



Daffodil
International
University

Final Internship Report
on
Information System Audit

Submitted By
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This internship report has been submitted to fulfill the requirement for the degree of Bachelor of Science in Software Engineering (Major in Cyber Security).

Department of Software Engineering
DAFFODIL INTERNATIONAL UNIVERSITY

Spring -2023

APPROVAL

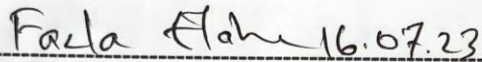
This Internship titled on “**Information System Audit**”, submitted by **Al Emam Emon ID: 172-35-2185** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Software Engineering and approval as to its style and contents.

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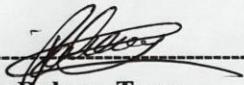
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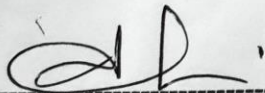
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External Examiner

Declaration:

My name is Al Emam Emon. I hereby declare that the internship report entitled "Information Systems Auditor Internship" was written by me only after the end of my six-month employment at Sami Tech LTD. The internship period is an original work that I did under the supervision of "Mr. Nuruzzamana Faruqui", Assistant Professor in the Department of Software Engineering at Daffodil International University.

The report is unique in that it is not provided anywhere for scholarly purposes. The data and information listed here are also collected and managed by me. I am solely responsible for any incorrect information in this report.

Finally, this report is submitted to the Department of Software Engineering, Department of Information Science and Technology, Daffodil International University, in part to meet the requirements for a Bachelor of Science degree.

Submitted by

Al Emam Emon

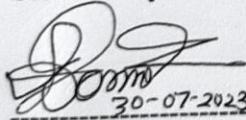
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Acknowledgement

First and foremost, I extend my heartfelt gratitude to Almighty Allah for granting me good health and the opportunity to embark on this journey. The internship at Sami Tech Ltd in IT Audit has been a truly challenging yet transformative experience in my life. I must also express my deep appreciation to my parents for their unwavering support and companionship throughout my university years.

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I am immensely grateful to all the certified public accountants at a glance for their guidance, support, and encouragement, which played a crucial role in my becoming an intern at SAMI TECH LTD. Additionally, I am indebted to the External Audit Teams of Trust Bank LTD and Grant Thornton Bangladesh, where I had the privilege to work, thanks to their guidance.

A heartfelt appreciation goes out to my dear friends and teammates whose unwavering support has been a constant source of strength during my journey to complete this degree. Furthermore, I extend my gratitude to all my friends and family members for their unwavering mental support and assistance.

Last but not least, I would like to convey my sincere appreciation to my audit team member, Mr. Tanvir Mahmud, for his continuous love and support throughout my internship period. His presence made the experience even more enriching. This internship report stands as a testament to the knowledge and skills I have acquired during my internship period.

List of Acronyms

SAMI TECH LTD

ISACA: Information Systems Audit and Control Association

ISO: International Organization for Standardization

PCI DSS: Payment Card Industry Data Security Standard

TBL: Trust Bank LTD

GT BD: Grant Thornton Bangladesh

SWOT: Strength Weakness Opportunity and Threat

NIST: National Institute of Standards and Technology

SOC: Systems and Organizational Controls

Glossary

Audit:

An audit is defined as a "thorough and impartial examination of the financial information of an organization, irrespective of its size or legal structure, whether it is a non-profit entity or not. The primary objective of this examination is to form an opinion, typically in the form of a professional judgment, about the accuracy and reliability of the financial statements."

Proficient:

A professional is a member competent in any field. Professionals here means the person supervising the auditor. These can be qualified or unqualified accountants

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CHAPTER 1

Outline of Internship

1.1 About Myself

My name is Al Emam Emon, and I am a student with the ID 172-35-2185, pursuing a Bachelor of Science in Software Engineering with a major in Cyber Security at Daffodil International University. As a part of my academic curriculum, I am undertaking an internship as an auditor for information systems at Sami Tech LTD in the IT audit department, starting from November 1st, 2022. Working in the field of cybersecurity has always been a passion of mine, and this internship presents a tremendous opportunity to gain practical experience in this vast and vital area. This report is a culmination of my academic knowledge and hands-on experience during my time at SAMI TECH LTD throughout the internship period.

1.2 Background

Daffodil International University, recognized as one of the top private universities in Bangladesh, offers an excellent opportunity for students interested in the field of cybersecurity. They provide a concentration in cybersecurity as part of their science degree program. As a cybersecurity student, this internship became an integral component of my undergraduate studies.

In my third year of study, I achieved the Certified Ethical Hacker (CEH) certificate, further enhancing my skills and knowledge in the cybersecurity domain. Throughout my undergraduate education, I gained insights into various areas, including vulnerability assessment, penetration testing, digital forensics, and information system auditing.

During my adult education in information systems, I discovered a keen interest in pursuing a career as an Auditor. This internship has been a valuable experience, allowing me to bridge the gap between theory and practice, enriching my knowledge, and honing my skills in the field of information systems auditing. It has been instrumental in paving the way for a fulfilling career in this dynamic and critical area.

1.3 Motivation

The primary motivation for seeking an internship is to gain valuable industry experience under the mentorship of experienced experts. Although a college program lays the groundwork, obtaining hands-on exposure in real-world scenarios is crucial, and an internship provides exactly that. Furthermore, this chance will greatly influence and propel my career as an IT system auditor.

1.4 Objectives

The primary objective of my internship revolved around complementing my theoretical academic knowledge with practical experience in the field. I aimed to grasp the fundamental concepts, components, and overall workings of IT audit as a business. Throughout the internship, I acquired a substantial amount of technical knowledge and skills. Moreover, being part of a team during the internship provided me with an excellent opportunity to enhance my communication and leadership abilities. In addition to these goals, there were several other objectives I sought to achieve

- To know more about ISO, NIST, PCI DSS and also others standards.
- To know about gap analysis process
- To know about different type of Audit framework on Information Security
- To know about proper report writing way
- To know about how different organizations works internally
- To know about auditor's role

1.5 Internship Information

1.5.1 Employment Details:

Work Duration: 06 Months

Company or Firm Name: Sami Tech LTD

Department: Internal and External Auditor as a Junior Audit Associate (Audit & Consultancy)

Address: House # 27, Road # 9/E, Block # E, Dolipara, Uttara, Dhaka – 1230, Bangladesh

1.5.2 Internship On-site Supervisor Information:

Supervisor Name: Mr. Tanvir Mahmud

Designation: Sr. Executive Officer, (Audit & Consultancy)

1.6 Job Duties and Responsibilities

I began my journey at SAMI TECH LTD as a Junior Audit Associate, where I had the opportunity to work across various client offices, focusing on Audit and Assurance. The primary responsibility of my team was to ensure companies' compliance through internal and external audits. When I joined SAMI TECH LTD, my initial assignment involved conducting an annual audit on two clients, TBL and NRB. However, my main focus was on handling the annual audit at the TBL head office. Throughout the audit period, I had the following key responsibilities:

1. For a duration of three months, I was stationed at the TBL Head Office, located in Shadhinata Tower, Bir Srestha Shaheed Jahangir Gate, Dhaka Cantonment, to provide consulting services for the audit.

2. My main objective during the audit period at TBL was to meticulously collect documentary evidence that supported our audit objectives, ensuring their compliance with regulations.

3. At TBL, my specific tasks involved checking their IT processes and external audit procedures.

4. I gathered and analyzed various reports, including the Annual Audit reports, incident reports, control assessments, risk management evaluations, and IT system security policies. My focus was on evaluating TBL's compliance with their policies and controls.

5. I conducted a thorough examination of TBL's IT/IS Policy, ensuring that they adhered to it effectively.

6. After completing the audit procedures, I prepared a draft Audit report, summarizing our findings and recommendations.

During this period, I gained valuable experience and skills in the field of Audit and Assurance, contributing to my professional growth as a Junior Audit Associate.

1.7 Internship Result

1.7.1 Contributed to the organization

During my internship at SAMI TECH LTD, I had the opportunity to work with Trust Bank LTD, NRB Bank LTD, and Grant Thornton Bangladesh. My primary responsibility was to assist the exam group at SAMI TECH LTD in gathering records for IT exams. At the beginning of my internship, I accompanied a senior executive who had been demoted to Director at Trust Bank LTD. However, after evaluating Trust Bank LTD, my manager assigned me the task of drafting the Data Framework Security agreement. Additionally, I played a crucial role in guiding the entire audit team on collecting various reports, including annual audit reports, status updates, incident reports, investigation controls, opportunity management, and approach framework security. These reports were essential for conducting comprehensive and advanced audits. One significant aspect of my work involved direct negotiations with the senior manager of Trust Bank LTD during due diligence. It was my responsibility to persuade and assure them of the confidentiality of the documents they provided to us. Through this experience, I was able to contribute positively and make a difference during my time at SAMI TECH LTD, enhancing my skills and understanding of the industry.

1.7.2 Benefits of the Internship

During my internship, I gained valuable benefits, primarily centered around learning how to conduct annual audits as an external auditor. This experience allowed me to observe and adapt to the culture and policies of the IT consulting firm, providing valuable insights for my future career. One significant achievement during my internship was the opportunity to draft a policy for GT BD, showcasing my abilities to contribute to the organization's processes. While my new role came with challenges, including working with unfamiliar individuals, I successfully overcame them, accomplishing my objectives and tasks effectively. As a new intern at GT BD, I was entrusted with managing a client independently, taking charge of information collection and verification for the audit. Through the GT BD examination, I honed my skills in communication, learning how to interact effectively with different types of people and write comprehensive reports. Additionally, my interaction with senior executives like the CTO at TBL taught me valuable professionalism in IT audits, which I can apply in the future. Furthermore, my internship experience involved continuous engagement with clients and experienced colleagues, which significantly improved my interpersonal and communication skills in a professional setting. Having nearly six months of auditing experience, I now have a clear understanding of the current business landscape and job opportunities in the banking sector and beyond. Working at a world-class corporate headquarters allowed me to immerse myself in its culture and further develop both my personal and professional skills. Overall, my internship journey has been instrumental in shaping my abilities, knowledge, and experience, preparing me for a successful future in the field of IT auditing and beyond.

1.7.3 Difficulties and challenges during the internship

As an IT auditor I have faced some following challenges:

- IT security and privacy/cybersecurity
- Information administration and governance
- Developing innovation and framework changes – transformation/innovation/disruption
- Staffing and aptitudes challenges
- Third-party/vendor administration
- The modern innovation that's deployed;

- Unused improvement approaches that are taken;
- Information Delays

1.7.4 Recommendation at SAMI TECH LTD

Based on my work experience at SAMI TECH LTD, I highly recommend it to individuals who aspire to pursue a career as an IT auditor. This company provides a challenging and diverse field of work that allows interns to gain valuable insights and experiences. During my time at SAMI TECH LTD, I was assigned significant responsibilities, such as handling confidential information during negotiations with clients. Being a good team player is crucial, as most of the annual exams are conducted collaboratively. Working with IT Consulting Firms like Grant Thornton Bangladesh offers interns an excellent opportunity to gain extensive knowledge of IT governance. It enables them to navigate the industry effectively and take advantage of various chances and opportunities. For new interns, I advise familiarizing themselves with the workplace, as it provides a considerable edge in understanding IT processes and enhancing overall work efficiency. Maintaining high ethical standards is of utmost importance at SAMI TECH LTD, particularly since the company deals with sensitive data. Any unethical behavior could lead to serious repercussions, impacting both the market and the reputation of the company. Thus, acting ethically and responsibly is essential for every individual associated with the organization.

In conclusion, SAMI TECH LTD offers a rewarding and enriching experience for those interested in an IT auditing career. The company's demanding and diverse work environment, combined with the chance to work with IT Consulting Firms like Grant Thornton Bangladesh, creates an excellent platform for professional growth and development. Emphasizing ethical conduct is crucial to ensuring the security and success of the organization and its employees.

CHAPTER 2:

Organizational Part: Diagram, Operations, and Key Audit.

2.1 Outline of the firm

2.1.1 About my Organization (SAMI TECH LTD)

SAMI TECH LTD stands as one of the leading consulting firms in Bangladesh, specializing in various services, including IT Assurance, IT Audit, Information System Audit, Information Security Audit, and ISO/IEC 27001 Certification consultancy. The company is committed to delivering services of the highest quality to its clientele. Since its inception in 2018, SAMI TECH LTD has earned a reputation as one of the most efficient and trustworthy firms in the eyes of its stakeholders. Our approach to success is defined by the value we create for our clients and partners, ensuring their satisfaction and meeting their needs effectively. At SAMI TECH LTD, our focus goes beyond just understanding our clients' immediate requirements; we aim to grasp the essence of their business needs. This approach allows us to provide not only timely solutions but also long-term strategies to address challenges and mitigate potential risks proactively.

Embodying the core values of Baker Tilly, our firm culture revolves around:

- To lead by example
- To deliver quality services with integrity
- To communicate openly, to act ethically
- And to foster a community built around civic responsibilities and teamwork

2.1.2 Location

Corporate Office:

House # 27, Road # 9/E,

Block # E, Dolipara,

Uttara, Dhaka – 1230

Bangladesh.

2.2 Vision Mission and Objective:

Indeed, every organization, including SAMI TECH LTD, establishes a vision, mission, and core value statement to define its purpose and direction for continuous growth. These statements are unique to each company and serve as guiding principles to drive progress. As an accounting service provider, SAMI TECH LTD also has its own core values, vision, and mission statements.

SAMI TECH LTD Vision:

The vision articulation of Sami Tech LTD is as follows- “To help companies to be more successful through the use of information, systems and technology. Our Aim is to make our organization strong and more competitive in the global business.”

SAMI TECH LTD Mission:

The mission articulation of Sami Tech LTD is as follows- “To be the leading global consulting company, focused on leveraging technology to add tangible value for all stakeholders.”

SAMI TECH LTD Strategic Intent:

The vision articulation of Sami Tech LTD is as follows- “We want to become trusted leader in the market ensuring highest level of professional ethics and competencies. While securing safe & trusted position in the market for financial institutions, telecommunications, foreign branch &

liaison offices and NGOs/NPOs, we still see wider space for us to get involved in other sectors in the country and in the region.”

Values of SAMI TECH LTD:

SAMI TECH LTD takes after the figures of Pastry specialist Tilly, their subsidiary company. Agreeing with their profile handbook, it is expressed that- "Our way of life is driven by the Baker Tilly Inside crucial convictions (Shahriar, M. 2020). Their center values are as follows-

- To lead by example
- To convey quality administrations with integrity
- To communicate transparently, to act ethically
- And to cultivate a community built around civic duties and teamwork.” We are energetic around making a difference in our clients, whereas at the same time creating our people’s potential (Sami Tech LTD, 2022).

2.3 Service provided by SAMI TECH LTD

SAMI TECH LTD prides itself on offering a diverse range of high-quality and engaging services to clients in both the private and public sectors of Bangladesh. The company also extends its expertise to support international development organizations and foreign consultants working on projects in Bangladesh. As one of the most reputable audit firms in the country, SAMI TECH LTD has accumulated over 5 years of experience in providing consulting services to a wide array of clients across various industries. The primary objective of SAMI TECH LTD is to facilitate the establishment of effective control systems tailored to the specific needs of each client, emphasizing the value they bring to their clients' businesses. Here are the key benefits provided by SAMI TECH LTD:

Information Systems (IS) Audit

Information systems (IS) audit is a part of the overall audit process, which is one of the facilitators for good corporate governance.

IS Audit determining whether a computer system (information system) safeguards assets, maintains data integrity, achieves organizational goals effectively and consumes resources efficiently.

IS Risk Assessment

Organizations use automated information technology (IT) systems to process their information for better support of their missions, risk management plays a critical role in protecting an organization's information assets, and therefore its mission, from IT-related risk.

Digital Forensic

Our digital forensics services cover complete spectrum of possibilities to look for the malicious actor from memory analysis, disk analysis to network forensics. We offer extraction of necessary artifacts for further investigation, provide expert advice on what can and what cannot be retrieved and provide evidence well intact which can be used in legal proceedings if required.

Business Impact Analysis (BIA)

The goals of the BIA analysis phase are to determine the most crucial business functions and systems, the staff and technology resources needed for operations to run optimally, and the time frame within which the functions need to be recovered for the organization to restore operations as close as possible to a normal working state. The analysis may be manual or computer-assisted.

Business Continuity Plan (BCP)

Business continuity planning (BCP) is the process involved in creating a system of prevention and recovery from potential threats to a company. The plan ensures that personnel and assets are protected and are able to function quickly in the event of a disaster. The BCP is generally conceived in advance and involves input from key stakeholders and personnel.

Our industry leading certified experts helps our clients to develop Business Continuity Plan (BCP)

Disaster Recovery Plan (DRP)

The overall idea is to develop a plan that will allow the IT department to recover enough data and system functionality to allow a business or organization to operate - even possibly at a minimal level.

2.4 Major Clients of SAMI TECH LTD

As SAMI TECH LTD is one of the Top IT Consulting firms in Bangladesh they work with Top Company in the Bangladesh. SAMI TECH LTD has top client in Bangladesh. Some major running client of SAMI TECH LTD are:

- Trust Bank LTD Limited
- Grant Thornton Bangladesh
- NRB Bank Ltd.
- Basic Bank Ltd.
- Prime Bank Ltd.
- Habib Bank Ltd.
- Rupali Insurance Co. Ltd.
- Eastland Insurance Co. Ltd.

2.5 Management Practice

The management practices of SAMI TECH LTD are as follows –

2.5.1 Leadership and Decision Making

The management style of SAMI TECH LTD is predominantly autocratic. This IT consulting firm is mainly driven by its partners, including the founding partners. With a total of nine partners, significant decisions related to business and audit engagements are primarily discussed among them. The organizational structure of SAMI TECH LTD is illustrated in the provided Organogram, indicating a top-down approach in decision-making. In the context of an audit engagement, the firm partner typically approves and signs off on the assignment. The responsibility for executing the audit is then delegated to the director and senior assistant director of the firm. They are tasked with managing the audit process, distributing specific tasks among the partner, manager, article student, intern, and trainee employees of the firm. As described, this IT consulting firm, like many others in Bangladesh, predominantly follows an autocratic leadership style. The decisions and directions mostly come from the partners at the top of the organizational hierarchy. Such a management approach is believed to contribute to the firm's profitability and reputation within the industry. According to the Organogram, the top management consists of the Partners, who provide directives for the entire organization. These directives are implemented by the Director, who oversees the work carried out by employees at all levels within the firm. In summary, SAMI TECH LTD practices an autocratic management style, which involves a top-down decision-making process led by the partners, resulting in a clear chain of command and direction for the firm's operations.

2.6 Operations Administration and Data Framework Practices

2.6.1 Operation management:

The direction for operations is established by the Engagement Partner at SAMI TECH LTD. The company primarily collaborates with clients, with each client being assigned one or more Engagement Partners. The Engagement Partner provides instructions to the Concurring Partner, who ensures that the work aligns with the firm's standards and procedures. Subsequently, the Concurring Partner communicates the directions to the Director, who takes on the responsibility of managing the specific client engagement. The Director then appoints a Job In-Charge, along

with managers or senior managers, to oversee the execution of the project. The Job In-Charge is tasked with assigning various employees within the client's engagement, including article students, interns, and other staff members, to complete the necessary work. Once the engagement is completed, the Job In-Charge submits the final draft report to the Director for review. The Director, in collaboration with the Partners, finalizes the report before submitting it to the client. The operation organogram of SAMI TECH LTD is as takes after:

2.7 SWOT Analysis of SAMI TECH LTD

The SWOT analysis of SAMI TECH LTD is as follows –

1. Strength

One prominent characteristic of SAMI TECH LTD is its esteemed reputation in the accounting market. Over the past few decades, the company has consistently been recognized as one of the top-chartered accounting firms in Bangladesh. It continuously fosters the growth of a significant number of professionals, ensuring a pool of qualified experts every year. Furthermore, the firm boasts an extensive client list, with many long-standing clients it has served or continues to serve. SAMI TECH LTD has established strong relationships with corporate giants in Bangladesh, demonstrating a solid network within the business community. Moreover, being a joint venture with BAKER TILLY international enhances their brand further, adding to their credibility and global recognition. Lastly, the firm's existing partners have valuable linkages with ICAB (Institute of Chartered Accountants of Bangladesh), providing them with a significant advantage in their business endeavors.

2. Weakness

The major drawback of SAMI TECH LTD is its challenging and dynamic work environment. The internal atmosphere within the company is not conducive, and employees, including professional staff and article students, often deal with excessive pressure and tight deadlines, which is not considered a positive organizational practice. The firm faces difficulty in recruiting new talent as many individuals are hesitant to join the profession due to its low success rate.

Consequently, there is a significant shortage of article students. As a result, the firm may have to hire inexperienced students and send them directly for audit purposes, leading to a compromise in the quality of their work. Moreover, the geographical disadvantage of client offices being far from the main office adds to the difficulties faced by the firm. Many experienced professionals tend to leave the company after completing their article training due to this inconvenience.

3. Opportunity

Recently, the Institute of Chartered Accountants of Bangladesh (ICAB) has introduced several favorable policies for IT Consulting firms. One such policy is the implementation of a new Document Verification System (DVS), which enables firms to store their documents efficiently (ICAB, 2022). Additionally, ICAB has introduced the Document Verification and Certification (DVC) system, which helps firms validate their annual reports and statements (Nath, B.B., 2022). Furthermore, Bangladesh is experiencing a surge in start-ups and foreign businesses establishing themselves in the country. These emerging business giants have the potential to become future clients of SAMI TECH LTD. The country's growing economy in recent years has facilitated the development of new businesses, providing opportunities for firms like SAMI TECH LTD to thrive.

4. Threats

The primary significant threat faced by SAMI TECH LTD is the emergence of new potential IT Consulting firms in the accounting services industry. This has led to several existing clients switching firms to handle their audits. Additionally, maintaining 100 percent confidentiality becomes challenging during the audit preparation process, as it involves collaboration between professionals and non-professionals. Any public disclosure of client information could lead to potential legal consequences for the company. Furthermore, there is a significant shortage of qualified professionals in the field of Chartered Accountancy (CA). Not everyone is willing to pursue a CA qualification, and even among those who do, not everyone becomes a certified accountant. As a result, it is rare to find a sufficient number of qualified experts at SAMI TECH LTD.

2.8 Recommendation

As an Auditor most of the time I work in the Client office. Sometimes I came to the Home Office of SAMI TECH LTD. Besides I can recommend something where SAMI TECH LTD can develop to grow their operation

- SAMI TECH LTD can improve their ERP and can user friendly ERP System to all employees.
- SAMI TECH LTD can progress their work environment by leveling the work weight among Junior and senior article students.
- Create better policies for their existing employees to retain longer in the organization.
- The human resources of SAMI TECH LTD are required to come up with a better policy to do so.
- More preparation is required to be held inside the firm to move forward the work productivity of the Junior Audit partners. Each year a few unused youngsters come into the firm to require admission for seeking after CA.
- SAMI TECH LTD can start special scholarship offer for the talented and most delightful employees.

2.9 Summary and Conclusion

Chapter 02 provides essential background information about SAMI TECH LTD, including its vision, mission, and objectives. It also highlights the firm's diverse services in various sectors. The chapter further delves into the company's management practices, leadership style, compensation approach, and employee retention strategies. The marketing practices of SAMI TECH LTD are explored, focusing on aspects like segmentation, branding, innovation, and service enhancement criteria. The financial and accounting domain of the firm is discussed, showcasing its performance over the last five years and adherence to accepted accounting

standards. The chapter provides insights into the efficient operation of the information system division, including details about SAMI TECH LTD's ERP system. Additionally, an industry and comparative analysis are conducted, considering Porter's five forces, SWOT, and differential strategy of the company.

CHAPTER 3

My Internship Period

3.1 Introduction

SAMI TECH LTD holds a prominent position among the leading consulting firms in Bangladesh. Audit and Assurance services are integral to the operations of every firm in the country, as companies are required to conduct audits annually, just like in other parts of the world. In Bangladesh, IT Consulting firms, including SAMI TECH LTD, play a crucial role in providing audit services across various business sectors. Traditionally, business audits have been conducted for many years, but with the increasing reliance on IT-based operations, Information Systems Audit has emerged as a vital aspect of the auditing process. As organizations across different sectors adopt various automated tools and machines as part of their regular services, auditing their IT systems becomes essential. SAMI TECH LTD has been at the forefront in introducing IS/IT Audit in Bangladesh. During my time as a junior auditor at SAMI TECH LTD, I have observed several significant aspects related to the quality of audit and assurance services, which are core offerings provided by the firm. One prominent observation is the pressing need for high-quality audit and assurance services in Bangladesh. This demand arises due to a shortage of accounting professionals in the country. As organizations increasingly rely on IT services, regular IS/IT audits have become imperative for all types of businesses.

3.2 Overview

During my internship, I had the opportunity to conduct IT audits for various clients, both in the top public and private sectors of Bangladesh. It was an enriching experience, and I got to work with some of the most reputable companies in the country. One of the highlights of my internship was being assigned to work in a prestigious corporate office in Bangladesh, which

provided valuable insights and exposure to the corporate environment. Through these experiences, I gained practical knowledge and developed my skills in the field of IT audit.

3.2.1 Types of IT Audit during my internship period

During my internship, I had the opportunity to work on two types of IT audits: External Audit and Compliance Audit. Let's discuss each of them in detail:

External Audit:

An External Audit is an independent assessment of an organization's financial statements and accounting records conducted by an external auditing firm. The main objective of an external audit is to provide assurance to stakeholders, such as shareholders, investors, and creditors, that the financial statements present a true and fair view of the company's financial position and performance. In the context of IT, an External IT Audit focuses on evaluating the effectiveness of the organization's IT controls, systems, and security measures. This includes assessing the integrity and accuracy of financial data stored and processed within the IT systems, as well as examining the overall IT governance and risk management practices. As an intern, I participated in External IT Audits by collecting evidence, reviewing IT policies and procedures, conducting interviews, and performing testing to ensure the IT systems were operating securely and in compliance with relevant regulations.

Compliance Audit:

A Compliance Audit is conducted to assess an organization's adherence to specific laws, regulations, industry standards, and internal policies. The goal is to identify any gaps or deviations from the required standards and ensure that the organization is in compliance with applicable rules. In the IT context, a Compliance IT Audit examines whether the organization's IT processes and practices align with industry standards and regulatory requirements. This could include evaluating data protection measures, cybersecurity protocols, and compliance with privacy regulations, among others. During my internship, I was involved in Compliance IT Audits, where I reviewed the organization's IT practices, compared them against relevant standards and regulations, and provided recommendations for improving compliance and minimizing potential risks.

3.3 Major IT Compliance Regulatory Frameworks

1. ISO (International Organization of Standardization)

ISO/IEC 27001 is an international standard to manage information security. ISO 27000 series also known the 'ISMS Family of Standards' or 'ISO27K' for short. This standard published jointly by the International Organization for Standardization (ISO) and the International Electro Technical Commission (IEC). The series provides best practice recommendations on information security management - the management of information risks through information security controls - within the context of an overall Information security management system (ISMS).

2. PCI-DSS (Payment Card Industry Data Security Standard)

The Payment Card Industry Data Security Standard (PCI-DSS) is a required set of policies and procedures for optimizing the security of credit card transactions. The PCI Standard is mandated by the card brands but administered by the Payment Card Industry Security Standards Council.

3. SOC 2 (Systems and Organizational Controls)

SOC 2 provides a framework for organizations to measure and attest to the effectiveness of controls critical for protecting the security, privacy, processing integrity, and availability of PII and critical data systems.

4. NIST (The National Institute of Standards and Technology)

The National Institute of Standards and Technology is a non-regulatory government agency that develops technology, metrics, and standards to drive innovation and economic competitiveness at U.S.-based organizations in the science and technology industry.

3.4 My Clients

My clients in where I have completed both External and Consulting IT audits are-

External IT Audit:

- Trust Bank Ltd.
- NRB Bank Ltd.

Consulting IT Audit:

- Grant Thornton Bangladesh.

3.5 Working Sector & Steps

An IT audit guide is not complete without the audit process, which includes three phases and total 10 sub-phases:

1. Planning
 - 1.1 Determine audit subject
 - 1.2 Define audit objective
 - 1.3 Set audit scope
 - 1.4 Perform pre-audit planning
 - 1.5 Determine procedures
2. Fieldwork and Documentation Phase
 - 2.1 Document results
 - 2.2 Issue discovery and validation
 - 2.3 Test controls
 - 2.4 Acquire data
3. Reporting Phase
 - 3.1 Gather report requirements

Final audit report shall include the following:

1. Background & Description
2. Finding
3. Risk
4. Risk Rating
5. Recommendation
6. Management Response

3.6 Audit Checklist

Every Audit firm follows their own audit checklist for audit in any company. During my internship I followed a checklist which was developed by SAMI TECH LTD's IT Audit Head A.N.M Shakhawath Hossain. The checklist as follows:

3.6.1 General Information

Date	
Name of the Application/ System/DB/Network Device	
Description	
Classification	
Owner	
Custodian	
Location	
IP Address	
DNS Name	
Asset ID	

3.6.2 Details Information

3.6.2.1 Logical Access Path

It involves using a digital procedure to access an application or system. akin to how we sign into computers. Clients offer SS but with constraints and secrecy.

3.6.2.2 User Management

This will comprise a list of active and revoked users, together with information about their jobs, duties, and access privileges. Like:

- User Management Policy
- User Creation Process
- List of All Active Users with Access Privilege
- List of Newly Created Users (Audit Year)
- No. of new user reviewed
- List of Deleted User (Audit Year)
- No of Deleted User Reviewed
- User Review
- Segregation of Duties (SoD)

3.6.2.3 Password Management

It covers setups and password complexity. Included in this are all the criteria, such as the minimum number of characters required for a valid password, the character types, the duration of passwords, password lock out. Like

- Password Policy
- Minimum Length of Password
- Password Complexity
- Password Expiry Period
- Remember Password
- Minimum Days
- No of wrong password input
- Password Lock Period

3.6.2.4 Backup & Restore

In backup & restore part we collect data about system data backup & restore. There are many checkpoints to check. Like:

- Backup Policy
- Recovery Point Objective (RPO)
- Recovery Time Objective (RTO)
- Backup Frequency
- Backup Log
- Backup Medium
- Backup Labeling
- Backup Store
- Frequency of Backup Restoring
- Backup Restore Log

3.6.2.5 BIA / BCP / DRP

- Documents related to DRP
- Business Impact Analysis(BIA)
- Business Continuity Plan(BCP)
- Action Plan
- Disaster Recovery Plan(DRP)
- DRP Test and Review Schedule
- DRP Team Members
- DRP and BCP Testing
- Network, System level DRP

3.7 Risk Register

In Risk Related topics we maintained some criteria such as

- Risk ID
- Risk Category
- Risk Score

- Type of Risk

3.7.1 Assessment of the risk

A few dangers can breach the CIA standard of an organization. The company/organization ought to survey the hazard based on the ISO 27001 security framework regularly Risks ought to be recognized and evaluated in three categories:

1. High
2. Medium
3. Low

The individual company/organization ought to set the network for hazard rating based on their business criticality.

3.8 Control objectives and controls:

1. Operations security
2. Communications security
3. Framework procurement, improvement, and maintenance
4. Provider relationships
5. Data security occurrence management
6. Data security viewpoints of trade coherence management
7. Compliance
8. Data security policies
9. Organization of data security
10. Human asset security
11. Resource management
12. Get to control
13. Cryptography
14. Physical and natural security

These 14 controls must be satisfied by any organization on the off chance that that organization needs to meet their ISO 27001 usage. These 14 controls can cover building up, actualizing, maintaining, and persistently making strides and data security administration framework inside the setting of the organization.

CHAPTER 4

IT Audit Future

In today's world, our daily life is heavily reliant on IT systems and devices. From morning to night, we utilize various IT-based tools, media, and technologies for almost every aspect of our lives. The advancement of technology has undoubtedly made our lives more convenient and efficient. However, with this increased reliance on IT, the risks of compromising organizations' security have also risen significantly.

As a result, there is a tremendous opportunity for professionals to work in the IT sector, particularly in the areas of IT audit and cybersecurity. Every sector, including banks, non-banking financial institutions, private companies, and public organizations, must conduct regular audits of their IT systems to ensure their effectiveness and security.

The emergence of the Fourth Industrial Revolution, also known as Industry 4.0, further emphasizes the importance of IT-based technologies. Industry 4.0 encompasses the use of Internet of Things (IoT), Cloud Computing, Big Data, Robotics, Virtual Reality (VR), Artificial Intelligence (AI), and more, all of which are IT-based products and systems. Given this rapid technological advancement, it becomes imperative to closely monitor and audit these IT-based products and systems in our daily lives.

Despite the vast job opportunities in the cybersecurity domain and IT/IS audit sector, there is a shortage of skilled professionals in these fields. As the demand for IT security professionals grows, it becomes crucial to focus on developing and nurturing skilled individuals to meet the challenges posed by cybersecurity threats and the complexities of IT audits.

In conclusion, the widespread use of IT in all aspects of our lives creates numerous job opportunities in the IT audit and cybersecurity sectors. However, addressing the scarcity of skilled professionals in these domains is essential to ensure the security and efficiency of IT-based systems in the face of the Fourth Industrial Revolution.

CHAPTER 5

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