extensively in research and development to remain ahead of technological breakthroughs.

Digitalization: Siemens Healthineers is investing in digitalization, including artificial intelligence and data analytics, to improve patient outcomes and streamline operations.

5) **Environmental Factors:**

Sustainable Future: Siemens Healthineers is dedicated to environmental sustainability and minimizing its environmental impact. The company has established goals for lowering its greenhouse gas emissions and water consumption.

6) **Legal Factors:**

Intellectual property: In order to maintain its competitive position, Siemens Healthineers often relies on patents and other forms of intellectual property protection under laws.

Compliance: As a top-notch healthcare company, Siemens Healthineers is required to adhere to a variety of legal requirements concerning safety, privacy, and data protection.

Chapter 4: Description of Main Duties

4. Internship Description

I had joined Siemens Healthcare Limited, the local office of Siemens Healthineers AG as a Business Development and Analyst intern. My role was quite flexible and involved the operations of the entire company, and I worked under the supervision of Afeef Mahmud, Business Administration Professional for the first month, and under the supervision of A. S. Md. Manjur, Manager, Performance Controller of Siemens Healthineers for the remaining period.

My internship journey started on January 1, 2023, and ended on March 31, 2023. It was a tenuous three-month internship program where I was operating physically in my workplace at Siemens Healthcare Limited. My report herewith shows all the ways in which I have identified key areas for streamlining the regulatory affairs and business administration process of Siemens Healthineers. Although it is very difficult to observe and bring forth a substantial change as an intern through such a short period, I have tried my best to point out some areas for improvement and also foresee some of the effective and efficient processes in the operations of the entire organization.

4.1 Corporate Culture at Siemens Healthcare Limited

The corporate culture at Siemens Healthcare Limited in Bangladesh is known for being friendly, collaborative, and flexible. As a renowned multinational company with a proven history of excellent working environment, the company values teamwork and encourages employees to work together to achieve common goals, as well as valuing innovation, excellence, and collaboration, and strives to create an open, transparent, and inclusive work environment. The company promotes a learning and growth culture, encouraging employees to learn new skills and take on new challenges. The leadership team is committed to establishing a positive work-life balance and a welcoming workplace for all workers. The work environment is encouraging, and employees are encouraged to experiment with new ideas. Siemens Healthcare Limited encourages a positive work-life balance, and the company fosters a culture of lifelong learning and development.

As an intern at Siemens Healthcare Limited, I found the work culture to be extremely supportive of my learning and professional development. The company's culture heavily emphasizes collaboration, innovation, and excellence, which is reflected in how employees collaborate to achieve common goals. I received regular feedback on my work, which assisted me in improving and learning new skills. The company also provides various online and offline training and improvement agendas to help personnel advance their comprehension and skills. The management team was friendly and available to answer any questions or concerns I had during my internship.

4.1.1 Categorization of Employees

Siemens Healthcare Limited primarily comprises two categories of employees- contractual and permanent. Due to limitations and certain restrictions, the company can only hire a limited number of permanent employees. As such, a mentionable number of employees are hired on a contractual basis which is renewed yearly by an outsourced third-party contractor. Every employee is given access to their own personal laptops by the organization. While permanent employees do enjoy all the essential benefits like insurance, LFA, and festival bonuses, attractive remuneration packages are offered to contractual employees as well, and to my knowledge, there is no discrimination between these categories at all in the workplace.

4.2 Onboarding at Siemens Healthcare Limited as an Intern

The onboarding process for an intern at Siemens Healthcare Limited was quite simple and efficient. I received an offer letter outlining the terms of the internship, including the duration and compensation, after being offered the internship. After accepting the offer, I was given all of the necessary information about the company and the specific department in which I would be working. During my first week, I attended an introductory session in which I learned about the company's mission, values, and culture. I was also shown around the office and introduced to members of my team and other colleagues by HR. I was also given a briefing about how the organization works, about the dos and don'ts as an intern, and about certain restrictions regarding compliance and regulations.

4.3 Professional Activities and Responsibilities

During my internship tenure at Siemens Healthcare Ltd., I was involved in various functions and processes throughout the entire organization. I had gained mentionable hands-on experience with all the technical hardware and software, as well as through the networking intranet platform as an intern. Some of the mentionable tasks and activities that I have done throughout my internship tenure are highlighted below.

4.3.1 Using the System Application Program (SAP)

During my internship at Siemens Healthcare Ltd., I had the opportunity to work with SAP, which is a component of ERP (Enterprise Resource Planning) software used by many well-known companies around the world as part of their technological advancement. SAP, which stands for System Application Program, is a software program that is used to integrate all aspects of a business and generate consolidated reports across multiple businesses and countries. While only a

small number of companies in Bangladesh use this software, Siemens Healthcare Ltd. has implemented it to keep all business documents safe and secure. This software is accessible to all employees, but each individual must have their access card to update daily activities and review all information. As the software is unable to read text, all the information is assigned via different numbers and symbols to ensure ease of reading and interpretation by the software. I was given a basic walkthrough as it is a highly complex and restrictive software intended for use only by employees.

4.3.2 Working with Circadian

As an intern at Siemens Healthcare Limited, I learned how to use the Circadian system for various procurement, finance, and business administration functions. Circadian is an alternative ERP system used internally and exclusive to Siemens Healthcare Limited.

This system is used to manage logistics, supply chain, and other functions. For instance, it helps with import requisitions, spare parts requisitions, as well as purchase requisitions. It also aids in the organization of bill sticker information, contracts, expenses, and vendor bills.

The screenshot displays the Circadian ERP system interface. The top navigation bar includes the 'CIRCADIAN' logo, 'Sign Talk', 'Module', and 'Reports' menus. The main content area is divided into two primary sections: 'My Pending Tasks' and 'Requisitions'.

My Pending Tasks - Bill Receive

Req No	Name	Amount	Req By	Req Date
230402050363		70,000		02-Apr-2023
230325050317		14,270		25-Mar-2023
230325050316		22,720		25-Mar-2023
230325050315		54,575		25-Mar-2023
230118050096		622,283		18-Jan-2023
230118050088		140,546		18-Jan-2023
230109050070		47,142		09-Jan-2023
230109050066		45,346		09-Jan-2023
230109050065		82,806		09-Jan-2023
230109050084		201,134		09-Jan-2023
230109050063		130,318		09-Jan-2023
230109050062		28,332		09-Jan-2023
230109050061		24,515		09-Jan-2023
230105050047		265,295		05-Jan-2023
230105050046		30,223		05-Jan-2023
230103050028		44,159		03-Jan-2023
230103050027		17,708		03-Jan-2023
230102050017		28,565		02-Jan-2023
230102050016		32,418		02-Jan-2023
230102050015		28,635		02-Jan-2023
230102050014		32,418		02-Jan-2023
230102050012		28,392		02-Jan-2023
230102050011		20,005		02-Jan-2023

Requisitions - My Pending Requisitions status

Req	Activity
Import Requisition 191209100045	20
Import Requisition 200119100001	20
Import Requisition 200119100002	20
Import Requisition 200119100003	20
Import Requisition 200128100005	20
Import Requisition 200204100006	20
Import Requisition 200811100014	20
Import Requisition 200809100013	20
Import Requisition 200813100018	20
Import Requisition 200812100017	20
Import Requisition 200812100016	20
Import Requisition 200824100021	20
Import Requisition 200824100020	20
Import Requisition 200824100019	20
Purchase Requisition Approval Workflow 230315010074 Purchase Requisition Foreign	57
Purchase Requisition Approval Workflow 230405010099 Purchase Requisition Foreign	

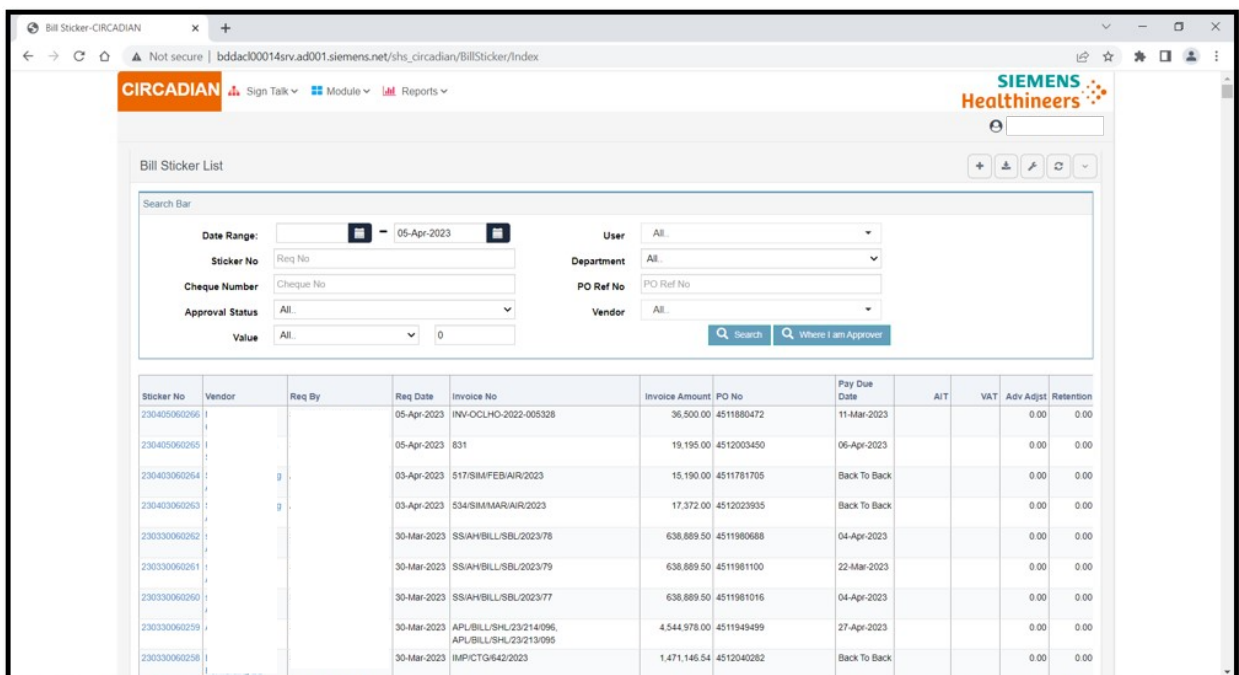
Figure 8: Import Requisition via Circadian

Import Requisition via Circadian:

The import requisition and purchase requisition approval workflows are critical processes at Siemens Healthcare Limited for ensuring efficient and accurate procurement, and I have directly observed and made changes through one of my supervisors in this system.

First, when a purchase or import request is made, it is submitted via a requisition form in the software. This form includes information such as the item number or service requested, the quantity required, the date, and the budget allocation. The requisition is then reviewed and approved by the relevant department(s). If the request exceeds the budgeted amount, it may be forwarded to the accounting department as well as the higher-level management for authorization. Once approved, the requisition is dispatched to the purchasing division for further action.

When it comes to import requisitions, the purchasing department collaborates with the logistics team to obtain the necessary documents and ensure compliance, and upon verification, they process the vendor payment.



The screenshot displays the 'Bill Sticker List' interface in the Circadian system. The interface includes a search bar and various filters such as Date Range, Sticker No, Cheque Number, Approval Status, User, Department, PO Ref No, and Vendor. Below the filters is a table listing bill stickers with the following columns: Sticker No, Vendor, Req By, Req Date, Invoice No, Invoice Amount, PO No, Pay Due Date, AIT, VAT, Adv Adjst, and Retention.

Sticker No	Vendor	Req By	Req Date	Invoice No	Invoice Amount	PO No	Pay Due Date	AIT	VAT	Adv Adjst	Retention
230405060266			05-Apr-2023	INV-OCLHO-2022-005328	36,500.00	4511880472	11-Mar-2023			0.00	0.00
230405060265			05-Apr-2023	831	19,195.00	4512003450	06-Apr-2023			0.00	0.00
230403060264			03-Apr-2023	517/SIM/FEB/AIR/2023	15,190.00	4511781705	Back To Back			0.00	0.00
230403060263			03-Apr-2023	534/SIM/MAR/AIR/2023	17,372.00	4512023935	Back To Back			0.00	0.00
230330060262			30-Mar-2023	SS/AH/BILL/SBL/2023/78	638,889.50	4511980688	04-Apr-2023			0.00	0.00
230330060261			30-Mar-2023	SS/AH/BILL/SBL/2023/79	638,889.50	4511981100	22-Mar-2023			0.00	0.00
230330060260			30-Mar-2023	SS/AH/BILL/SBL/2023/77	638,889.50	4511981016	04-Apr-2023			0.00	0.00
230330060259			30-Mar-2023	APL/BILL/SHL/23/214096, APL/BILL/SHL/23/213095	4,544,978.00	4511949499	27-Apr-2023			0.00	0.00
230330060258			30-Mar-2023	IMP/CTG/642/2023	1,471,146.54	4512040282	Back To Back			0.00	0.00

Figure 9: Bill Sticker Details in Circadian

Bill Sticker Details in Circadian:

The bill sticker details in Circadian refer to the process of entering and managing vendor bills received by Siemens Healthcare Limited during my internship. This process entailed entering information such as the bill sticker's date range, sticker number, check number, vendor name,

requisition date, invoice number, invoice amount, PO number, and payment due date, among other things. Each vendor bill received a unique sticker number and was entered into the system with all pertinent information.

Before proceeding with the payment, the invoice amount was checked against the purchase order and approval was obtained from the appropriate authority. This ensured that all vendor bills were correctly recorded and approved before payment.

The bill sticker details module in the Circadian system has streamlined the process of managing vendor bills and ensured that all bills were processed in a timely and efficient manner. It also provided a centralized platform for managing and tracking all vendor bills, making it easier to manage cash flow and monitor expenses.

Contract No	Type	Customer	Value (BDT)	Value (USD)	Start Date	End Date	SAP Cont	Billing Plan														
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
230213220015	PLUS			1,500	18-Sep-2020	30-Nov-2025			✓				✓					✓				
230213220014	PLUS			3,800	18-Sep-2020	30-Nov-2025			✓				✓					✓				
230213220013	PLUS			33,973	09-Oct-2020	30-Nov-2025				✓			✓					✓				
230213220012	PLUS			39,000	08-Oct-2020	30-Nov-2025				✓			✓					✓				
230213220011	PLUS			58,800	26-Nov-2020	30-Nov-2025		✓			✓			✓				✓				
230213220009	PLUS			25,000	19-Jan-2020	18-Jan-2025				✓						✓						
230213220008	PLUS			25,000	20-Aug-2019	19-Aug-2024					✓							✓				
230213220007	PLUS		1,600,000		01-Jun-2018	31-May-2023			✓			✓						✓				
230213220006	PLUS		588,500		02-Feb-2021	02-Feb-2026		✓			✓							✓				
230213220005	PLUS		588,500		02-Feb-2021	02-Feb-2026		✓			✓							✓				
230213220004	PLUS		1,500,000		01-Jun-2018	31-May-2023			✓			✓						✓				
230213220003	PLUS		588,500		02-Feb-2021	02-Feb-2026		✓			✓							✓				
230213220002	PLUS		2,932,500		28-Nov-2021	28-Nov-2026		✓			✓							✓				
230207220001	PLUS		3,200,000		11-Sep-2021	10-Sep-2026		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
220410220003	TOP		8,150,000		01-Sep-2021	31-Aug-2026	2800455105, 2800455107	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
220410220002	TOP		2,800,000		21-Dec-2020	20-Dec-2023	2800438095		✓													
220410220001	TOP			138,873	01-Dec-2020	30-Nov-2025	2800427932		✓			✓							✓			
200120220004	PLUS		60,000		21-Dec-2019	20-Dec-2024			✓													
200120220003	PLUS		70,000		01-Nov-2019	31-Oct-2024		✓														
200120220002	PLUS		60,000		01-Jan-2020	31-Dec-2024				✓									✓			
200120220001	PLUS		180,000		01-Jan-2020	31-Dec-2024				✓									✓			

Figure 10: Contract Details in Circadian

Contract Details in Circadian:

As an intern at Siemens Healthcare Limited, I had to enter various crucial pieces of information when inputting contract data in Circadian. The contract number, which serves as a specific identification for each deal, was the first thing I had to include. The contract type, which could either be a PLUS contract or a TOP contract, was the next thing I had to specify. The quality of service offered to the consumer distinguishes the two types of contracts.

The name of the organization—the customer—for whom the contract was being drafted had to be included after this. Additionally, because some contracts were in local currency and some were in US dollars, I had to enter the contract's value in both BDT and USD. The contract's beginning and end dates have to come next. This was necessary to maintain track of the contract's validity and expiration dates. The billing plans' monthly intervals, which defined when bills for the customer would be generated, had to be included as well. The entire process allowed for effective tracking and management of customer contracts.

4.3.3 Generating Invoices

As an intern at Siemens Healthcare Limited, I was responsible for generating customer invoices for goods and services provided by the company. These invoices were priced in different currencies, including USD and Euro.

Item	Description of Goods / Services	Origin	Quantity/Unit	Unit Price Currency USD	Total Price Currency USD
<p>SIEMENS Healthineers Invoice</p> <p>Siemens Healthcare GmbH HC AC EUR GER 2 / 584k Herkennr.: 127 91052 ERLANGEN GERMANY</p> <p>Invoice No: 53456558010174 Date: 31.03.2022 Customer No: 10020425 ARE No: 00564K</p>					
13	<p>Our Reference: Contract : 2600489427 Date: 28.03.2022 Invoicing period: 20.11.2021 to 19.12.2021</p> <p>105878262 BD181990-INMAS.Syhet-Intevo Bold AL: N EICCN: N Monthly: 2.422,48 /1 TOT</p> <p>Our Reference: Contract : 2600489427 Date: 28.03.2022 Invoicing period: 20.12.2021 to 19.01.2022</p>	BD	1 TOT	per 1 TOT	2.422,48
14	<p>Our Reference: Contract : 2600489427 Date: 28.03.2022 Invoicing period: 20.01.2022 to 19.02.2022</p> <p>105878262 BD181990-INMAS.Syhet-Intevo Bold AL: N EICCN: N Monthly: 2.422,48 /1 TOT</p> <p>Our Reference: Contract : 2600489427 Date: 28.03.2022 Invoicing period: 20.01.2022 to 19.02.2022</p>	BD	1 TOT	per 1 TOT	2.422,48
15	<p>Our Reference: Contract : 2600489427 Date: 28.03.2022 Invoicing period: 20.02.2022 to 19.03.2022</p> <p>105878262 BD181990-INMAS.Syhet-Intevo Bold AL: N EICCN: N Monthly: 2.422,48 /1 TOT</p> <p>Our Reference: Contract : 2600489427 Date: 28.03.2022 Invoicing period: 20.02.2022 to 19.03.2022</p>	BD	1 TOT	per 1 TOT	2.422,48
Sub Total					14.534,88 USD
VAT					7,50 % 1.096,12
Grand Total					15.631,00 USD
<p>Use Fifteen Thousand Six Hundred Twenty Five Only</p> <p>Siemens Healthcare Limited 7th and 8th Floor, Laska Tower B Gulshan Avenue, Gulshan-1, Dhaka 1212, Bangladesh</p> <p>Tel: +8802 8810334 Fax: +88-02-8810301 Web: www.siemens.com.bd</p>					

Figure 11: Invoices for Goods and Services

I had to enter several pieces of information into the system in order to construct an invoice, including the quantity sold, the number of items sold, a thorough description of the goods or services rendered, the country of origin, the invoice number, and the customer number. The accuracy of the billing and record-keeping processes depended on these specifics.

I also had to make sure that the applicable taxes and fees were included and that the bills were created in compliance with local laws and regulations. To ensure prompt payment and customer satisfaction, the invoicing process needed to remain accurate and effective. After completion of the invoices, they were signed by the higher-ups of the organization.

4.3.4 Organizing and Processing Service Invoices

The Service Engineers at Siemens Healthcare Limited are responsible for detecting any malfunctions, faults, or any other mishaps of the customers, and then writing the details of inspection manually in the service report forms. I was involved in organizing and processing customer service invoices during my internship at Siemens Healthcare Limited.

When service engineers visit customer sites to inspect and report equipment faults, these invoices are manually generated in the invoice forms. The invoices include information such as the name of the equipment, the date and time of the inspection, fault details, and inspection results. They also include information about the service engineer, such as their name and how many hours they spent repairing the equipment.

Normally, after inspecting these machines, three copies of the invoice sheet are prepared – one is given to the customer, and the rest two are kept under the supervision of Siemens Healthcare Limited for further processing. Also, as a part of the digitalization goal of Siemens within the year 2024, I was a part of the team who is responsible for scanning these reports, entering them into Excel after data validation, and uploading them to the cloud server for ease of access and backup.

The invoices are originally handwritten and had to be manually entered into an Excel spreadsheet. To ensure accuracy and completeness, a significant amount of data analysis and filtering was required. After entering the data, it was sorted by report number and date.

As an intern, I played an important role in this process by assisting in the accurate and efficient processing of invoices. It was vital to work closely with the service engineers to collect and organize the relevant information, as well as to use my analytical skills to spot any contradictions or inaccuracies in the data.

Name of the Repairing/Installation Company: **Siemens Healthcare Limited**
Address: Latha Tower (6th Floor), 8 Gulshan Avenue, Gulshan-1, Dhaka-1212, Bangladesh
Repair, Servicing/Installation Report No. 3172
Particulars of work done :

Recover the Processing WS issue and check system status, and found its working as per specifications of the system.
Also Rectify the 80kVA online UPS issue.
Now system handed over to the Authority in fully satisfactory working condition.

Name of the Institution :			Work Order No. & Date :			
Name of the Equipment : <i>Symbio Intervo Bolt</i>			Date of Installation :			
Date of Last repairing :			Date of Last repairing :			
Details of time spent by Repairing Firm			Details of stores supplied (Name of spare parts)			
Date	Name of Engineer	No. of working days or (7hrs. a day)	Total Working hours	Name of Stores supplied from Firm stock/Govt. stock.	Qty.	Price
04.04.22	Mr. A. Islam					
05.04.22	Mr. A. Islam					
06.04.22	Mr. Shakti					

Signature of Firm Engineers & Date
[Signature] 05.04.22

Certified that the servicing/installation and commissioning has been made to our entire satisfaction/without satisfaction and machine has been handed over to us in good working condition/nonfunctioning condition (please cut the words which are not applicable).

Certified that the above mentioned parts have been received and entered in our stock ledger side page no. :

Certified that the above mentioned time have been actually spent for the repair/installation of the machine. *Nahar*

Certified that the old spare parts have been handed over to us and included in our list of unused spare parts stock ledger side page nos. :

Certified that the price of the spare parts claimed are justified and economically acceptable. *[Signature]*

Signature and seal of Medical Technologist & date. *[Signature]* 05.04.22

Signature and seal of Head of the Dept. & date. *[Signature]*

Signature and seal of Head of the Institution/Hospital & date. *[Signature]*

Figure 12: Sample of a Service Report

4.3.5 Streamlining Regulatory and Tender Process

During my internship at Siemens Healthcare, I helped organize the company's regulatory and bidding process. This includes gathering and drafting a number of tender documents, including technical specifications, bank guarantees, and price lists for goods and related services. As an intern, I was responsible for ensuring that all required documents were properly prepared and delivered on time.

I was responsible for compiling and organizing the documents needed to submit a tender, including technical specifications, bank guarantee with solvency, manufacturer authorization letter, price schedule for goods and related services, price schedule for Comprehensive Maintenance Contract (CMC), brochure and datasheet, and other regular affairs related documents, such as FDA and EC certificates, warranty certificate from the bidder, local agent certificate of country of origin, production capacity service guarantee certificate, after-sales certification, and other regular affairs related documents.

I worked closely with the regulatory affairs team and other key stakeholders to ensure that the necessary documents were filed on time and in the correct format. I also helped with data analysis and filtering to ensure that the tendering authorities got the most relevant information. To track

and handle all phases of the tender process, extensive spreadsheets and other papers were required.

My effort to streamline the regulatory and tendering processes contributed to the process becoming more efficient and effective. By ensuring that all relevant documentation was in place and that the data was correctly processed and filtered, we were able to submit competitive and thorough tender bids.

4.3.6 Visiting on-site with the Sales Team

I had the opportunity to accompany the sales team on a site visit during the eleventh week of my internship. One of the highlights of my experience was attending a meeting at the Directorate General of Drug Administration (DGDA) in Mohakhali, Dhaka, and delivering various files comprising relevant documentation for tender submission.

As an intern, I was significantly involved in this process. My coworkers taught me how to communicate effectively and deal with people involved in the tender process. I was also able to observe how our competitors submitted bids and what we offered the market as a competitive edge.

I was in charge of arranging and preparing the meeting files, as well as ensuring that all relevant documents were included. I was also able to chat with DGDA officials and learn more about the tender process's regulatory requirements and processes.

Overall, this consignment trained me a lot regarding the healthcare industry's tender as well as regulatory compliance. I could easily apply my company to ensure that the submission process went smoothly, and I absorbed vast knowledge from my coworkers and DGDA officials.

4.3.7 Creating Letter of Credit (L/C)

At Siemens Healthcare Limited, one of my key duties was to generate a Letter of Credit (LC) for the service department. To start the procedure, I had to fill up an LC Form after obtaining all of the approvals. The loan was obtained through HSBC Bank.

Proforma Invoice: Before opening the LC, the importer typically sends the exporter a proforma invoice that includes transaction details such as the description of the goods or services, the price, the delivery terms, and the payment terms. The proforma invoice is required to tell the importer of the precise amount of LC that must be opened.

Insurance Cover Note: For the shipment, the importer must supply an insurance cover note that covers the risks associated with the products' transportation. The insurance cover note is normally obtained from an insurance provider and includes information such as the name of the exporter, a description of the items, the amount of the cargo, and the risks covered by the policy.

I had to enter the importer's name on the top left side of the LC Form and the exporter's name on the top right side. It was also necessary to include the legitimacy of the LC. We normally requested a 3-month valid LC in the organization.

In addition to the information already provided, I had to enter the account number and the LC amounts in both number and word format. It was necessary to determine whether partial shipment was permitted. If a partial shipment was not permitted, for example, we had to guarantee that the LC read "At sight LC," which implied that payment would be issued to the exporter only when the shipment was completed.

4.3.8 Managing Expense Reimbursement

I was in charge of overseeing the employee expense reimbursement procedure. Employees had to be compensated for a range of charges, including hotel bills, local transportation, driving allowance, daily allowance, and other incidental fees. To begin, the employees completed and returned the expenditure reimbursement form to me for processing.

My responsibility entailed validating the information provided by the employees on the form and ensuring that it was in conformity with the company's expenditure reimbursement policy. This included checking the receipts and invoices attached to the form against the information provided in the form. I also made certain that the form was correctly completed and signed by the employee and their respective department head.

I submitted the form to higher management for approval after verifying the details. Following approval, I entered the information into a registry sheet and prepared the reimbursement check for the employee. In addition, I kept track of all expenses and reimbursements in the company's expense management system.

In addition to managing the expense reimbursement process, I helped to review and update the company's expense reimbursement policy to ensure that it met industry standards and complied with applicable regulations. Overall, my role in managing the expense reimbursement process ensured that employees were reimbursed accurately and on time, which increased their job satisfaction and overall productivity.

4.4 Non-Professional Activities and Responsibilities

During my internship tenure at Siemens Healthcare Ltd., I was involved in some non-professional activities as well that did not directly impact the organization in a professional manner- however, they were very important and I had to do them often as a part of a learning experience during the internship tenure at my organization.

4.4.1 Scanning, Photocopying, and Shredding

Document scanning, photocopying, and shredding were one of my primary responsibilities. As an intern, I learned the value of attention to detail and accuracy, as I was responsible for ensuring that all documents were correctly scanned and copied and that sensitive documents were securely shredded. I had also obtained hands-on skill with office equipment like printers, scanners, and shredders, which undoubtedly helped me to improve my practical skills.

4.4.2 Documentation Management

During the internship, I was also managing much of the paperwork, including contracts, invoices, and regulation-related documents. I was responsible for ensuring that all documents were properly structured, sorted, and published, and easily available for any future reference if needed.

To accomplish this, I used a variety of software tools as mentioned beforehand, including Microsoft Excel and Circadian, to keep track of document details like invoice numbers, vendor information, and payment dates. These tools were also used to create and maintain document databases for easy retrieval. Another critical aspect of document management was ensuring that all documents were filed and stored properly. I developed a physical and digital filing system, organizing documents by category and date to make them easy to find and retrieve when needed.

Although these activities may appear insignificant, they are critical in any organization, and my involvement in these areas helped me understand the importance of attention to detail, time management, and organizational skills in any workplace.

Chapter 5: Analysis

5. Analysis of Duties in the Internship Site

This internal evaluation summary examines an organization's interior background to determine its possessions, assets, features, competencies, proficiencies, and competitive advantages. I have only been employed for three months, which is insufficient time to conduct an analysis, but I have made an effort to use the tools at my disposal to conduct an analysis in three stages: company level, market level, and professional level.

Company Level Analysis: I had the chance to run through a company-level analysis while working as an intern at Siemens Healthcare Limited, which allowed me to learn more about the operations and general performance of the firm. I wanted to pinpoint areas of strength and weakness as well as possible growth through this analysis.

I observed the financial statements and discovered that the business was in good financial shape, with rising sales and profits over time. The organization's R&D expenditure backed this up, which helped it uphold a competitive advantage in the healthcare marketplace. In its operations, I observed that the business had well-established quality control practices and measures in place, that facilitated high-quality products and services delivery from time to time. The organization also prioritized client satisfaction, as indicated by good comments from customers and partners.

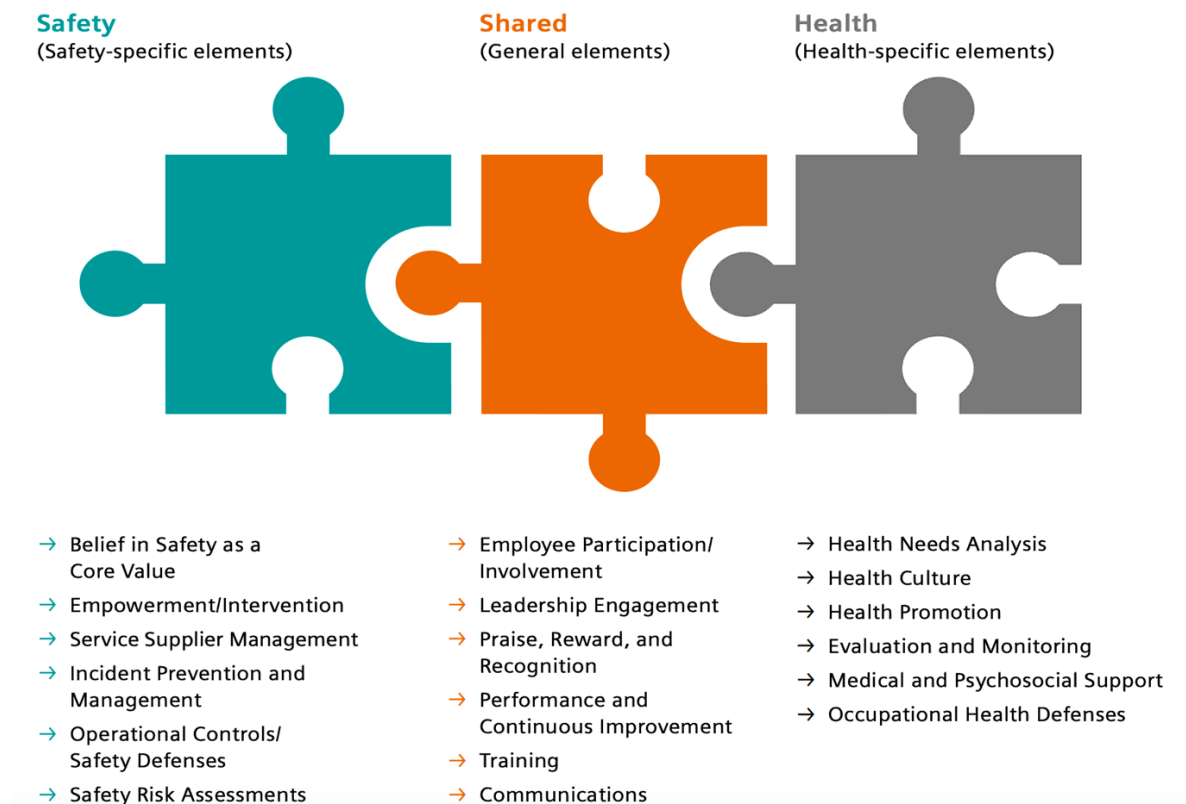
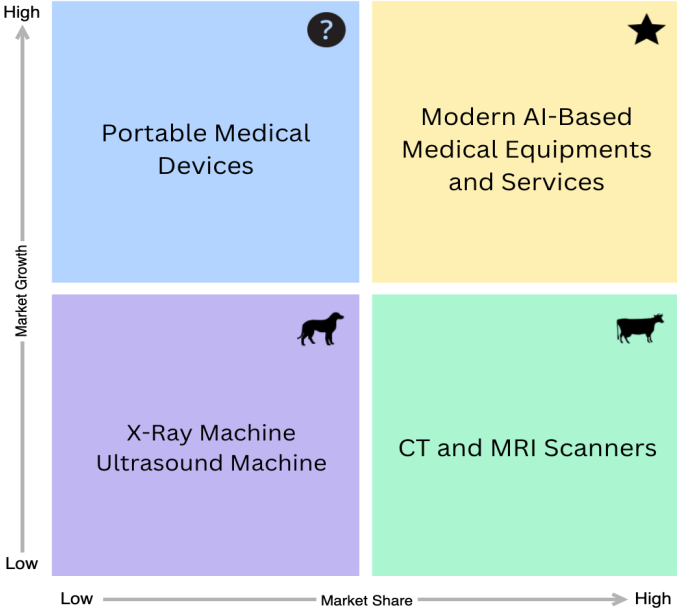


Figure 13: Values of Siemens Healthineers

Market Level Analysis: Siemens Healthcare Limited is a medical equipment and device firm based in the United Kingdom. Diagnostic imaging equipment, laboratory diagnostics, and clinical information technology solutions are among the medical products and services offered by the organization.

- **Market Segments:** The medical equipment and device market can be divided into hospitals, clinics, and diagnostic centers. Siemens Healthcare Limited serves as a leader on all of these markets, with hospitals serving as their primary customer base.
- **Market Size and Growth:** The global medical equipment market was worth around \$455 billion in 2020, and it is expected to grow. By 2025, the market for medical imaging devices alone is expected to be worth \$43.3 billion. The market in Bangladesh is expanding according to my observations due to rising demand for advanced medical equipment, the prevalence of chronic diseases, and increased investments in healthcare infrastructure.
- **Competition:** Siemens Healthcare Limited recently acquired Varian Medical Systems and competes with other major industry players such as GE Healthcare, Philips Healthcare, Toshiba Medical Systems, and other Chinese ones. These companies are somewhat well-established in the market and provide similar products and services at affordable rates.

Table 6: BCG Matrix



Professional Level Analysis: I participated in the professional study of the company's business operations as an intern at Siemens Healthineers. The process of streamlining regulatory compliance processes was one of the key areas I focused on.

My investigation found that the regulatory compliance procedure was time-consuming, difficult, and tiresome, resulting in product delays and higher expenses. I proposed developing a system that automated the compliance process and provided real-time compliance status monitoring to address this issue. This method would help to reduce the time necessary for compliance inspections while also minimizing the risk of noncompliance. In addition, I recommended my senior staff to prioritize changing to an online intranet-based work culture in order to make their work more efficient and successful, similar to global branches.

General business administration was another area in which I concentrated. I discovered various areas where the company's operations might be enhanced and increased efficiency. Among these were the implementation of a centralized procurement system, the improvement of the supplier management process, and the standardization of the supply chain process.

I argued for the adoption of cutting-edge technology such as cloud-based procurement and supplier management software to achieve these goals. I also advocated for process automation and digitization to improve supply chain operations.

Overall, my observations suggested that in order to remain competitive in the market, Siemens Healthcare Limited must prioritize reducing regulatory compliance and maximizing company administration. By integrating advanced technologies and process optimization tactics, the organization can boost efficiency, cut costs, and improve customer satisfaction.

Conclusion and Recommendations

Conclusion and Recommendations

In conclusion, based on Siemens Healthcare Limited's fundamental principles and respect for my seniors, I have offered recommendations to increase and sustain workforce efficiency. Streamlining the processes for document management, invoice processing, and expenditure reimbursement, in my opinion, will increase the company's overall efficiency.

Recommendations

Here are a few recommendations that I believe Siemens Healthcare Limited should implement in its organization in order to address some of its shortcomings. During my three-month internship, I observed and would recommend the following improvements:

- Make at least one fixed seat and/or desk available for an internship student.
- Notify employees in advance of any SAP downtime or reorganization so that they can plan and complete their tasks accordingly.
- Increase the number of level 1 bank signatories to ensure that important financial transactions are approved on time.
- To avoid delays, streamline processes to make them shorter and faster.
- Create a product-specific import time frame to manage customer pressure.
- Schedule quarterly meetings with regular vendors to discuss any VAT and TAX imposed by the government.
- Encourage executive management to be enthusiastic about developing administration and operational systems to ensure that services run smoothly.

These recommendations are meant to improve the overall efficiency and effectiveness of the company's operations, as well as to solve specific issues that may cause delays or bottlenecks in the process.

In addition, I would encourage my university to follow the following recommendations in the future:

- The university should place a greater emphasis on practical knowledge and organize more events and company visits for students to gain real-world experience.
- To help students feel more confident and well-versed in this essential tool, the university should consider adding a dedicated course on advanced Excel to the BBA core curriculum or weekly workshops on MS Excel.

- Frequent industry trips would provide the students with more real-world practical experiences, and the university should create every determination to coordinate such visits when possible.

Conclusion

To conclude, my internship experience with Siemens Healthcare was a precious hands-on learning prospect in my life. I had the opportunity to work with a team of experienced experts, gaining practical information and abilities that would assist me in my future career ambitions. The organization provided a friendly environment in which I could learn and grow while also taking on responsibilities in regulatory relations, document management, and expense reimbursement.

I was able to contribute to the company's operations while also giving suggestions for improvement during my stay at Siemens Healthcare Limited. These proposals were intended to improve regulatory compliance, general business administration, and staff efficiency.

Overall, my internship at Siemens Healthcare Limited provided me with important insights into the healthcare business as well as opportunities for professional development. I am glad for the opportunity and the lessons acquired, and I am eager to apply these skills and knowledge in my future activities.

References

Sinha, N. (2016). Siemens Healthineers - A Risk Assessment. *Journal of Medical Diagnostic Methods*, 5(1).

Smith, J. (2018). Innovations in medical imaging: The Siemens Healthineers approach. The Radiological Society of North America Annual Meeting, Chicago, IL.

Wang, Y., Ma, T., & He, M. (2021). Applying big data and AI technologies to improve healthcare: A case study of Siemens Healthineers. *International Journal of Medical Informatics*.

Müller, C., Kriesten, J., & Bertschek, I. (2018). Open innovation in healthcare: A case study of Siemens Healthineers. *Journal of Business Research*

Saghezchi, F., Rakhshani, F., & Kharazi, M. (2019). The impact of customer engagement on business performance: A case study of Siemens Healthineers. *Journal of Service Theory and Practice*

Appendices

PAPER NAME

Shayan Farshid_Intern Report_SHL.pdf

AUTHOR

Shayan Farshid

WORD COUNT

12248 Words

CHARACTER COUNT

70868 Characters

PAGE COUNT

73 Pages

FILE SIZE

12.2MB

SUBMISSION DATE

May 13, 2023 4:39 PM GMT+6

REPORT DATE

May 13, 2023 4:40 PM GMT+6**● 5% Overall Similarity**

The combined total of all matches, including overlapping sources, for each database.

- 3% Internet database
- 1% Publications database
- Crossref database
- Crossref Posted Content database
- 4% Submitted Works database