

INDUSTRIAL ATTACHMENT REPORT

Presented by:

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To

KENYA BROADCASTING CORPORATION

KBC

And

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A.M.E.C.E.A

In partial fulfillment of the requirements for the award of degree of bachelor of science in
Computer Science.

DECLARATION.

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I have fully written this report based on truth and cited all activities and duties that I undertook while on attachment. I therefore declare that this material is original.

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ABSTRACT

The purpose of this report is to provide the details of the intuition of attachment, a description of all the activities undertaken during the same, the lessons learnt and challenges. The essence of attachment is to put what we have learnt in school into practice and to gain more from the field.

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Abbreviations

IP – Internet Protocol

ICT – Information and Communication Technology

KBC -Kenya Broadcasting Corporation

CAP - Contractor-Acquired Property

TV – Television

INTRODUCTION

The industrial attachment training is an essential component of the curriculum of The Catholic University of Eastern Africa. The attachment period is usually minimum of eight weeks, during which the student is expected to practice the skill learnt in class and also acquire additional skills outside class. They are also exposed to the real world of work and its challenges which will prepare them towards their future careers. This report is the outcome of the ten weeks practical training I had at Kenya Broadcasting Corporation.

Description of Organization and Department Attached.

Kenya Broadcasting Corporation is a state Corporation established by an Act of parliament CAP 221 of the laws of Kenya to provide independent and impartial broadcasting of information, education and entertainment in English and Kiswahili.

Mission

Its Mission is to provide leadership in transmission of objective, informative, educative and entertaining content to the public through high quality broadcast.

Vision

Kenya's most reliable, dynamic and trusted broadcaster.

KBC quality policy statement

Kenya Broadcasting Corporation is committed to providing objective, informative, educative and entertaining content to our customers through high quality broadcasts.

The Corporation shall:

- Endeavour to contribute to the economic, educational, cultural and social well-being of Kenyans by embracing best practices and values, as we discharge our Public Broadcasting mandate;
- Satisfy applicable requirements and continually improve by implementing a Quality Management System based on ISO 9001:2015; and
- Review established Quality Objectives on an annual basis to reflect emerging Customer aspirations and priorities.

Core values

- Quality services
- Innovation and creativity
- Professionalism
- Teamwork
- Social responsibility
- Competitiveness and value for money
- Honesty and integrity
- Respect for national, cultural, religious, family values and diversity

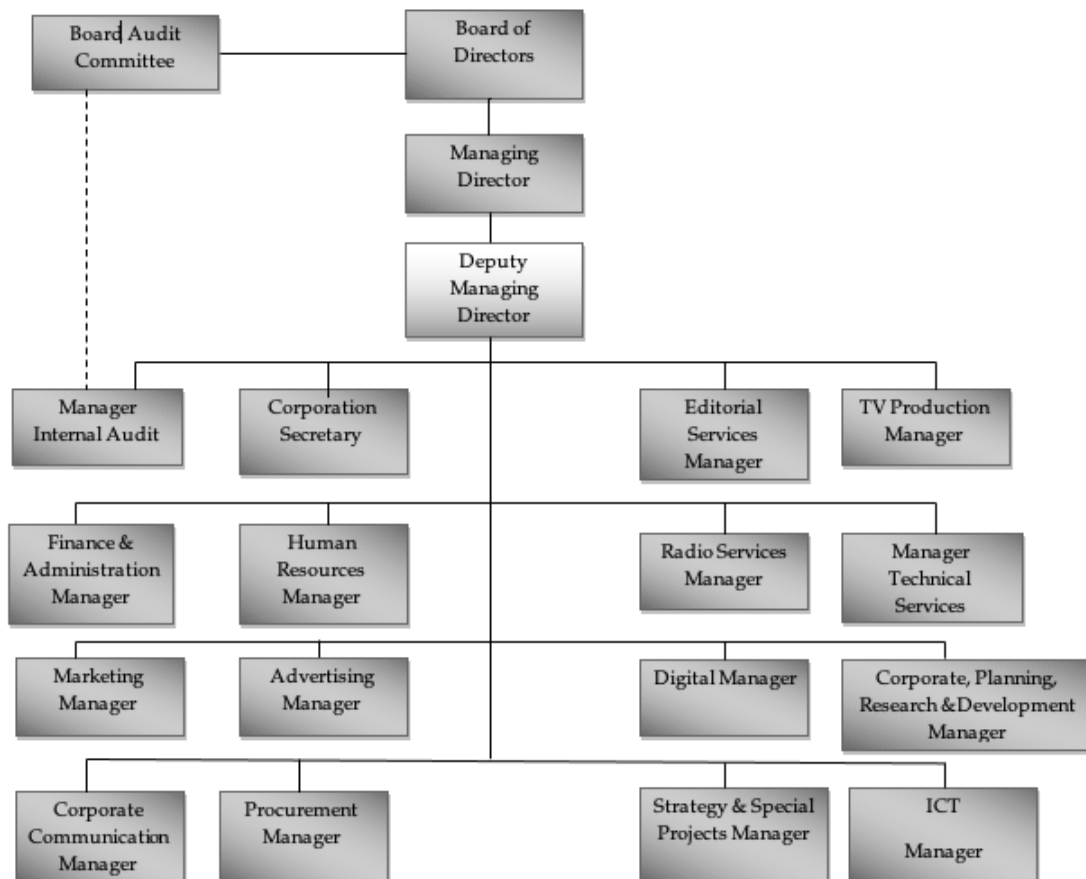
Specific aims

Increased understanding among the people on the government development policies and strategies.

Impart knowledge on the process of effective communication with key publics.

Promote an effective approach to the use of radio and television as tools for National Development.

Organization structure



Department attached

I was attached at the ICT department whose duties and objectives are to provide ICT technical support services, provide training and awareness on ICT issues, and to study, design and develop Management Information Systems (MIS).

General activities undertaken in the organization.

KBC has a number of activities within its organization, they are divided into departments with department heads. These activities and departments are as follows:

1. **Newsroom** - This department is responsible for gathering, compiling, editing and presenting of news from all parts of the country. It is headed by chief editor and comprises of other news editors and presenters.
2. **Television services and programs** – this department is responsible for coordinating TV programs for KBC television.
3. **Radio service and program** - this department is responsible for coordinating radio programs for KBC radio station (Radio Taifa, English Service, Coro radio etc.)
4. **Human Resource Department** – responsible for the well fare of the staff.
5. **Finance** – facilitate and account for finance received by KBC.
6. **Administration** – provide administration purposes to KBC, it includes the secretarial pool and the managing Director’s office
7. **Procurement** – This is the department that handles obtaining of facilities to the corporation.
8. **Technical** – It deals with providing support to all the department on technical issues, KBC being a media house it entails dealing with a lot of technical devices e.g. Cameras, editing facilities etc.
9. **ICT** – Information and Communication Technology department is Headed by Mr. Ben Mwala, its responsibilities include: providing it Support to all departments, Managing Information Systems, managing the organization network and designing and developing systems for the corporations.

Specific activities undertaken during attachment.

The ICT department duties is to provide ICT technical support services, training to all users in all departments and to study, design and develop Management Information Systems for improving the services provided by the organization.

During my attachment period I was able to the following activities as assigned by my Supervisor and other staff member in the department.

1. Provide support in Newsroom.

With the help of my fellow attachés, we were able to provide Operating System support, troubleshooting OS related issues, Microsoft windows activation, Linux troubleshooting and Installation.

I was also able to help users understand, use, solve and avoid errors associated with daily use of News Management System, that involved uploading unsupported document files and using inappropriate characters in document that the system does not accept.

2. **Hardware support** - For two weeks during my attachment we did computer maintenance in all the departments. This process included:
 - i. Deleting unused files and clearing Recycle bin
 - ii. Checking the computer specifications and recording them
 - iii. Blowing dust from computers
 - iv. Adding Random Access Memory to computers which were slow
 - v. Changing CMOS battery for some computers

- vi. Installing Kaspersky Anti-virus
- vii. Installing software needed by users (Syspro, Aruti and GroupWise).

This process expected us to interact with each computer user to get their consent and there after sign that we indeed did the above.

3. **Help desk duties** – during the attachment I was able to assist user who needed help user in the following:
 - i. Connecting printers (reconnecting, installing drivers).
 - ii. Connecting and reconnecting internet connections
 - iii. Projector and zoom setup in boardroom
 - iv. Assisting users with Microsoft windows issues e.g document formatting and printing.
4. **Management Information System** – during my third week at KBC, the MIS team were doing an upgrade of their ERP system that is Syspro. An upgrade from Syspro Version 7 to version 8. I was fortunate enough to be among the attachés given the chance to learn and install Syspro.

The process included:

- i. Uninstalling Syspro 7 from the client computer (i.e. crystal report and update component)
- ii. Accessing the Syspro file server using an IP (the computer must be connected to the network and using an account controlled by DNS server).
- iii. Using Syspro batch file to install all Syspro files to that local machine.
- iv. Install reporting system using a different batch file after the first installation is done.
- v. Test Syspro if its working on the machine.
- vi. Make sure the user is familiar with the new upgrade.

After the successful installation to all department I afterward provide support to users in the following duties.

- i. Re-installing Syspro 8, happened in cases where the installation was not successful.
- ii. Trained user on the new features of Syspro 8. Including how to do requisitions and surrenders.
- iii. Reconnecting Syspro to Sysproserver, happened in cases where the local machine time configurations did not match the server time and also server ports did not auto-configure during installation.

Following the weeks before my attachment there was an upgrade of Aruti HR system, where they were upgrading to a newer version. This led to some user being logged out, during my support I was able to show the users how to reconnect back to Aruti using its IP address and port numbers.

Alternative: KBC (Timothy) needed a small web-based reporting module that uses Syspro data to provide analyses of sales. He assigned me the task to code (develop) the software. During my attachment period I was able to write a program (incomplete*) using:

- ReactJs- It is the front-end part of the app (React, 2022). Provide the user with a beautiful UI and graphs of the data. I used libraries like chartjs, react-styled components to achieve this.
- NodeJs – this served as the backend of the project, created APIs that accepted request from the front-end and responded with data from the Syspro server served as JSON data.
- Sysproserver- * this is the same server used by the ERP system Syspro, my app just extracted the data but did not have the rights to edit/alter any of the fields.

*Working on finishing it.

*This app is only for analysis.

5. Network configuration and support-

During the first week, I was able to use my class knowledge to terminate category 6 cables and use it. I was able to refresh my memory and master the color combinations of an ethernet cable.

I also learned the role of Domain controller in managing machine logins and emails. I was able to add and remove computers from Domain, this was a fundamental knowledge since it really helped me during the process of installing Syspro. The process of adding a machine to a Domain controller is as follows

- i. Open computer properties window.
- ii. Toggle to advance system settings
- iii. On the system properties pop-up window, click on computer name tab.
- iv. Click on change to change the domain of the computer
- v. Input computer name
- vi. And select domain
- vii. Input the organization domain and click next.
- viii. Enter your logins credentials on the pop-up window
- ix. After the process is successful you will be asked to restart the computer

Skills and competencies gained

I learned a lot during these 10 weeks attachment and my confidence level has risen. I can confidently say I have learned the following.

Soft skills

i. Improved communication skills

Providing ICT support has thought me on communication since we interact with computer users from different department. The user need elaboration on task you have done and also teaching them on what to do in case they encounter same issue, being able to communicate easily makes work easier and fun.

The ICT help desk require a report on issues tackled and being able to communicate the challenges, experiences and how-to to them has thought me good communication skills.

ii. Working in a team

At KBC we were/are all a team working to achieve specific goals. We were also given task in groups of 3 or more. These teams will be changed regularly and this made us friends. We were assigned task that needed our individual contribution to make it successful. For example, when installing Syspro, we faced challenges like no network, OS fault and insufficient computers specs. These tasks required us to work together and at the long run we were able to finish the job faster and learnt a lot.

Technical Skills

iii. Installing operating system (Windows, Linux)

Although I knew how to install operating system on laptops, my experience at KBC has thought me the different computer architecture that required me to do research on how to install windows on this machine.

KBC has both machines that run BIOS and UEFI systems (freecodecamp.org, 2022) that require different type of bootable file (GPT and MBR). With this I can comfortable know the difference between these systems and be able to install Operating systems comfortably.

I learnt how to install Ubuntu Server (Ubuntu, 2022).

iv. NodeJs

Working with react and express on Syspro sales dashboard (mini-project), I have been able to learn node (JavaScript library). Though I had little knowledge on JavaScript (manipulating the DOM) I can comfortably say I am Novice programmer in Node. I am familiar with NodeJS environment both in back-end development using ExpressJs and front-end development using ReactJs.

This project has also given me the opportunity to practice the Software Development Life-cycle (tutorial point, 2022) that I have learnt in school. Being able to write readable code that can easily be continued by another person.

v. Software project Management

This was always a concept that I had learnt in class, practiced in semester projects but never had a real-world use case. KBC gave me the chance to experience how a real project is. Through the guide of Mr. Titus Ringera and Mr. Timothy I was able to go through how the KBC in-house app were developed, the process they had gone through from information gathering to deployment. The solutions of these app always made my mind wonder how processes simplified by these app used to take.

vi. Software installation and Software troubleshooting

During my attachment period interacted with Syspro a lot. I did installation, troubleshooting and even helping users perform some basic operation like posting a requisition, approving a line, and printing a requisition. From these tasks I believe I learnt a lot. “Learn by doing”.

I also interacted with user who had issues with other apps like Aruti, Microsoft office and GroupWise. I also installed updated drivers for printers and scanners for new and old computers.

vii. Hardware management and troubleshooting

We did computer maintenance for all departments. From this task I learnt how to retrieve lost data, changed/add computer memory, learnt how to remove viruses using malware detection tools. I also learnt the importance of regularly cleaning computers.

viii. Network management

Using ipconfig commands to troubleshoot network problems was a news concept to me. Now I can troubleshoot a network using `flushdns`, `release`, `renew` commands to solve network problems.

To check if a computer is communicating with the server, ping the server with bits of data using its IP address e.g. `ping 127.0.0.1`.

I also learned about domain controller how it used to log in to any computer in the network. I learnt how to add computers to domain controller.

Activities I Applied my skills

- i. **Adding a network printer** – adding a network printer to a computer using hostname or IP address.
- ii. **Installing office and activating** – installing Microsoft office 2019 then activating it using activation key (software).

- iii. **Installing Kaspersky** internet Security and using activation key from a centralized server to activate
- iv. **Installing ubuntu server** – used my research skills to install ubuntu server and LAMP on a server then configuring SSH Key for remote access.

OBSERVATION AND ANALYSIS

Observation

KBC is a great learning place for knowledge hungry students who can dedicate their time to learn new activities. In KBC everyone is equal regardless of your tribe, race or the school you are from. I enjoyed working at KBC and I wish I had more time. I learned a lot and my confidence.

Analysis

From my observation KBC provided a great learning platform for my career. I was able to interact with developers, designers, network experts, data scientist and support stuff that make the tech ecosystem. From these interactions I have become a different person yawning for more knowledge to be able to be like them and also do work as they are doing.

SUMMARY AND CONCLUSION

Summary

Based on the above report and skills gained, I believe will be perfect bedrock for my future career. My work-related learning period at the KBC really transformed me into a responsible student who is capable of completely working in an industry. It really gave experience of the real working environment. I was able to familiarize myself with new ideas.

The lessons that I learnt at school has been transformed to a valuable resource by my time at KBC. I will have a different stance to the modules that I learnt at school because of the knowledge that I have on the expectation of a Graduate in the society. I have also been transformed personally by the challenges that I faced during my time in the company as well as the responsibilities that I was given during my time of internship. I am able to critically analyze situations and make rational decisions.

Conclusion

To conclude the following are the main skills I have gained: improved communication skills, I am able to work in team comfortably, improved coding skills, practiced software project management, learnt how to configure a network, learnt how to install and configure Syspro erp system and learned the relationship between a server and client practically.

KBC has made an industry ready person through the skills I have gained through my industrial supervisor and staff.

REFERENCES

- freecodecamp.org. (2022). *UEFI vs BIOS: What's the Difference?* Retrieved from freecodecamp.org: <https://www.freecodecamp.org/news/uefi-vs-bios/#:~:text=UEFI%20provides%20faster%20boot%20time,booting%20from%20unauthorized%2Funsigned%20applications>.
- React. (2022). *A JavaScript library for building user interfaces*. Retrieved from React website: <https://reactjs.org/>
- tutorial point. (2022). *What is SDLC?* Retrieved from tutorialspoint.com: https://www.tutorialspoint.com/sdlc/sdlc_overview.htm
- Ubuntu. (2022). *Install Ubuntu Server 22.04*. Retrieved from ubuntu documentation: <https://ubuntu.com/tutorials/install-ubuntu-server>