



**A TECHNICAL REPORT ON
STUDENT INDUSTRIAL WORK EXPERIENCE
SCHEME (SIWES)**

**FROM
AUGUST TO NOVEMBER, 2024**

**AT
OPTICE COMPUTER
NO 18, OFFA ROAD ADJACENT CBN ILORIN KWARA STATE**

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REPORT OVERVIEW

This report details the industrial training experience gained during the Student Industrial Work Experience Scheme (SIWES) conducted at Optice Computer. The report is divided into five chapters:

- Chapter One provides an introduction to SIWES, detailing its background and objectives.
- Chapter Two describes the establishment of attachment, including its location, history, objectives, and organizational structure.
- Chapter Three focuses on the student's specific involvement in various sections and units within the organization.
- Chapter Four discusses the industrial experience, highlighting key lessons learned.
- Chapter Five presents a summary of attachment activities, problems encountered, and recommendations for improving the SIWES scheme.

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CHAPTER ONE

INTRODUCTION

1.1 Background of SIWES

The Students Industrial Work Experience Scheme (SIWES) is a significant initiative established in 1973 by the Industrial Training Fund (ITF) in Nigeria. It was designed to address the observed gap between theoretical knowledge acquired in academic institutions and the practical skills required in the workplace. SIWES is a skill acquisition program that integrates academic learning with real-world industrial experiences to prepare students for the demands of their chosen careers. Before the introduction of SIWES, graduates from Nigerian tertiary institutions, especially those in science, engineering, technology, and agriculture, faced significant challenges in meeting the technical requirements of various industries. Many lacked the hands-on skills and professional exposure needed for effective performance in the workplace. This mismatch between academic training and industry expectations prompted the ITF to create SIWES as a structured means to equip students with the necessary practical experience and enhance their employability.

SIWES is mandatory for students in accredited tertiary institutions, including universities, polytechnics, and colleges of education, enrolled in courses that require industrial exposure. The program typically lasts six months but may vary depending on the institution or discipline. Students are placed in industries, organizations, or institutions relevant to their courses, where they work under the supervision of both industry professionals and their academic supervisors.

1.2 Objectives of SIWES

The primary objectives of SIWES include:

1. Providing students with practical knowledge of their fields of study.
2. Exposing students to modern technologies and industry standards.
3. Enhancing students' technical and interpersonal skills.
4. Bridging the gap between theoretical knowledge and practical application.
5. Preparing students for future employment opportunities by fostering professionalism and work ethics.

CHAPTER TWO

DESCRIPTION OF THE ESTABLISHMENT OF ATTACHMENT

2.1 Location and Brief History of Establishment

Optice Computer is located at No 18, Offa Road Adjacent Cbn Ilorin Kwara State. This central location offers the company easy access to local and international clients, fostering business relationships and collaborations across the region.

Brief History of Establishment

Optice Computer began its operations in November 2019, with a vision to provide innovative and effective software solutions to meet the growing technological needs of businesses and individuals. Founded by a team of technology enthusiasts, the company aimed to fill the gap in the local tech ecosystem by offering cutting-edge services that bridge the divide between theoretical knowledge and practical application.

Since its establishment, Optice Computer has gained recognition for its exceptional services, including software development, web development, digital marketing, and IT consultancy. The company has also contributed to skills development through its computer training programs, which offer both certificate and advanced diploma courses, empowering individuals with the technical expertise needed in today's digital world.

Optice Computer has become an integral part of the local tech landscape, offering a broad range of services tailored to the needs of various industries, and positioning itself as a trusted name in the tech sector of Kwara State and Nigeria at large.

2.2 Objectives of the Establishment

Optice Computer, as a major distribution company, has expanded its operational needs to include IT infrastructure, computer hardware maintenance, and software management to enhance efficiency in logistics, sales, and overall business operations. The company's objectives in this regard include:

- 1. Ensuring Efficient IT Support** – To maintain a fully functional and optimized IT infrastructure that supports business operations, including sales management, logistics tracking, and inventory control.
- 2. Enhancing System Security and Performance** – To implement regular software updates, security patches, and system optimizations that protect company data and ensure smooth business transactions.
- 3. Effective Hardware Maintenance and Management** – To ensure all computer systems, servers, and digital tools are well-maintained, repaired, and upgraded to prevent downtime that could affect business operations.
- 4. Training and Skill Development** – To equip employees and interns with technical skills in software installation, system troubleshooting, and hardware diagnostics, ensuring that the workforce remains competent in managing IT-related challenges.

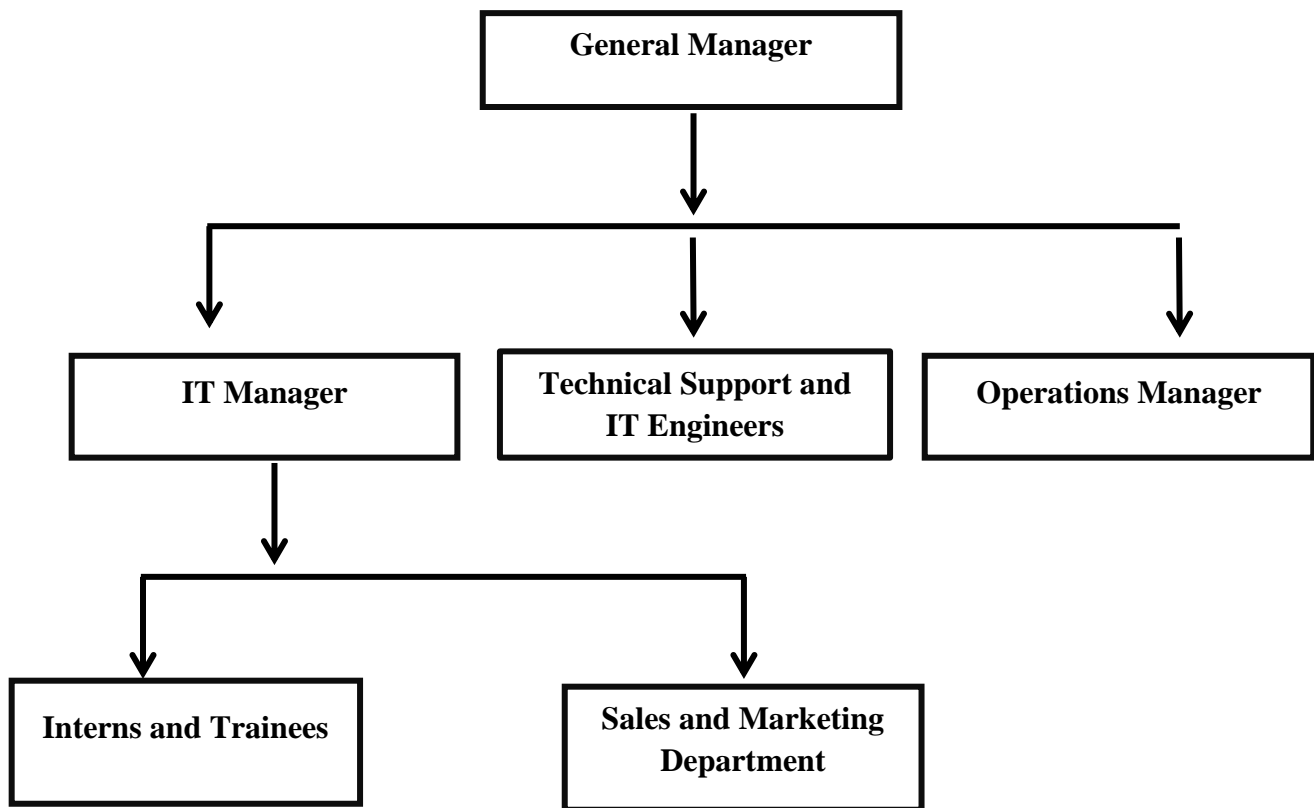
By focusing on these objectives, Optice Computer ensures that its IT infrastructure remains reliable, secure, and scalable, supporting the company's growing needs while providing a platform for interns and employees to develop essential skills in computer hardware engineering and software management.

2.3 Organisational Structure

The organizational structure of Optice Computer is hierarchical, with the following key positions:

1. **General Manager (GM)** – The highest-ranking official responsible for overseeing the entire operations of the company, making strategic decisions, and ensuring the company meets its business objectives.
2. **IT Manager** – Heads the IT department and is responsible for maintaining the company's IT infrastructure, overseeing software installations, hardware repairs, and ensuring network security and efficiency.
3. **Operations Manager** – Supervises the distribution, logistics, and supply chain to ensure products reach customers efficiently. This role requires constant collaboration with the IT department for inventory tracking and digital sales records.
4. **Technical Support and IT Engineers** – This team is responsible for computer hardware and software maintenance, troubleshooting network issues, and providing technical assistance to employees using IT systems for sales and distribution activities.
5. **Sales and Marketing Department** – Focuses on promoting the company's products, engaging with customers, and implementing digital marketing strategies, often supported by IT tools such as customer relationship management (CRM) software.
6. **Interns and Trainees** – Interns, including SIWES students, are assigned roles in different units such as technical support, software installation, network troubleshooting, and system maintenance to gain hands-on experience.

This structured hierarchy ensures that all operations at **Optice Computer**



2.4 The Various Departments/Units in the Establishment and Their Functions

1. IT Department – Handles software installation, hardware maintenance, network security, and technical support to ensure smooth digital operations.
2. Operations and Logistics Department – Manages product distribution, transportation, and inventory tracking for efficient delivery.
3. Sales and Marketing Department – Oversees customer engagement, product promotions, and sales strategies, including digital marketing initiatives.
4. Finance and Accounts Department – Responsible for financial management, payroll processing, budgeting, and expense tracking using accounting software.
5. Human Resources (HR) Department – Manages staff recruitment, training, employee welfare, and compliance with labor regulations.

CHAPTER THREE

STUDENT SPECIFIC INVOLVEMENT IN VARIOUS SECTIONS/UNITS

During my industrial training, I was deeply involved in the Software Installation and Configuration Unit where I assisted in installing various operating systems, application software, and security updates. I participated in configuring system settings to optimize performance, troubleshooting software compatibility issues, and ensuring that all applications met the required specifications. This hands-on involvement allowed me to understand the intricacies of software deployment, manage licenses, and perform routine system maintenance, which significantly enhanced my technical proficiency in software management.

3.2 Hardware Diagnostics and Repair Unit

In the Hardware Diagnostics and Repair Unit, I gained valuable experience in troubleshooting and repairing computer components. I was actively engaged in diagnosing issues with hardware such as motherboards, processors, RAM, and storage devices, using diagnostic tools and testing procedures to identify faults. My role involved replacing defective parts, reassembling systems, and ensuring proper functionality of repaired units. This exposure not only honed my technical skills in hardware maintenance but also taught me the importance of systematic troubleshooting and attention to detail in preventing future hardware failures.

3.3 Technical Support and Customer Assistance Unit

My role in the Technical Support and Customer Assistance Unit involved interfacing directly with end-users to resolve technical issues and provide guidance on system operations. I responded to service requests, offered troubleshooting support both remotely and on-site, and documented user concerns to facilitate prompt resolutions. By assisting customers with software installations, hardware setup, and system optimizations, I developed strong communication and problem-solving skills that are essential for delivering effective IT support in a professional environment.

3.4 Network and System Maintenance Unit

Within the Network and System Maintenance Unit, I was responsible for supporting the installation, configuration, and ongoing maintenance of network infrastructure. I assisted in setting up routers, switches, and firewalls, ensuring that network connectivity and security protocols were rigorously maintained. My involvement included monitoring network performance, performing routine maintenance tasks, and implementing system updates to enhance reliability and efficiency. This experience provided me with a comprehensive understanding of network operations and the critical role that regular system maintenance plays in sustaining an optimal IT environment.

CHAPTER FOUR

INDUSTRIAL EXPERIENCE

My industrial experience was centered on practical tasks in computer software installation and computer hardware engineering, where I was immersed in a dynamic IT environment. I actively participated in installing operating systems, deploying essential software, and configuring complex applications to meet organizational standards. At the same time, I undertook diagnostic assessments and repairs on computer hardware, learning to identify and resolve issues with various components such as CPUs, memory modules, and storage devices. This dual exposure not only reinforced my theoretical knowledge but also provided me with practical skills in managing and maintaining IT systems in real-world scenarios.

Furthermore, working in an environment that integrated both software and hardware aspects allowed me to appreciate the synergy between these two disciplines. I collaborated with experienced engineers and IT professionals, which enhanced my understanding of network configuration, system security, and technical support strategies. The challenges I faced—ranging from compatibility issues during software installation to intricate hardware troubleshooting—helped build my resilience and adaptability. Overall, the industrial experience has been instrumental in preparing me for a professional career in computer engineering, equipping me with the hands-on expertise and problem-solving abilities necessary for success in the rapidly evolving field of information technology.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Summary of Attachment Activities

During my SIWES training at Optice Computer, I was actively involved in computer software installation, troubleshooting, and hardware engineering tasks. My responsibilities included installing operating systems, configuring software applications, setting up drivers, and performing system updates. Additionally, I assisted in diagnosing and fixing hardware issues such as faulty RAM, damaged hard drives, malfunctioning power supplies, and overheating processors. I also gained hands-on experience in network configuration, peripheral device setup, and system optimization techniques to improve computer performance. Through these activities, I developed a strong foundation in computer maintenance, software management, and troubleshooting skills, which are essential for IT professionals.

5.2 Problems Encountered During the Program

Despite the valuable knowledge and skills I acquired, I encountered several challenges throughout the SIWES program. One major challenge was dealing with system compatibility issues when installing certain software or hardware components. Some applications required specific system requirements that older computers could not meet, leading to installation failures. Additionally, hardware troubleshooting was sometimes difficult, especially when diagnosing intermittent system crashes, overheating, or power supply issues. Another challenge was time management, as I had to complete multiple tasks such as system repairs, software installation, and network troubleshooting within limited timeframes. Lastly, working with customers who had little technical knowledge was sometimes challenging, as they had unrealistic expectations regarding computer repairs and performance improvements.

5.3 Suggestions for the Improvement of the Scheme

To enhance the effectiveness of the SIWES program, structured training sessions should be introduced before interns begin practical work. This would help them understand common software installation procedures, troubleshooting techniques, and hardware repair methods. Additionally, companies should assign mentors to guide interns through complex tasks, ensuring

they gain deeper insights into computer maintenance. More emphasis should be placed on practical hands-on training in networking, cybersecurity, and advanced troubleshooting techniques, as these skills are crucial in the modern IT industry. Companies should also provide access to updated tools and equipment, allowing interns to work with the latest hardware and software technologies. Finally, universities should collaborate with industries to offer certification programs in relevant IT skills, which would improve students' employability after graduation.

5.4 Conclusion

My SIWES experience at Optice Computer was highly beneficial, as it provided me with real-world exposure to computer software installation and hardware engineering tasks. I developed essential skills in system troubleshooting, hardware diagnostics, and software configuration, which are critical for a career in IT. Although I faced challenges such as hardware compatibility issues, troubleshooting difficulties, and time constraints, these experiences helped me improve my problem-solving abilities, technical skills, and adaptability. To make SIWES more effective, structured training, mentorship programs, advanced practical sessions, and industry collaborations should be implemented. Overall, my industrial training has equipped me with the foundational skills needed to pursue a professional career in computer engineering and IT support services.