ST. MARY'S UNIVERSITY

PROCEEDINGS OF THE 17TH NATIONAL STUDENT RESEARCH FORUM, 2023

Research and Knowledge Management Office (RaKMO)

August, 2023
Addis Ababa, Ethiopia

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Preface:

It is with great pleasure that RaKMO (Research and Knowledge Management Office) of St. Mary's University presents this compilation of research papers, which emerged from the 11th National Student Research Forum held in August 2023. This annual forum, organized by RaKMO, provides a significant platform for undergraduate students to share their research findings with their peers and gain valuable experience in presenting their work at academic conferences.

The primary objective of the 11th National Student Research Forum was to foster an environment of knowledge exchange and scholarly discourse among undergraduate students. The forum aimed to open doors for these young researchers, enabling them to showcase their research works and contribute to the wider academic community.

At the 11th National Student Research Forum, a total of 11 papers were presented, featuring the scholarly contributions of students from both St. Mary's University and Wolkite University. The diverse range of topics covered in these papers reflects the breadth of academic disciplines and research interests among the participants.

To ensure wider dissemination and accessibility of the valuable research presented, St. Mary's University has taken the initiative to publish all the papers in this proceedings volume. It is important to note that the ideas and viewpoints expressed within these papers are solely those of the respective authors and do not necessarily represent the official stance of the university.

We would like to extend our sincere gratitude to all the presenters and participants of the 11th National Student Research Forum. Their dedication and commitment to scholarly inquiry have contributed significantly to the success of this event. We also extend our appreciation to the organizers, reviewers, and contributors who have worked tirelessly to bring this proceedings volume to fruition.

We hope that this compilation of research papers will serve as a valuable resource for researchers, scholars, and students alike, inspiring further exploration and discovery in their respective fields of study.

Thank you for your interest and support in the 11th National Student Research Forum.

IOT Integrated Smart Urban Farming (MOFER)
Abinet Tamiru, St Mary's University

1. Introduction
1.1 Background of the study

Agriculture is a major source of income and food for humans and animals around the world. With 9 billion people expected by 2050, agricultural food production must double to meet demand. Given limited land, water, and labor, agricultural productivity must increase by at least 25% to meet that goal while limiting environmental pressure (FAO, 2017). Global food production faces many uncertainties and hurdles, such as maximizing resource use for maximum yield while minimizing waste for sustainable growth. Various technologies and management tools must be integrated to achieve long-term, site-specific production efficiencies while minimizing unintended consequences and impacts.

Smart farming uses modern technology to increase crop yield and quality. 21st-century farmers have GPS, soil scanning, data management, and IoT. In IOT-based smart agriculture, sensors monitor the field and automate the irrigation system. IOT (Internet of Things) in agriculture involves using sensors and other devices to turn farming into data.

Ethiopia's 67–80% agricultural sector has little or no technology. Many farmers use old or traditional methods, which lowers productivity and unbalanced demand and supply. Despite company and government action, "urban agriculture" is a new term. This IOT-integrated system solves problems. It is a platform where individuals and groups get help with farming and sell their harvested product, making it cheaper on the market. In other words, it benefits both producers and buyers. This system includes many vegetables. Anyone can grow a plant and sell its products. It makes planting and growing vegetables easier and more efficient by providing harvest data.

1.2 Statements of the problem

Urban growth, urban poverty, food price hikes, climate change, consumption patterns, and diet-related health problems all call for more attention to how cities feed their residents. Urban growth increases demand for food and ecosystem services from land and water. Urban and rural populations need integrated territorial development and balanced urban-rural linkages.

Ancient agriculture involved producing food in cultivated lands for human survival and animal breeding (Tekinerdogan.B, 2018) and was called the traditional agricultural era 1.0. Manpower and animals were used. Agricultural steam engines appeared in the 19th century. The widespread

use of agricultural machinery and chemicals by farmers marked the start of era 2.0 and improved farmers' effectiveness and productivity. Due to computing and electronics, Agricultural Era 3.0 emerged in the 20th century. Robotics, programmed farm equipment, and other technologies improved agriculture. Work distribution, precise irrigation, reduced chemical use, site-specific nutrient application, efficient pest control technologies, etc. were used to adapt policies to agricultural era 3.0. The next agricultural era, 4.0, involves the Internet of Things, big data analysis, artificial intelligence, cloud computing, remote sensing, etc. New technologies have improved agricultural activities by developing low-cost sensor and network platforms to optimize production efficiency and reduce water and energy use with minimal environmental effects (Ferrandez-Pastor et al., 2016). Smart farming uses big data to provide extrapolated overviews of real-time agricultural situations (Wolfert et al., 2017). Real-time AI programming embedded in IoT devices helps farmers make the best decisions (Liakos et al., 2018). Smart farming helps harvesting and crop yields by automating sensors and machinery (O'Grady and O'Hare, 2017). The Internet of Things has transformed traditional farming techniques (Quy et al., 2022)

Ethiopia's food security is a big problem. This is due to rapid population growth, high inflation, urbanization, climate change, depletion of natural resources, and inflation of basic needs. Governments, NGOs, and other organizations must ensure basic needs and promote urban agriculture to overcome these challenges. No platform provides these services separately, let alone in one system for urban agriculture, making it difficult for farmers to grow it. Even if they grow and harvest it, they must sell it at a lower price due to their market connection.

Generally, these are the reasons why this system is needed:
- Farmers do not get a better yield from their plants and product if information is not accurate.
- Small-scale farmers are not provided with a good marketplace;
- Data analysis is not done for the products that are harvested;
- Time and consumers waste time and resources;
- Getting different services on one platform is difficult;
- Products are not affordable because of their scarcity; and
- Consumers do not have a variety of choices to meet their needs.

In light of these, this alternative system is proposed. It allows farmers and consumers to quickly and easily communicate from anywhere. This system saves time, money, effort, and energy and helps everyone succeed.

1.3 Objective of the Project
1.3.1 General Objective
The prime objective of this project is to develop IOT based urban agriculture service provider

applications for different platform devices.

1.3.2 Specific Objective

The specific objectives of the proposed system are listed below:

● Identify and specify the current urban farming problems in the country;

● Understand the functional and non-functional requirements of the problem;

● Design alternative solutions to address the current problems;

● Promote awareness of the use of technology in city farming;

● Develop a platform for urban farming kit providers;

● Develop a marketplace platform for urban farmers where they can connect with interested buyers through our marketplace;

● Develop an app where users can keep track of their cultivation for producing high quality products; and

● Testing and checking the application that is developed, and analyzing the data collected from the farmers to get a better yield for another farmer.

1.4 Significance of the Project

The project aims to develop an app that helps users track and control the farm's environment, leading to better use of IOT (internet of things) in a well-controlled environment that can sustain low waste and does not require daily human monitoring.

The significance of this project are:

● Farmers will get better information about their plants to get a better yield;

● The product estimations will get more accurate while the quality of harvested goods will increase;

● Small-scale farmers will be provided with a good marketplace;

● Data analysis is done for the products that are harvested;

● Time and resources wasted by both the farmers and the consumers will decrease;

● The users will get different services on one platform;

● Products will be more affordable because the scarcity of products decreases;

● Awareness of urban agriculture and technology will be created;

● Leads the country by introducing new technology development and adaptation; and

● Provide economic growth to Ethiopia through the market and the creation of jobs.

1.5 Feasibility Study

A feasibility study is simply an assessment of the practicality of a proposed project plan or method. This is done by analyzing technical, economic, legal, operational and time feasibility factors. As the name suggests, it is designed to reveal whether a project is feasible.

1.5.1 Technical Feasibility

The application's usability, accuracy, dependability, and efficiency, as well as the hardware's capacity to carry out the required work, are what determine the technical viability of our project.

Therefore, it can be claimed that the suggested system is theoretically possible for the following reasons:

- Our system is cross a platform and can operate on different devices. Android or IOS;
- It can offer a user-friendly interface;
- It has simple functions;
- It is easy-to-use hardware;
- Wireless and seamless communication of hardware with software;
- Built with it-experts and self-taught programmers;
- Secure user data;
- Use the application in any place and environment;
- Connect users and customers from different locations; and
- We also provide Marketplace via web.

Generally, the system can be said to be technically feasible because of the reasons listed above.

1.5.2 Economic Feasibility

The proposed system is a hardware integrated system, so users must pay a subscription fee in order to access the tracking system. This subscription fee enables the proposed system to pay for server and equipment costs, allowing it to run effectively and, in turn, providing the user with dependable service that leads to better outcomes and helps the customer also generate income.

- Hardware costs are intermediate considering the service.
- Server costs are covered by the money generated from subscriptions and advertising.
- It economically benefits urban consumers by sufficing their own consumption.
- It can be an income generation method by selling and buying products on the system.

1.5.3 Operational Feasibility

Each member of the "MOFER" project team has a different experience and level of programming expertise, supporting the system's operation. "Agile software development technique" will determine the project's operation mode. This makes the system flexible and changes requirements based on need and problem. And we can say the proposed system is operationally feasible because of the reasons below:

- The project follows agile software methodologies that suit the requirements and complexity of the proposed system.
- Operates on all devices (cross platform)

1.5.4 Legal Feasibility

Writing this documentation, the proposed system has no legal implementation restrictions, such as data protection acts or social media regulations, a project certificate, a license, or copyright. The proposed project is lawful and ethical.

1.5.5 Schedule Feasibility

This document ensures that the project will be completed within the specified time frame. If possible, this project will be finished in the allotted time at the end of this chapter.

1.6 Beneficiaries of the Project

1.6.1 Direct Beneficiaries

The proposed system will benefit customers, farmers, and the team directly. The team members are the first direct beneficiaries because the system is subscription based. The team members will have economic and job opportunities. thus, making them economically beneficiaries. The next beneficiary are farmers. It allows people to market their cultivated products and benefit economically. They can also cultivate their own food, reducing their expenditure on items. The other direct beneficiaries of this system will be the customers, who will have the opportunity to choose the product they want freely and access it with less time and energy loss.

1.6.2 Indirect Beneficiaries

The proposed system will benefit farmers' and team members' families. When a family member's employment supports them financially, they will profit. The country will also benefit from the proposed system through the job opportunities that are created. The other way the country could benefit is through the telecom company, which, by providing the internet infrastructure, will generate more revenue from system users buying internet packages.

1.7 Methodology

This system uses applied research to identify a problem and produce a solution. It helps us identify issues and needs, which helps us develop hardware and software solutions and strategies. It helps us judge by revealing unaddressed system gaps. The proposed method collects qualitative and quantitative data for experiments.

1.7.1 Data collection

The data collection methods that will be used by the system are:
- Interview
- Survey
- Observation

Prior research and applications of smart agriculture in urban Ethiopia or other countries are analyzed to determine the project's pros and cons. We will study agricultural service providers and institutions like the Ministry of Agriculture, which is modernizing the system with vertical farming, city farming, and technological integration.

1.7.1.1 Interview

Agriculture, as a qualitative research method, we ask, "What is agriculture's biggest problem?"

Why is Ethiopian city farming rare? Is integrating technology difficult? The proposed app uses semi-structured interviews with a general plan for what to ask and there is no specific phrasing order. Semi-structured interviews offer freedom while following a predetermined theme framework. We rely on previous outcomes to ensure the generalizability and validity of our results.

1.7.1.2 Survey
In order to collect information about agriculture services and products, we will conduct surveys with a small number of carefully chosen organizations and groups that only benefit the proposed system.

1.7.1.3 Observation
We also use observation as a data collection method by observing the behavior, events, and current situation of the agriculture sector in Ethiopia, particularly in cities.

1.8 Scope and Limitation of the Project
1.8.1 Scope of the Project
The proposed system aims to create an all-in-one service platform for smart and automated city farming for any individual or community with smartphone skills. The system is an easy online platform that works in urban Ethiopia to create smart and automated city farming for any individual or community.

It will be cross-platform, integrated with IOT devices, and allow automated data manipulation. The system scope focuses on:
- The customers will register into the system with their smartphones online;
- The customers can access the two parts, which are the tracking part and the marketplace;
- The tracking part will have the humidity sensors, soil moisture sensors, temperature, and other tasks;
- They can track the progress online about the plant's condition if they need any treatment; and
- In a marketplace, they can buy and sell products, so users of our app will be able to sell their products on the marketplace.

1.8.2 Limitation of the Project
- The system interactivity will not be accessible for blind persons.
- It is not able to implement machine learning.
- It is not able to implement a learning platform for the users.
- Localization is not implemented on the system.

2. Requirement Gathering
2.1 Requirement Gathering Techniques
Techniques our team used for obtaining requirements included both qualitative and quantitative

research to learn as much as possible about users' goals, obstacles, and preferences.

Questionnaires: Potential app users were surveyed using questionnaires created by our team. Users were asked about the kinds of features they would want to see in the app, the difficulties they have encountered so far, and the reminders they would find most helpful. And a total of 92 individuals filled out the survey after it was circulated using Google Forms.

Interviews: Our team also conducted an interview with Helen Gebregiorgis, the communications manager of Digital Green Ethiopia, in order to get insights on their work and determine how the suggested app may be useful in the agricultural industry.

Surveys: Our team was able to gather data on the preferred way of monitoring plant status, the sort of information users would want to track, and the obstacles they presently encounter in tracking the state of their plants. Our team also conducted market research to identify the competition and market trends in the plant tracking and gardening supply marketplace.

2.2 Method of Communication
2.2.1 Communication Techniques

When it comes to the techniques of communication, our team tried to conduct a face-to-face meeting with the agriculture ministry to make an interview but could not manage due to the tight schedule of the Office; thus, and our team used the following communication methods to gather information from potential user's and markets: Emails and voice call interviews. While doing this project, the team has used many communication methods to analyze assets and implement ideas. For example, we used video conferencing and online collaboration tools to work remotely and facilitate communication between our team. We also had face-to-face sessions in order to work and collaborate with each other.

2.3 Requirement Definition
2.3.1. Functional Requirement

User (farmers)

✔ Login

✔ Register

✔ Manage Account

✔ Pay for service.

✔ Generate reports.

✔ View product (for marketplace)

✔ Upload product (for marketplace)

✔ Manage product (for marketplace)

✔ User's password recovery

✔ Logout

User (new sellers)

✔ Register

✔ Login

✔ Manage Account

✔ View product

✔ Upload product

✔ Manage products.

✔ User's password recovery

✔ logout

User (buyers)

✔ View product

✓ View seller information

Bank
✓ Make transfer payments.
✓ Check transfer payment.
✓ Approve payment.
✓ Disapprove payment.
✓ Generate errors.

Administrator
✓ Login
✓ Create admin.
✓ Manage admin information.
✓ Ban/terminate users.
✓ Admin's password   recovery
✓ Delete user's product

3. Actor Description

User (farmers): In the MOFER system, users (farmers) are the one that register and sign to the MOFER mobile application in order to use the MOFER services. After signing in, MOFER app provides different services such as view product, upload product, pay for the service, update product, get notification, tracking, generate report etc. After signing in, the user can update or delete his profile too.

User (new sellers): In the MOFER system, users (new sellers) are the one that register and sign to the MOFER marketplace (web). After signing in, the user can post products that can be sold, update product information that are posted on the marketplace, delete products that are posted on the marketplace, and view products that are posted. The user also can update or deactivate his/her account. It offers the user's password recovery just in case the user forgets his/her password.

User (buyers): These users are the one that buy plant products from the MOFER marketplace. They can view different products from the marketplace, and they can view seller information for the product that they want to buy.

Banks: Banks are external actors that work with the MOFER system. The main tasks of banks are to verify and take care of transactions from user (farmers) e-banking accounts to MOFER's account to pay for the services fee.

Administrator: These actors are the one who control and manage the overall system. They can add, update, and delete admins. They can delete a user's product that is posted on the marketplace if they feel it is an inappropriate product. They also can search and terminate/ban the user if he/she posted inappropriate products repeatedly. The system offers admins password recovery just in case the admin forgets his/her password.

4. Implementation

In this part, we try to show the activities done by the actors of the system. We try to show the three actors' workflow with diagrams and descriptions.

4.1 Farmers
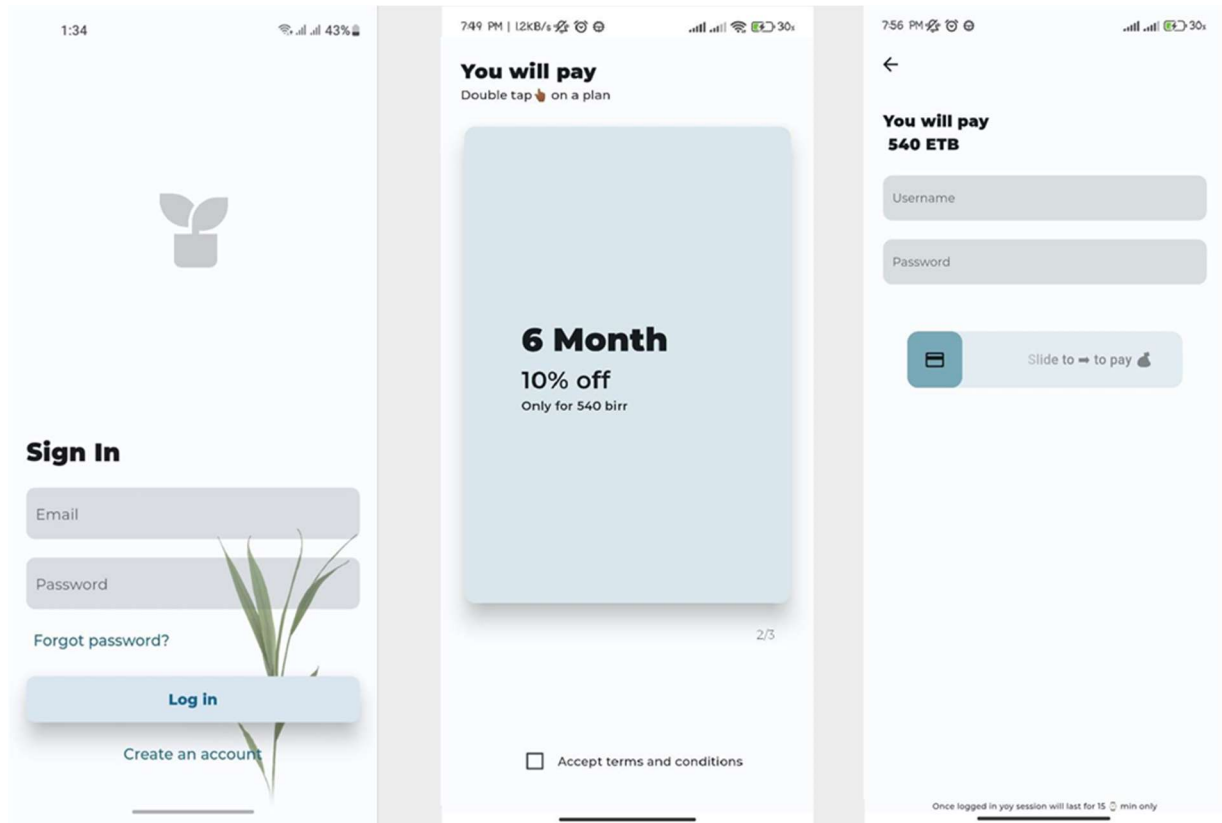
Fig 4.1 Sign in, list all subscription packages, bank login pages screenshot

These are the first three pages you will encounter for the application. The first page is log in where the user enters his/her username and password. After clicking the login button, the system will authenticate the user and pass to the second page that will list the available packages under the system. After that, the user will double tap on the package that is fitted for him/her. If the user forgets his/her password, he/she will click on the forgot password link to go to the password recovery page where they will proceed to recover their password. The third and last page will be the bank login page for payment where the user is expected to enter his/her username and password and slides to pay for the subscription.
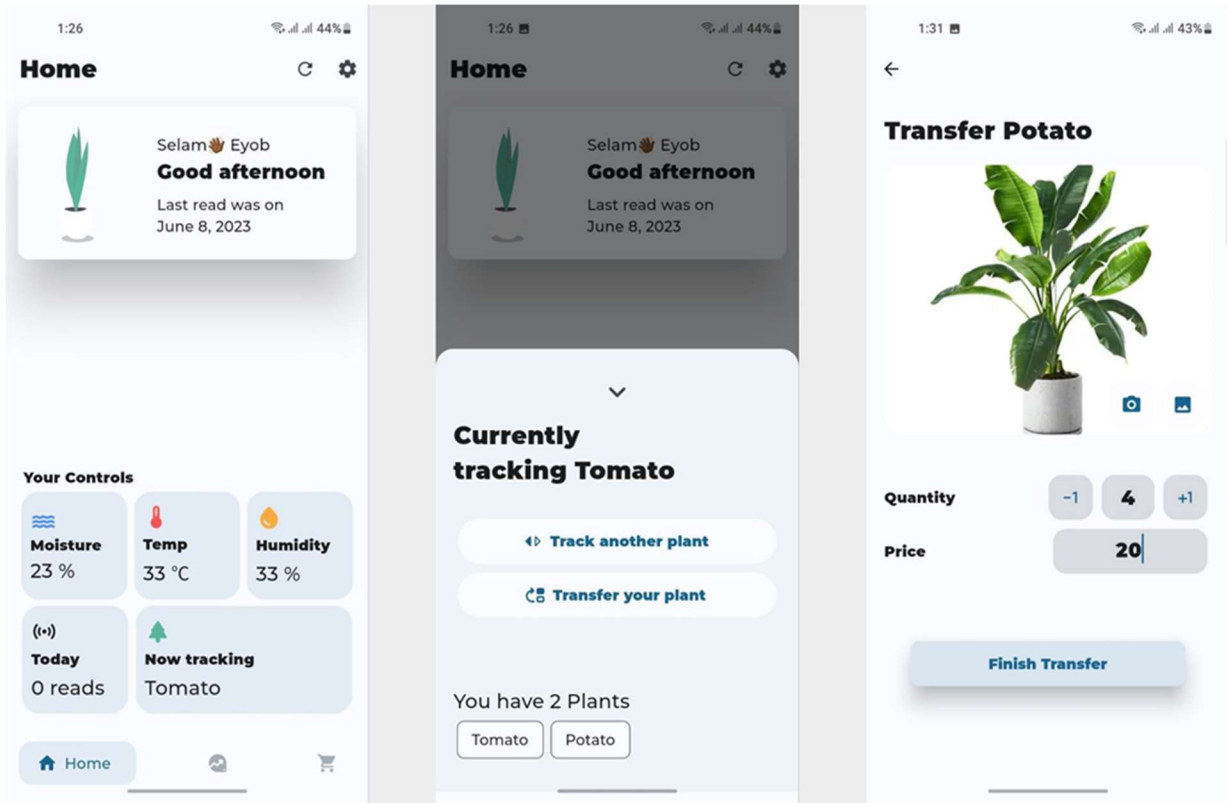
Fig 4.2: Home, view plants and transfer plant pages screenshot.

The first image is the homepage of the system where the user will see all the information about his/her plant where it displays the moisture, temperature, and humidity of the plant. Other than that, the user can shake the phone to get a new update. When the user clicks on the tracking button, the second page will be shown with the list of all the plants the user is tracking at the time. Other than that, the user can transfer their plant leading to the third image of the above figure where the user can enter all the information needed and transfer the plant to the marketplace.
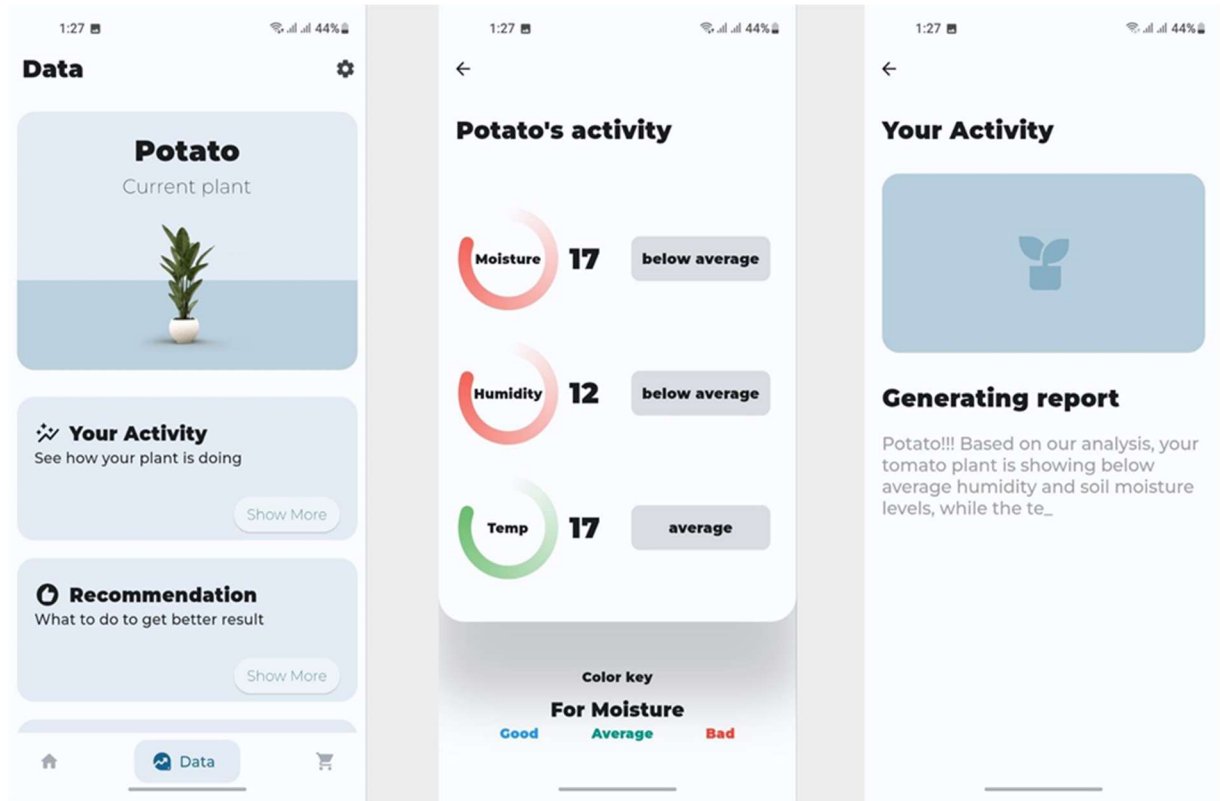
Fig 4.3: Data, plant activity and plant recommendation pages screenshot

The data page is the second page of the application where the user is provided with three choices to know the details of the plant, he/she is growing. Your activity shows the plant status compared to the normal status of the plant they are growing which is shown on the second image. The third image shows the recommendation page of the application where the system suggests a report that is useful to the plant based on the state it is found in.
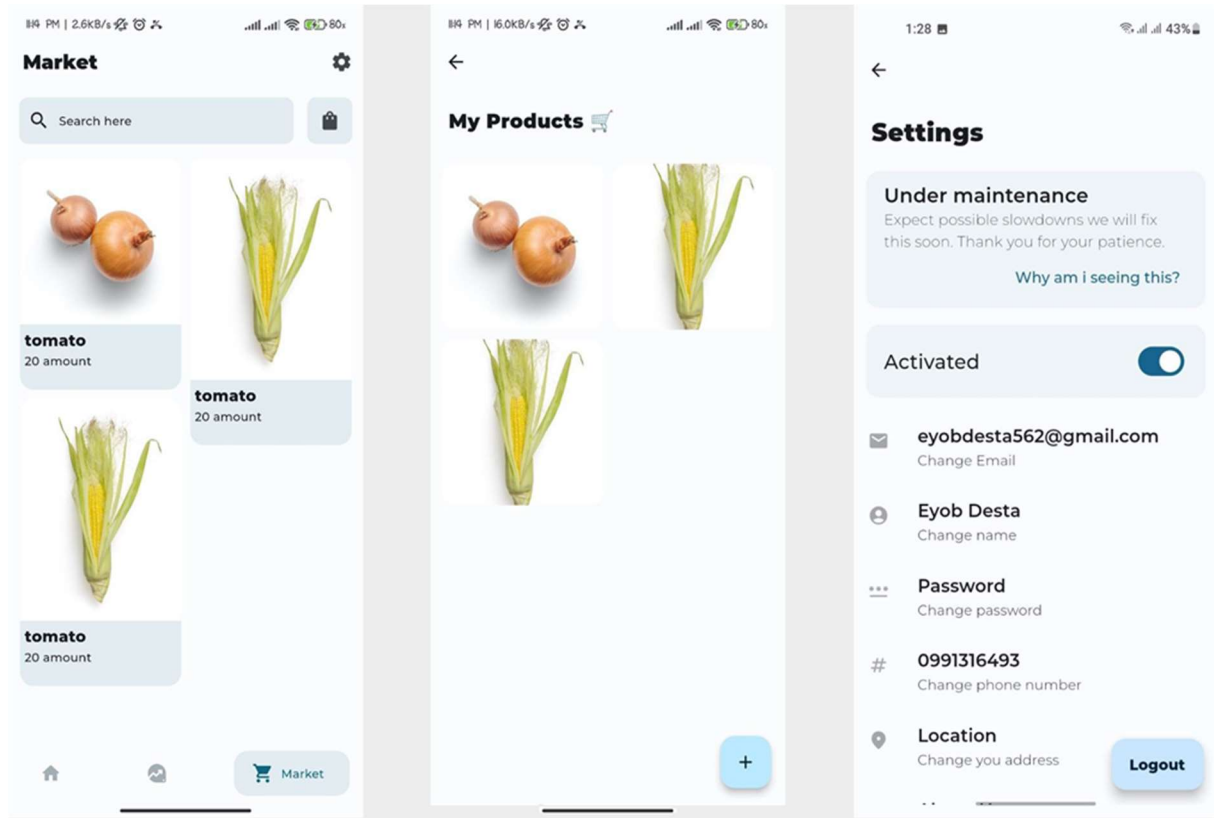
Fig 4.4: App Marketplace, my products, and settings pages screenshot

The third and final page of the system is shown in the first image where the marketplace is found, and all the available plants are listed on the application. Next to that, we will find my products page where it will display all the available list of products that is posted by the current user. The last page on the application is the settings page where the user can change and customize to their liking.

4.2 New sellers
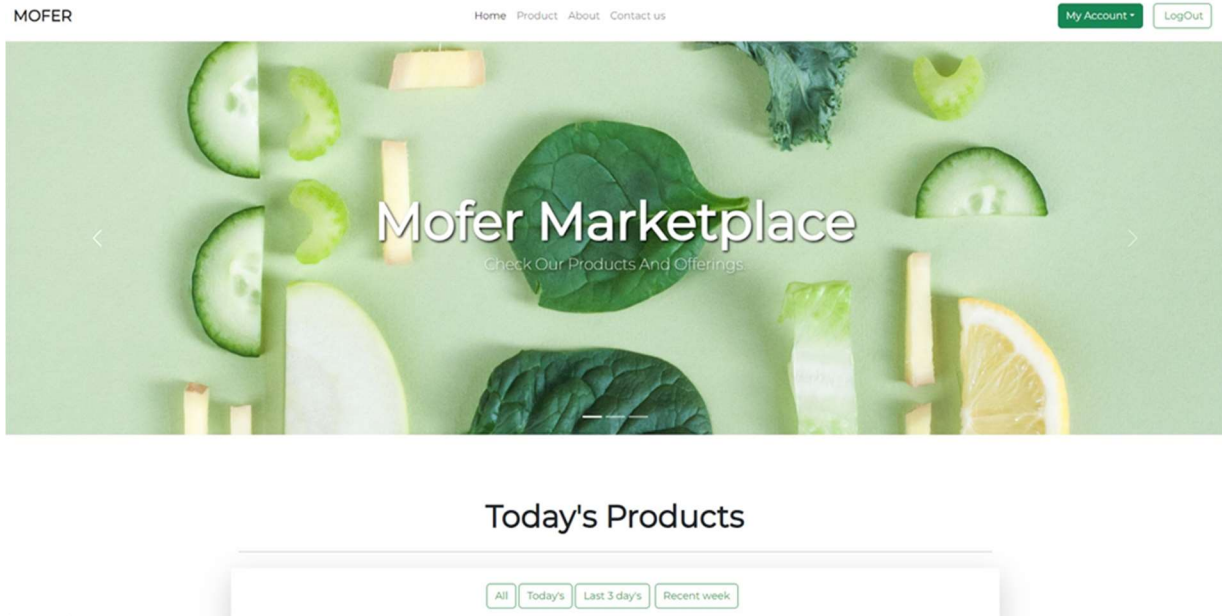
Fig 4.5: MOFER Marketplace web screenshot

This is the homepage of the system that welcomes the user to the MOFER system.
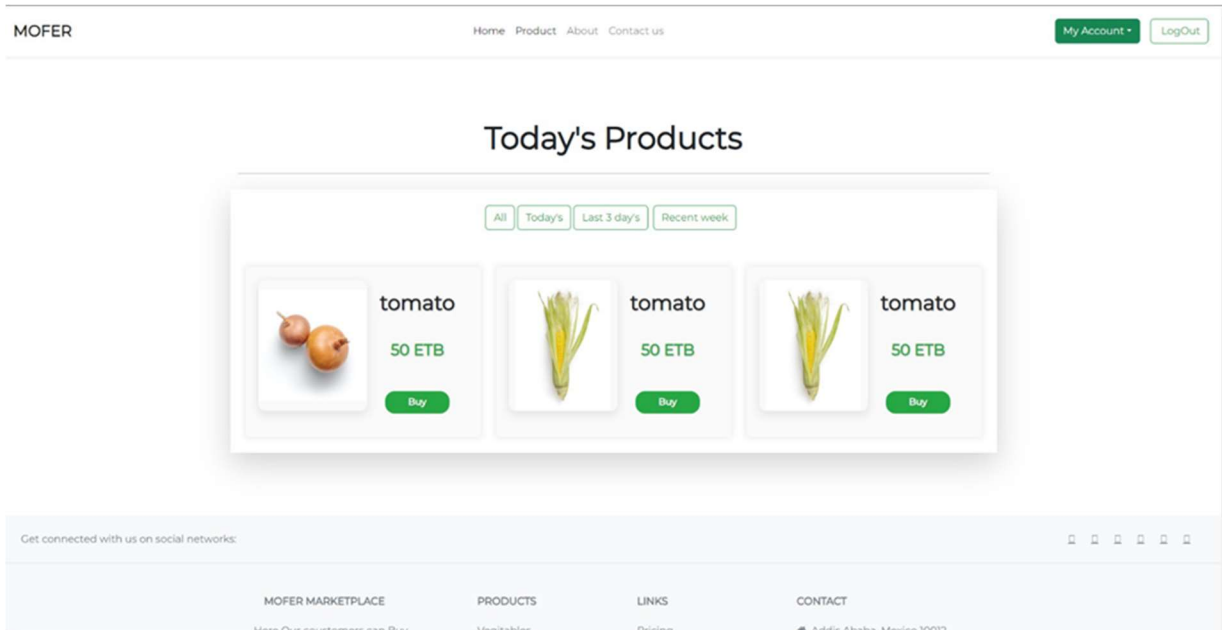
Fig 4.6: MOFER Marketplace product page screenshot
This is the second page of the marketplace where the user will see all the products available by different mechanisms of filtering by date.
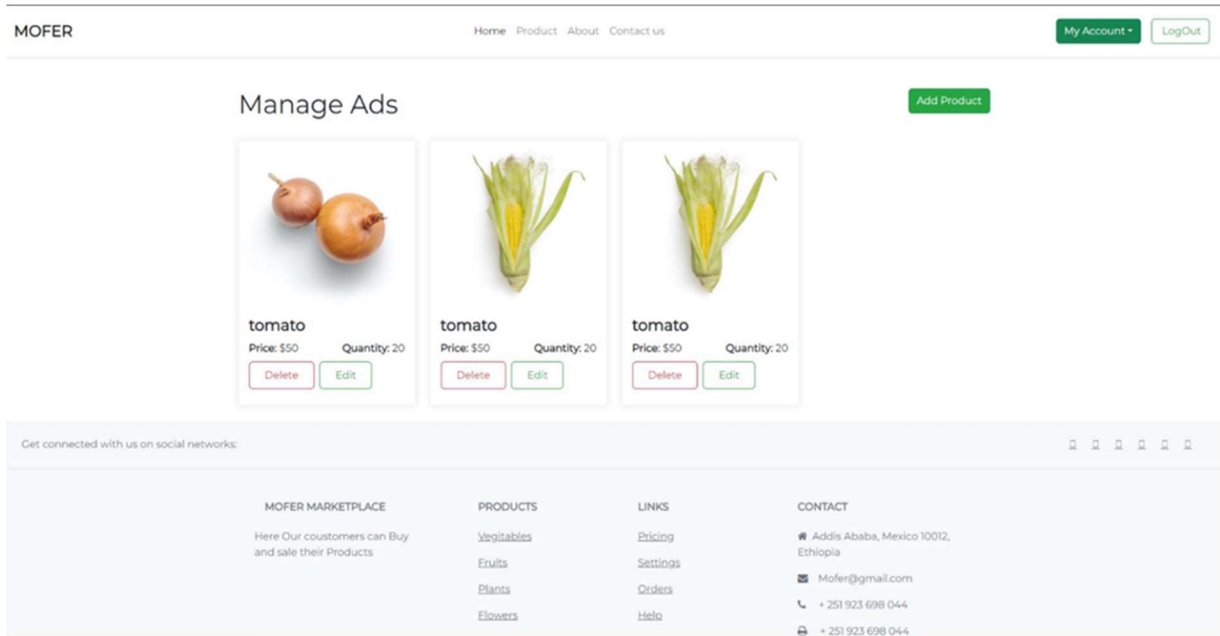
Fig 4.7: MOFER Marketplace Manage my Ads page screenshot.
The page above refers to the marketplace for a seller where the user can view, add, delete, and edit the products that are posted by him/her.

4.3 Admin
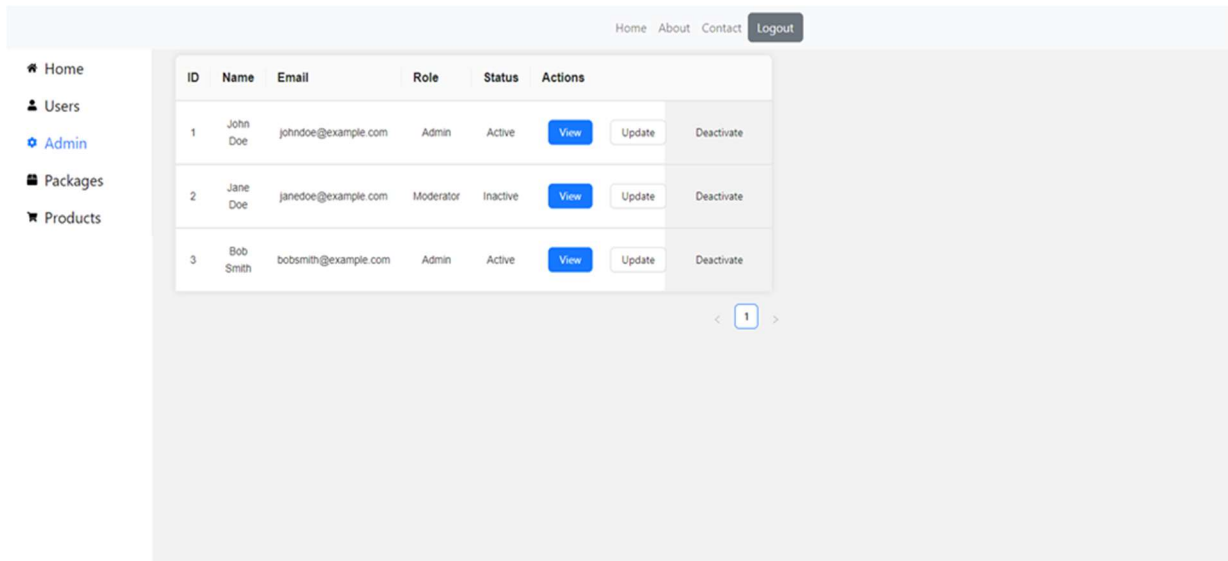
Fig 4.8 Admin panel manages my admin page screenshot

The image above is found on the admin portal which is used to view the admins of the system.

5. Conclusion

In conclusion, the IoT-based urban agricultural service provider application MOFER intends to address the existing issues urban farmers in Ethiopia are facing. Since the global population is

projected to reach 9 billion by 2050, it is essential to boost agricultural output while minimizing environmental impact. The Internet of Things has the potential to revolutionize conventional agricultural practices by enabling the use of contemporary technologies to improve crop productivity and quality. The suggested system provides a platform for urban farmers to interact with potential clients, monitor their cultivation, and obtain data analysis in order to create high-quality goods. The proposed system aims to increase the productivity and profitability of small-scale urban farmers by boosting awareness of the use of technology in urban farming and offering a plant status tracking service and a marketplace platform.

Overall, by integrating software and hardware components, the system enables farmers to collect and analyze real-time data on plant conditions, improve crop yield and soil quality, and maximize the use of small spaces while also creating a user- and publicly-accessible marketplace that facilitates the trading of goods and reduces the involvement of middlemen in the transaction. So, the proposed system represents a significant step toward the digitization of agricultural methods and techniques, and it has the potential to make a valuable contribution to the agricultural sector in Ethiopia.

6. Recommendations

Based on what we learned from the research, we strongly suggest that urban farmers in Ethiopia use MOFER, which is an IoT-based application for providing services to farmers in cities. The proposed system has the potential to change the way agriculture is done in Ethiopia by making small-scale urban farming more productive, profitable, and sustainable. The application may even incorporate AI's and powerful machine learning algorithms to analyze the data collected by sensors and provide real-time recommendations to farmers. The marketplace can be implemented on application and not just web, plant disease detection systems and camera sensors can be used to monitor and identify the health of plants. The integrated hardware may be modified to cover more range and cover large parts of areas so that it can increase data input and analysis.

Therefore, by providing a way to track the status of plants and a marketplace, our application could make a big difference in the agricultural sector in Ethiopia, especially in helping to solve the problems that urban farmers are already facing. Overall, the proposed system could make urban farmers more competitive, help make sure there is enough food, and encourage sustainable farming practices.

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Android Based Medicine Search and Delivery System
Yene-Medhanit et al.

1. Introduction

1.1. Background

Disease is one of the many life experiences that a person might encounter. It can be treated easily or can be fatal. People with diseases wish to be alleviated or healed, regardless of the severity of the sickness, in order to live a peaceful life. In the early days, people employed natural remedies that may have been discovered in their own gardens in unknown doses. Various plants and their constituents have been utilized to cure or reduce sickness. However, as technology has advanced, so has the way individuals obtain medicine.

Medicine, in various forms and defined dosages, began to be manufactured and delivered to various stores, which we now refer to as pharmacies. So now people must go in person to see if a pharmacy has the medicine they require and then purchase it accordingly.

However, this poses its own problem for the customer. In that, customer does not know where to find medicine, particularly those that require prescription paper. Therefore, searching from one pharmacy to another for the intended medicine has become common practice.

Recognizing the gap, we proposed a generic type project that does not focus on a single pharmacy or its customers. Instead, it is aimed at the customers of several pharmacies in Addis Ababa.

The name of the proposed project is Yene-medhanit and it will be an Android application for customers. The project is divided into three sides: the customer side, the pharmacy side, and the delivery side, each with their own role. Pharmacy will handle the management of the medicines. Customers will be able to search for medicines and acquire medicine information, as well as order from their selected pharmacy and get delivery services. The delivery side will handle and manage different orders from customers and deliver them.

1.2. Statement of the Problem

It is common practice for customers who want or need to buy medicine to go to nearby pharmacies with or without prescription paper, depending on the medicine type. Because the targeted medicine(s) are not always available in nearby pharmacies, customers must travel to other locations where they believe they can get the medicine(s). This may or may not be successful due to high demand or a limited amount of export. It is, therefore, inevitable to search around to find its location, which is time-consuming and sometimes life-threatening because of its delay.

One of the reasons for the aforementioned problem is that pharmacies do not have an automated

system. To manage their pharmaceutical inventory, some pharmacies in fact employ systems such as: "DAGOO," "MARAKI," or "CNET," which do not help the customer but only them. This results in an information gap between customers and pharmacies.

The other reason could be the lack of delivery agents, who would serve as an intermediary between a customer and different pharmacies and deliver an ordered medicine, through the system to the customer.

Related to this, we have reviewed the project documentation of the authors in (Y. Alemante, 2019). They attempted to develop a web-based system for searching pharmacy medicine information. In the process, we identified gaps that we believed needed improvement and planned to build a system to fill those gaps which are:
✓ Their project was not developed for mobile devices;
✓ Customer search for medicine by only using the name of the medicine;
✓ Their system does not allow the customer and pharmacist to communicate;
✓ The location of each pharmacy is written in words, which means that they do not use GPS; and
✓ Their system does not support delivery services for its customers.

1.3. Objectives of the Project

1.3.1. General Objectives
The project's general objective is to build an android based medicine search and delivery system.

1.3.2. Specific Objectives
The specific objectives of the project are to:
✓ Provide an android based platform with a feature that allows customers to search for medicine information either by using the name of the medicine or by sending the scanned prescription paper to the delivery agent's pharmacist;
✓ Provide customers with information about the intended medicine, such as its name, price, form (tablet, capsule, solution, etc.), and location (location of a pharmacy using GPS) as a search result;
✓ Allow customers to order from a pharmacy of their choice using scanned prescription paper if the medicine requires it;
✓ Allow pharmacists in a pharmacy that a customer has chosen to buy from to communicate with customers via video call about the medicine(s) they have requested and how to use them;
✓ Provide delivery services for the customers if they are only in Addis Ababa;
✓ Allow pharmacies to manage their medications more easily;

✓ Notify pharmacies ahead of time about medicines that are to expire; and

✓ Create a system for the delivery services that controls and delivers orders from customers.

1.4. Feasibility Study

This topic deals with assessing the project on different factors in order to check its practicability.

1.4.1. Technical Feasibility

Here, we should ask two questions:

Q: Does the team have technical resources to undertake the proposed project?

➤ We will use software and hardware that we can easily and freely get.

Q: Does the final product of the proposed project require resources that can easily be accommodated?

➤ Yes, customers need to use their phones in order to get the services, and other users of the proposed system need a desktop or laptop which is mostly found in pharmacies.

Therefore, the proposed project is technically feasible.

1.4.2. Economic Feasibility

Here also, two questions should be answered:

Q: Does the team have the financial resources to undertake the project?

➤ Yes, all of the resources (hardware and software) we will be using are freely available. The only costs could be those of transportation and printing.

Q: What about the end users?

➤ Customers will benefit from getting the medicine(s) they ordered where they are without having to go to different pharmacies, which eliminates transportation costs. Not only that, customers can compare the prices of a medicine at different pharmacies, which helps them buy according to their income.

Therefore, the proposed project is economically feasible.

1.4.3. Operational Feasibility

Here again, three questions should be answered:

Q: How will the proposed system be comfortable for its user?

➤ The proposed system will develop a user-friendly mobile app for its customers, complete with simple features and an easy-to-follow process.

Q: How well will it solve the problem identified?

➤ Using the system, customers do not have to roam around to get medicine; they will get the

medicine where they order if they are in Addis Ababa.

Q: What is the benefit of pharmacies?

➢ The proposed system will eliminate the manual work of different pharmacies and help them manage their medicine.

Therefore, the proposed project is operationally feasible.

1.5. Significance of the Project

The proposed project has the following significance for its users:

✓ Minimizes the cost and time wasted for finding a medicine(s);

✓ Locates customers where a medicine is found using GPS;

✓ Saves patients from suffering or even dying due to lack of getting medicine(s) on time; and

✓ Helps pharmacies manage their medicine.

1.6. Beneficiaries of the Project

The proposed project will benefit three parties in general:

✓ *Pharmacy*

➢ Helps them manage their medicine;

➢ Helps them to get notified ahead of time when a medicine is about to expire; and

➢ Helps to showcase their medicine, which helps them get more customers.

✓ *Customer*

➢ Can send their prescription paper to the delivery agent's pharmacists and get accurate results;

➢ Can get information about searched medicine online such as where it is located, where it is made, its form (tablet, capsule, solution etc.);

➢ Can compare prices from different pharmacies;

➢ Can order medicine if they are living in Addis Ababa; and

➢ Can contact pharmacists to receive proper advice on how to take the medicine(s).

✓ *Delivery Agent*

➢ Earn an income from each delivery because there will be a delivery cost for each medicine delivered that was acquired from the customer.

1.7. Methodology

1.7.1. Data Collection

1.7.1.1. Interview

This data collection methodology will help us gather relevant information on how customers

engage with different pharmacies; how pharmacies operate; and how various delivery agents, deliver different items such as food, operate. Since we will be using the agile system development process model as stated in Section 1.7.2.1, it will also help us get feedback after a sprint.

1.7.1.2. Observation

It involves assessing the pharmacy environment and how customers engage with the pharmacist, how the selling process is done, and so on.

1.7.1.3. Literature Review

As a secondary source, we will use others' work on the topic and related topics so as to find the gaps and get some ideas from them.

1.7.2. System Design and Analysis Tools

1.7.2.1. Software development process model

For this project, we will use an agile system development model. This model includes continuous planning, improvement, and development, as well as early delivery. Agile models combine iterative and incremental models, which provide the benefits of each.

The agile process is an iterative approach in which customer satisfaction is the highest priority as the customer has direct involvement in evaluating the software (B.Boehm and R.Turner, 2003).Agile is iterative in the sense that software's one iteration will be improved on in the next iteration, and it is incremental in the sense that software is divided, developed, and delivered in increments.

1.7.2.2. Software analysis and design model

We will use object-oriented system analysis and design model than other paradigms because of the key features it provides. These are encapsulation, inheritance, polymorphism, and abstraction. It also follows a bottom-up approach, which helps solve specific problems by identifying the objects in detail and building up on them until it becomes the intended system. This model is composed of two phases, as the name indicates: Object Oriented System Analysis (OOSA) and Object-Oriented System Design (OOSD).

Object oriented system analysis (OOSA): aims to thoroughly analyze the specified problem and decide what the proposed system is supposed to do by defining which objects are required or should be included, organizing the objects, and determining their interactions without focusing

on implementation details.

Object oriented system design (OOSD): Following the analysis phase, the analyzed objects will be refined in a way that can be implemented in code by programmers. So the focus here is on designing how it can be implemented by describing the attributes, behaviors, and interactions of those identified objects using different UML diagrams such as class diagrams, sequence diagrams, and others. UML diagrams, which are accepted as a standard to depict object-oriented design models, make it easier to identify the requirements and scopes of systems and applications by providing visual models. (Koc et al. 2021)

1.7.3. System Development Tools
1.7.3.1. Hardware Requirements

Table 1.1 Hardware requirements

Devices	Description
Laptop and desktop	With 4 GB of RAM, will be used for mobile and online application development as well as file storage.
Cables	Can be of type A or C and will be used to connect the laptop to the smart phone for testing purposes.
Smart phone(android)	The mobile application to be built will be tested on Android versions greater than 5.0.
Flash card	With 32 GB will be used for backup purpose.

1.7.3.2. Software requirements

Table 1.2 Software requirements

Programming and Scripting Languages	
Languages	**Description**
Java	An object oriented programming language that will be used to write the logic (code) in the development of Android mobile apps using Android studio.
JavaScript	Scripting language used on the client side to control and modify how a page element appears, verify forms, and do many other things.
HTML	Client-side scripting language that will be used to structure the layout of the web application.
CSS	To style the layout of the web app in to more appealing appearance, a cascading style sheet will be used.
XML	Client side markup language that will be used to specify the android mobile app's layout as well as to declare various resources and manifest files.
PHP	Server-side scripting language for creating dynamic and interactive web app. It is also used to interface between the web system's front-end (such as html) and back-end database.
Database and server	
Software	**Description**
MySQL	Is a relational database management system that will be utilized by both Android and web app in order to create and manage databases based on a relational model.
XAMPP	Is a cross-platform web server that will be used for testing web app pages on a local web server.
Backend and Frontend Frameworks	
Names	**Description**
Laravel	A back end, open-source PHP framework for building web applications. We selected this framework due to its architectural design pattern (MVC) which we will follow and the language it uses (PHP), which we are familiar with.
Bootstrap	A front-end, open-source HTML, CSS, & JavaScript framework for building web applications. Due to its enormous library of useful, reusable pieces of HTML, CSS, and JavaScript code, the framework was our first choice.
JQuery	A JavaScript framework that will be used in the web app for event handling, animation, and HTML page manipulation.
API	

API's	Description
Rest API	An interface through which mobile applications communicate with their server or database via HTTP requests in order to conduct CRUD operations.
JSON	A text-based, lightweight, and human-readable standard format for representing structured data based on JavaScript object syntax and transferring data. REST APIs use it to exchange data.
Google Map	Will be for identifying pharmacy's location, computing distances between locations, and locating users of the proposed system.
Design software and tools	
Software	**Description**
Figma	Software for software design and prototyping.
Visual-Paradigm	Software for preparation of different UML diagrams.
IDE and text-editor	
Names	**Description**
Android studio	An IDE which will be used for building, and running mobile apps.
VS code	A code editor used for editing, and debugging codes for the web app
Documentation applications	
Apps	**Description**
MS-Word	Will be used for the preparation of documentation.
Canva	Will be used to prepare PowerPoint presentations.
Browsers	
Names	**Description**
Google chrome, Microsoft Edge	Are the most commonly used browsers because they are faster and more secure.

1.8. Scope and Limitation of the Project

1.8.1. Scope of the Project

The scopes of the proposed project are as follows:

✓ The system includes pharmacies found in Addis Ababa.

✓ The system benefits customers with mobile devices powered by android.

✓ The proposed system will allow customers to search for medicine, order medicine, and get delivery services.

1.8.2. Limitation of the Project

The limitations of the proposed project are as follows:
- ✓ The system does not help customers with no internet access.
- ✓ The system does not help customers outside of Addis Ababa.
- ✓ Platform dependent: only customers with an Android OS will benefit from the system.

1.9. Risk, Assumption and Constraints

1.9.1. Risk

The risks we might face during developing and managing the proposed project are:
- ✓ Requirement changes during the phases of developing the proposed system;
- ✓ Complex functionalities which might take time beyond our estimation; and
- ✓ Laptop crash or program unable to function.

1.9.2. Risk Assumption

Assumption that we are going to make for our proposed project are :
- ✓ We will try to use the time given properly in order to meet our goals.
- ✓ We assume both hardware and software are available.
- ✓ We assume different pharmacies, customers, and delivery agents will help us acquire significant information for the proposed project.
- ✓ We assume the staff of the informatics department will help us during different phases of the project.

1.9.3. Constraints

Limiting factors for the proposed project are:
- ✓ We will have a limited amount of time because we will be working on the project while also attending class;
- ✓ Failure to contact the stakeholders (pharmacists and different delivery companies) on scheduled time because of stakeholders' workload or because of their absence; and
- ✓ Incorrect information gathered during data collection.

2. Business Area Analysis and Requirement Definition

2.1. Introduction

The chapter focuses on assessing the existing system using various techniques for acquiring system requirements from different stakeholders and assisting in identifying the gaps within each stakeholder. Interviews were what we mostly employed as the primary data collection approach. We have also looked at forms and the work processes of some stakeholders, such as pharmacies.

The chapter will be used as a system requirements specification as it contains the needs and expectations of the users or stakeholders, analysis on the development of detailed requirements, processes, and concepts of our newly proposed system, as well as the information required to get through the design, implementation, and testing phases that will be covered in the following chapters.

2.2. Business area analysis

2.2.1. Current Vs Proposed System

Table 2.1 Current System verses Proposed System

Current System	Proposed System
✓ No centralized medicine management system.	✓ The system will manage medicine centrally.
✓ Pharmacies might sell medicines that are expired.	✓ The system will notify pharmacies about medicines that are to expire ahead of time.
✓ Customers should go in-person in order to know the medicine(s) availability.	✓ Customers can use the system and search online to get necessary information about the medicine(s) they wanted.
✓ Customers should go in-person in order to buy the medicine(s) they wanted.	✓ Customers can use the system and order online from the pharmacy they selected to buy and get delivery services.

2.2.2. Player of the current system

✓ *Pharmacist:* Health professionals who are responsible for preserving, controlling and selling medicine.

✓ *Cashier:* Individual in the pharmacy who is responsible for creating invoices.

✓ *Customer:* Individuals who want to buy medicines, whether they require or do not require a prescription paper.

✓ *Storekeeper:* Professionals whose responsibility is to control and manage medicine and whorehouses**.**

2.3. Requirement Gathering

2.3.1. Requirement Gathering Techniques

We mainly gathered information through interviews. We asked different stakeholders, including pharmacies, customers, the "Addis Ababa City Administration Food, Drug, and Health Care Administration Controlling Authority (AACAFDHCACA)," and delivery agents, to acquire, understand, and implement the proposed system's requirements. In addition, reviewing project-related documents, and observing the different forms and reports that are utilized by pharmacies and other stakeholders, had helped us. Overall, requirements gathering process helped us collect, analyze, and comprehend data and determine the key components that must be included in the proposed system.

2.4. Method of Communication

Communication is an important aspect of gathering information, clarifying ambiguous sections of the proposed system, and identifying various features that the system should incorporate.

2.4.1. Communication techniques

We have used the following communication methods with stakeholders:

- ✓ In person such as during interviewing
- ✓ Phone call

2.5. Requirement definition

2.5.1. Functional requirement

Functional requirements are concerned with what the system should do; what each of its players should do; and what the system's essential features are. We have identified eight actors, each with their own role in the system.

A. Customer
- ✓ Should have a valid username and password.
- ✓ Can search using the name of the medicine.
- ✓ Can send the prescription paper to the pharmacists delivery agent in order to get accurate result of the written medicine.
- ✓ Can be able to filter out the search result based on name, price, and country.
- ✓ Can be able to order medicine(s) from the pharmacy they selected.
- ✓ Can be able to reserve medicine(s) from the pharmacy they selected with reasonable amount of time.

B. Pharmacy Admin
- ✓ Should have valid username and password.

✓ Can manage medicine(s) and also pharmacists.
✓ Can view expired medicine(s).
✓ Can view reports.

C. Pharmacist
✓ Should have valid username and password.
✓ Can view customer prescription paper and validate it depending on its correctness.
✓ Can contact to the customer via video call and advice and guide them on how to use the medicine(s) and receive question from them.
✓ Can view available, reserved and expired medicines in the pharmacy.
✓ Can sell medicine(s).

D. Delivery Admin
✓ Should have valid username and password.
✓ Can view customer order and manage them.
✓ Can manage deliverers and pharmacists found in the agent.
✓ Can assign deliverer for each customer order.
✓ Can be able to view delivery status.
✓ Can view reports.

E. Deliverer
✓ Should have valid username and password.
✓ Receive request to deliver orders and be able to accept or cancel it.
✓ Can view customer order information including the location of pharmacy, the name of the medicine(s) and also the information of customer (location, phone number, and name).
✓ Can notify the status of the delivery in each stage (pick up, on the way, done).

F. Pharmacist in delivery agent
✓ Should have valid username and password.
✓ Can view customer prescription paper and validate it depending on its correctness.
✓ Can send name of medicine on the prescription paper as a hyperlink to its result for customer(s).

G. General Admin
✓ Should have valid username and password.
✓ Can grant pharmacies which are requesting to register to the system based on the rules.
✓ Can deactivate pharmacies that have been s uspended and license is cancelled by the authority.
✓ Can view reports and statistics.
✓ Can manage delivery admins and pharmacy admins.

H. Guest
✓ Can search medicine using the name of the medicine.
✓ Can be able to filter out the search result based on name, price, and country.

3. System Modeling

3.1. Introduction

This chapter illustrates the proposed system using UML diagrams. It contains use cases, a sequential diagram, an activity diagram, a state chart diagram and a class diagram. Other parts include actor identification and user interface prototyping.

The objectives of this chapter are to describe the essential functionalities, show how the program is structured before diving into the code, illustrate how a message sequence flows in the system, and describe how a software system behaves. The end result of the chapter will be used to facilitate the implementation and testing of the project.

3.2. System Use Case

3.2.1. Business Rules Identification

We have identified the following business rules that are going to be implemented in our system:

✓ Customers must send prescription paper to the pharmacy for the medicines that it requires before ordering the medicine from a certain pharmacy.
✓ Medicine(s) that are expired must not be visible to the customer and must not be sold.
✓ Pharmacies, that are temporarily or permanently closed down by AACAFDHCACA must not be visible during search.
✓ Sold medicine(s) cannot be returned.
✓ Medicine(s) should be kept in room temperature during delivering them from the pharmacy to customers.
✓ Customers should be fined on their next order some amount of birr (the birr depends on km the deliverer travels from the pharmacy to the customer) if they cancel orders after delivery.
✓ Customers can reserve medicine(s) for reasonable amount of time from a pharmacy.
✓ Customers must pay a delivery fee for every order according to the kilo meter (km) the deliverer travels, from the pharmacy to the customer.

3.2.2. Actor Description

Guest: Can be either patient or care giver whose information is not stored in the systems' database.
Customer: Can be either patient or care giver whose information is stored in the system database.
Pharmacy admin: Health professional (pharmacist) who controls the warehouse room

medicines.

Pharmacist: Health professional who works in a pharmacy and who contacts customers and sells medicine.

Delivery admin: An individual who controls orders of customers.

Deliverer: An individual who has his or her vehicle and may deliver clients' medicine(s) from pharmacies.

Pharmacist in Delivery agent: A health expert (pharmacist) who works for a delivery agent to assist customers or guests in obtaining the exact medicine name of medicines listed on a prescription paper.

General Admin: An individual who controls pharmacies, pharmacy admins and delivery admin.

3.2.3. Use Case Diagram

In UML, use-case diagrams model the behavior of a system and help to capture the requirements of the system. Use-case diagrams describe the high-level functions and scope of a system. These diagrams also identify the interactions between the system and its actors. The use cases and actors in use-case diagrams describe what the system does and how the actors use it, but not how the system operates internally. (Use-case diagrams in UML modeling, 2023) In our project, we do have more than 30 use cases, which are performed by 8 actors or users of the system.

3.2.4. Sequence Diagramming

A sequence diagram simply depicts interaction between objects in a sequential order i.e. the order in which these interactions take place. We can also use the terms event diagrams or event scenarios to refer to a sequence diagram. Sequence diagrams describe how and in what order the objects in a system function. (UML, 2023)We chose some use cases and illustrated sequences in which they are performed.

3.2.5. Activity Diagramming

An activity diagram depicts flow from one activity to another activity. It can also describe the steps in a use case diagram. Here also, we chose some use cases and illustrated activities performed.

3.2.6. Class diagram

The project makes use of more than 25 classes and subclasses linked together. A class diagram describes the attributes and operations of a class and also the constraints imposed on the system. The class diagrams are widely used in the modeling of object-oriented systems because they are the only UML diagrams which can be mapped directly with object-oriented languages. A class diagram shows a collection of classes, interfaces, associations, collaborations, and constraints. (UML - Class Diagram, 2023)

4. System Design

4.1. Architectural Pattern

An architectural pattern is a key structural arrangement for software systems that speeds up and simplifies the development process. For our project, we chose the MVVM architectural pattern for the mobile apps and the MVC architectural pattern for the web apps.

4.1.1. MVC

We are using the "Laravel" backend framework, which follows the MVC architectural pattern. MVC is an architectural pattern that separates an application into three main logical components: the model, the view, and the controller. Each of these components is built to handle specific development aspects of an application. (MVC framework - introduction, 2023)

4.1.1.1. Model

This component is the one that holds the project's class. Its primary function is to communicate with the database and provide necessary information whenever the controller receives a request from the user view component. Classes such as pharmacy, general admin, and medicine are examples from our project.

4.1.1.2.View

This component contains the user interface of the project. It incorporates HTML code to build the user interface. The data displayed on the view is retrieved from the model using the controller. Examples include forms used to register medicine, admins dashboards, and other views of our project.

4.1.1.3. Controller

This is the one that connects the two components: model and view. It processes user requests and returns a response, which might be a view or another action that was completed successfully or an error. In most situations, every model includes a controller.

4.1.2. MVVM

Google strongly recommends this architectural pattern. Its intent is to provide a clean separation of concerns between the user interface controls and their logic. There are three core components in the MVVM pattern: the model, the view and the viewModel. Each serves a distinct and separate role. (A.Archiveddocs, 2023)

4.1.2.1. Model

Models are project classes that contain the data for the application. It is in charge of retrieving data from either the local SQLite database or a remote data source. It cannot communicate with the View directly to display. Yet, it interacts with the viewModel component to expose data via observables. Customer class, medicine class, deliverer class, order class and more are models in our project mobile app.

4.1.2.2. View

The view, which might be an activity or a fragment with accompanying XML code, is the user interface. It offers users a variety of view components to interact with. Views do not include business logic or interact with data sources to obtain data; instead, viewModels take care of these tasks. We have a variety of user interfaces in our project, including the homepage, the results of a medicine search, and order forms for customers, the deliverers' order detail view, and more.

4.1.2.3. View Model

The Model and View components are linked by this MVVM component. It pulls the necessary information from the Model, applies the UI logic, and then gives crucial information for the View to display. One of the benefits of view Model is it enables you to save UI state. This means that there is no need to fetch data when the configuration changes.

4.2. Database normalization

Normalization is the process of choosing which attributes in a relationship should be grouped together. It is a technique for organizing data in a database that avoids data redundancy by methodically breaking down tables. The technique will include multiple steps.

Normalization's major purpose is to eliminate repetitive data that might cause a problem during a transaction and to ensure that related data is saved in the database.

There are several degrees of normalization; however, for our project, we normalized up-to 3rd normal form.

4.2.1. First normal form

First normal form (1st NF) sets the very basic rules for an organized database:

✓ Eliminate duplicative columns from the same table.
✓ The rule dictates that we must not duplicate data within the same row of a table. Within the database community, this concept is referred to as the atomicity of a table. Tables that comply with this rule are said to be atomic.
✓ And afterwards create separate tables for each group of related data and identify each row with a unique column or set of columns (the primary key).

4.2.2. Second normal form

Second Normal Form (2nd NF) also sets the very basic rules for an organized database:

✓ It should be in 1st normal form.
✓ Every non key attribute id fully functionally dependent on the primary key.

4.2.3. Third normal form

There are two basic requirements for a database to be in third normal (3rd NF):

✓ Already meet the requirements of both 1NF and 2NF

✓ No non-key attribute is transitively dependent on the primary key.

5. Implementation

5.1. Introduction

In this chapter, the system design has been transformed into working systems using the programming languages chosen which is PHP for the backend and Java for the frontend. The chapter additionally includes test cases and their results, which help us know whether we are adhering to system design and system functionality or failing to do so.

5.2. Testing

Testing is the process of evaluating a system or its component(s) with the intent to find whether it satisfies the specified requirements or not. In simple words, testing is executing a system in order to identify any gaps, errors, or missing requirements in contrary to the actual requirements. (Software Testing - Quick Guide, 2023) We have used the following testing types for the project.

5.2.1. Black Box Test

The technique of testing without having any knowledge of the interior workings of the application is called black-box testing. The tester is oblivious to the system architecture and does not have access to the source code. Typically, while performing a black-box test, a tester will interact with the system's user interface by providing inputs and examining outputs without knowing how and where the inputs are worked upon. (Software Testing - Quick Guide, 2023)

5.2.2. White Box Test

White-box testing is the detailed investigation of internal logic and structure of the code. In order to perform white-box testing on an application, a tester needs to know the internal workings of the code, tester needs to have a look inside the source code and find out which unit/chunk of the code is behaving inappropriately. (Software Testing - Quick Guide, 2023)

5.2.2.1. Integration Test

Integration testing is the process of testing the interface between two software units or modules. It is a software testing technique that focuses on verifying the interactions and data exchange between different components or modules of a software application. The purpose of integration testing is to expose faults in the interaction between integrated units. (Software Engineering: Integration Testing, 2023)

5.2.2.2. Unit Test

Unit testing is a type of software testing that focuses on individual units or components of a software system. The purpose of unit testing is to validate that each unit of the software works as intended and meets the requirements. (Unit Testing: Software Testing, 2023)

6. Conclusion and Recommendation

6.1. Conclusion

The way the current system is set up makes it possible for patients or caregivers, who we refer to customers in our system, to obtain information about medicine, particularly its location and other important information like price, form, and country of origin. In addition, there is no way for customers to obtain medications without visiting pharmacies, particularly for those who live in Addis Ababa.

For the above reason, we proposed a system that will enable customers to obtain information about medicine online by simply doing a search using the name of the medicine or providing a picture of the prescription paper to the agent pharmacists. If they live in Addis Ababa, they may also get the medicine from the pharmacy of their choice without physically visiting there, instead, they can use the system to order the medicine(s) and get delivery services.

In addition to this, we also believe that the project will benefit pharmacies and the delivery agent. Pharmacies will gain a way of managing their medicines and the ability to get notifications of medicines that are about to expire, and delivery agent will earn a delivery fee from each delivery.

6.2. Recommendation

We recommend other developers who wish to maintain this system to add some functionality that is not included in our project. This can incorporate image processing, which means that customer(s) can acquire the proper name of the medicine(s) written on the prescription paper without the assistance of a pharmacist in agent.

We also recommend pharmacies found in Addis Ababa to use the system and be able to benefit from it, since the system advantages them.

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Appendices
Appendix A: Results:- Sample User Interface

The Effect of Marketing Intelligence System on Sales Volume: The Case of Kerchanshe Coffee

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Abstract

This research focused on investigating the effect of marketing intelligence system on sales volume of Kerchanshe Coffee. A causal research design was applied. The manager, employees and agents of Kerchanshe Coffee were taken and used to collect the necessary information for this research. A census was carried out with a population of 60 people. The primary data was collected through a self-administered questionnaire and all the 60 respondents answers were included. Secondary information, specifically sales level of five years was collected from the company. Through the use of SPSS software, the quantitative data collected was analyzed using descriptive and inferential statistics. Based on the analysis, the result of the findings revealed that the marketing intelligence system had a positive and significant influence on sales volume. The research focused on the three main components of marketing intelligence system which are market intelligence, product intelligence and competitor intelligence. Among the three components used in this research, market intelligence has the highest effect on sales volume followed by competitor intelligence and product intelligence. It can be concluded that marketing intelligence system has an influence on sales volume of the company. Therefore, by including a marketing intelligence system in the company and using it throughout their various operation and decision making, Kerchanshe Coffee can be able to increase their sales volume to a better level.

Keywords: Marketing intelligence system, product intelligence, competitor intelligence, market intelligence

1. Introduction

1.1. Background of the Study

Market intelligence is one of the components that make up the marketing information system along with market research and internal records. Marketing intelligence can be defined in various ways but it all has the same idea, which is the collection of relevant information about the company's market. It could be defined as "Set of procedures and sources used by managers to obtain their everyday information"(Kotler & Armstrong, 2017). Based on the definition, the information collected is analyzed to be able to support managers in making accurate and confident decisions regarding various problems or opportunities that arise. In today's world, where information is constantly flowing from various sources, it is vital to be able to select the information that is most relevant to the business. With the right information, a business can be able to understand its customers, monitor its competitors and the external environment. With the various environmental states that businesses operate in, marketing intelligence "Is an important instrument in gathering relevant information to make decisions(Igbaekemen, 2014).

The origin of marketing intelligence, in part, comes from the military intelligence operations. Yet the concept of marketing intelligence was introduced in the 1965 by Kelly the president and co-founder of Bioinformatics. The concept has come far since 1965 and has advanced in many ways to be able to help businesses stay competitive and make decision under different circumstances. With the rise in competition in the business world and the move towards globalization, the need to be able to stay on track and competitive is of the essence. Marketing intelligence is used in product design, market segmentation, campaign optimization and customer lifetime value to name a few areas. From companies like Lotte.com a major internet shopping mall in South Korea who faced problems of shopping cart cancellation to increasing their sales to $10 million in a year by understanding the reasons behind those cancellations through marketing intelligence(Morris, 2021). Coffee companies like Starbucks Corp which has around 90 million transactions in a week in 25,000 stores uses data to improve the customers' experience(Marr, 2018). The use of marketing intelligence coupled with artificial intelligence, has given Starbucks to ability to provide a range of coffee products, create targeted and personalized marketing and make store location decisions.

With the ever-changing competitive landscape, Africa, when compared to the developed countries, has a long way to go. As per the 2018 Global Competitiveness Index, it is stated that 10 African countries were ranked among the top 100 most competitive index. South Africa, Seychelles, Morocco and Tunisia to name a few were among those countries(Signe, 2019). With regards to coffee production in Africa, it has been growing in the recent years and might have an

increase of 7.5% market growth between 2019 and 2024. This comes with the speculations that it may be able to top the global market placing above South America over the next five years (Africa.com, 2022). Even though Africa contributes around 12% of the world's coffee production (TeaCoffee99, 2022), it still has a long way to go to be able to properly compete in the world. Under the notion of African development, events such as African Fine Coffees Conference and Exhibition is held every year allowing to gather information about the market, competition, changes in the environments etc. which serves as a marketing intelligence for the various companies participating in the event. In general, Africa is a region that has tremendous economic potential but the lack of the necessary support services and the right capital especially when considering the various small business holders focus on providing for their families has limited the growth of the continent. On the other hand, with the increasing availability in internet access and advancement in technology it can allow Africa to compete with the rest of the world by better understanding the market they are operating in.

In considering Ethiopia, it is a country that is having rapidly increasing economic developments of which the agriculture sector plays a vital role in the economy of which the coffee industry takes a major role in and is considered the backbone of the economy. It is an industry sector that still has the potential for growth. Policymakers realize that there needs to be increased level of investment in the sector but like the various African countries, Ethiopia struggles with capacity and funding constraints in agricultural research and higher education systems(Gro Intelligence, 2018). Through organizations such as Jimma Agricultural Research Center is providing necessary information about the agricultural market benefiting national and regional research managers, policymakers, and other stakeholders. Kerchanshe coffee is one of the largest coffee producer and exporter of coffee in Ethiopia. It has been in the business for 15 years providing coffees that have been sourced from Yirgacheffe, Lekempti, Gimbi, Jimma and Sidamo which are known for providing fine Arabica coffee. They focus on consistently providing the finest high-quality coffee beans for their customers through the continuous reinvestment for improved infrastructure, technology and processes. Kerchanshe coffee provides a range of products which are classified in different categories namely, commercial products, single origin products, specialty products, certification products and farm products.

1.2 Statement of the Problem

It is a well-known story that Ethiopia is the birth place of coffee which dates back centuries. Coffee is an integral part of Ethiopian history, culture and economy providing a job for over 15 million people (Gro Intelligence, 2018) as well as being an important export commodity. Ethiopia has around six to ten thousand coffee varieties that is yet to be classified so the region, altitude and cupping score are used to categorize it in groups(Craft Guru Coffee, 2023). With its aromatic

Arabica coffee and distinctive flavors, various types of Ethiopian coffee are known worldwide. For example, Sidamo, Harrar and Yirgacheffe coffee are exported worldwide, where the latter is considered by connoisseurs to be one of the best Arabica coffees in the world. No matter the fact that Ethiopia's coffee is thought to be unique in flavor, it still has a long way to develop in terms of the level of production and competition posed by other coffee producing countries such as Brazil, Vietnam, Indonesia and Columbia etc.

The Ethiopian coffee market was no exception to being disrupted by the pandemic in which the import and export activities was affected adversely. The level of participation among smallholder coffee farmers was reduced by 18.75% due to the lack of proper financial services from aid organizations(Kabeta, 2022). Furthermore, the pandemic led to the reduction in people going to restaurants, cafés and micro-roasters which are all on-trade distribution channels, to increased coffee sales in retail sectors leading to the increased demand in coffee products such as instant coffee and ground coffee. Moreover, the demand for coffee is growing at a steady speed in Ethiopia with about 50% of the coffee production consumed domestically. For the years of 2022 to 2027 it is forecasted that the compound annual growth rate to be 5.67% (Mordor Intelligence, 2023).

With the increased competition worldwide, from the different coffee producing countries to large coffee companies, it is essential for companies in Ethiopia to continually assess their market. The Ethiopian coffee market consists of local and global players operating throughout the country making it a highly competitive and fragmented market. These companies include Moyee Coffee, Tomoca Coffee, Starbucks Corporation, Cooper's Cask Coffee Company etc.(MacDonnell, 2022). The market can be further segmented by product type which are whole bean, ground coffee and instant coffee. As well as based on distribution channel which are on-trade and off-trade. Due to this competitive conditions, companies are being innovative in their packaging and their product offerings to cater to the increased demand for coffee so that the companies are able to continue to keep their position in the market. As well as the usage of social media platforms and online marketing and branding to be able to attract more customers. While companies like Starbucks are using methods such as partnerships and collaboration with up and coming companies to be able to continue and tap into the market further(Mordor Intelligence, 2023).

Furthermore, there is an increasing importance of other type of coffee variety such as Robusta coffee which is an alternative to the favored Arabica coffee due to it being more resilient and disease resistant (Rodriguez, 2023). In addition to the fact that there are adverse changes in the climate and land availability is reducing considerably to properly grow the Arabica coffee. Moreover, on a country level, political problems within the country has inadvertently created

economic and logistical problems for companies not to mention the steep inflation that Ethiopia is currently experiencing.

With all the competition and environmental threats present in the market, it is essential for companies to be on the lookout for any changes happening in the market that will affect them directly and indirectly. Leading to the increased importance of marketing intelligence system especially in a highly competitive market as companies would be able to collect information about the market and be prepared for threats and take advantage of the opportunities that emerge. Failing to have a marketing intelligence system in place and on the bigger scale a marketing information system in this day and age can lead to the downfall of a company especially in an age of information overload and advancement in technology.

Kerchanshe Coffee is a coffee company that has been in the business for over 15 years and is considered one of the best coffee companies in Ethiopia. Even though the coffee industry still has a long way to go in terms of being competitive in the world stage, Kerchanshe Coffee is doing well for itself. Nonetheless, there seems to be a lack of use of marketing intelligence in the business apart from the basic information regarding information of the market provided by government offices like Ethiopian Commodity Exchange (ECX). As well as competitor information which again is provided by ECX, in terms of the companies that have exported the most coffee. As a company enters into an international market, it is important to collect information regarding foreign market including; customer demand (increase or decrease for the product, shift to alternate products or sources) change in ways of consumption, competition (in terms of product and capacity), if there exist changes in rules, regulations and policies from government side (for instant the Chines government has enforced a law dictating a company should have a warehouse to export to China). This and more information is required to be successful in international market.

Based on the information stated above, this study focused on the effect of marketing intelligence on company sales performance in the case of Kerchanshe Coffee. The investigation was carried out by administrating structured questionnaires to find out whether the relationship between marketing intelligence and sales volume existed or not. The investigation focused on specifically on the marketing intelligence components which are product intelligence, market intelligence and competitor intelligence effect on the sales volume of Kerchanshe coffee.

1.3 Hypothesis of the Study

H_0: Marketing intelligence has no relation with Kerchanshe Coffee's sales volume.
H_1: Competitor analysis has positive relations with Kerchanshe Coffee's sales volume.

H$_2$: Market analysis has positive relations with Kerchanshe Coffee's sales volume.

H$_3$: Product analysis has positive relations with Kerchanshe Coffee's sales volume.

1.4. Objectives of the Study

1.4.1 General Objective

The general objective of this research was to address the effect of marketing intelligence on sales volume in reference to Kerchanshe Coffee, and to recommend valuable solutions to the issues that exist in the company's marketing intelligence.

1.4.2 Specific Objectives

- To identify the effect of competitor intelligence on sales volume of Kerchanshe Coffee;
- To examine the effect of product intelligence on sales volume of Kerchanshe Coffee; and
- To analyze the effect of market intelligence on sales volume of Kerchanshe Coffee.

1.5. Significance of the Study

This study can be able to provide information about the various marketing intelligence factors that affect sales of the company under study. This study can also be taken as a base for the company to carry out further research to better understand the ways they can improve their sales and their company in general. Furthermore, the findings of the study can be used by other coffee businesses operating in Ethiopia as having a timely, accurate and relevant information is important to be able to make necessary decisions. This research can provide valuable information and recommendations to the businesses in the coffee industry to help them achieve competitive advantage. It may also provide the necessary information so that these businesses can be able to continue to further research about the relationship between marketing intelligence and sales so that they can be able to compete in this market but also in the world.

Additionally, this research may be used by future student researchers by providing them with literature that they can use for their empirical evidence around the subject area of marketing intelligence. It can help them in getting ideas to further explore the concept of marketing intelligence in the coffee industry as well as other industries as well.

1.6. Scope of the Study

Kerchanshe Coffee operates in Ethiopia with its main office situated in Addis Ababa, Bisrate Gebriel. The subject of the study is based on the company's full coffee products provided for the market as stated on their website (Yirgachaffe, Limu, Bale, Sidamo, Guji, Harar, Jimma, Nekemte

and Kaffa). The study focused on the main office due to the fact that it's the main office that process the export of products. This study focused on the effect of marketing intelligence as independent variable (specific variables includes competitor, market and product analysis) on sales volume which is the dependent variable. So other factors that do have an impact on sales were not considered as it is out of the scope. Based on the conceptual scope of the study, this research focused on the impact the main components of marketing intelligence which are competitor analysis, product analysis, market analysis have on sales of Kerchanshe coffee.

In terms of time, the student researcher used five year sales level of Kerchanshe Coffee to be able to gain a better understanding of the type of relationship that exists between the variables if any exists. The sales level used is one that is calculated at the end of each fiscal year. With regards to respondents used, the employees and agents of the company was used in addition to the manager of the department. The employees that were used are the people who deal directly with the coffee to be exported as they were deemed to have a better insight with regards to the business they are doing.

1.7 Methodology of the Study

1.7.1 Research Design and Approach

The research focused on measuring the impact of marketing intelligence on sales volume. Owing to this, the student researcher chose to employ causal research design. Causal research design is a method that allows to explore the reasons behind why something occurs. It helps in understanding the relationship between the variables under study, understand the how or why a particular phenomenon is occurring and help in predict future occurrences. It is a study of functional relationships existing between two or more variables(Kothari, 2014) through the use of quantitative approach to understand the relationship that exists between variables using numerical data. The use of numerical data allows to see whether there is any type of correlation between the variables to be measured.

1.7.2 Population and Sampling

To be able to answer the research problem, the student researcher used the employees, agents and managers of Kerchanshe coffee as the respondents to be able to understand the relationship between the use of marketing intelligence and the sales level of the company. The respondents were chosen for this research because of the fact that they are the ones that are able to answer about the business practices. Because Kerchanshe Coffee is a business that has branches all over Ethiopia. Namely five different locations outside Addis Ababa, the student research chose to only focus on the respondents that are in Addis Ababa since it's this branch responsible for

exporting the product to foreign countries. The rest is used as a collection organization center.

The sampling technique used was a census rather than a sample as the number of employees and agents of the company are known. Moreover, the number of employees and agents who participate directly with the exporting of coffee are 60. The questionnaire includes all 60 employees and agents including the managers.

1.7.3 Types of Data Collected
Primary and secondary data were used in order to help complete the study. The primary data was collected from managers, agents and employees of the company. While the secondary data was collected through company reports and analysis done by the company and through other researches done.

1.7.4 Method of Data Collection
The source of data for this research was collected through the use of questionnaires administered to the employees and agents of the company. The questionnaires administered was closed ended type to be able to extract numerical data from the information collected. For ethical reasons, the student researcher stated the reasons for the questionnaire so that they could answer freely when answering the questions.

1.7.5 Method of Data Analysis
The research contains only quantitative data analysis methodologies. The response received from the questionnaire was analyzed through the use of inferential data analysis to be able to understand and point out any correlation between the variables stated. Correlation and Regression was used to analyze the effect of marketing intelligence on sales volume of the company. The researcher used SPSS software to carry out the analysis. The researcher used SPSS software to analyze the data.

2. Data Analysis and Interpretation
This chapter focuses on the analysis and interpretation of the data that has been gathered to answer whether marketing intelligence systems has an impact on sales volume or not. The primary data were collected through a self-administrated questionnaire which contained personal information of the respondents, three dimensions of marketing intelligence and sales volume of Kerchanshe Coffee based on the perceptions of the respondents. The questionnaire was distributed to the managers, employees and agents who are directly responsible to the exporting of coffee which is a total of 60 people. The number of questionnaire sent out was 60 and all the questionnaires was

used in the analysis of the data. This was further supported by the secondary information provided by Kerchanshe Coffee.

The data that was collected through the questionnaire were analyzed by carrying out regression analysis. And based on the analysis the hypothesis was tested to see if the null hypothesis holds true or not. The results from the analysis with further statistical calculations is discussed below for each specific objective.

2.1 Descriptive Statistics of Study Variables

The table below presents the descriptive statistics of the study variables which are marketing intelligence (product intelligence, market intelligence, and competitor intelligence) and sales volume. The descriptive statistics helps to understand the characteristics of a data set by giving a summary about the sample and measures of the data. The scale used for the mean response is that if the mean value is between 1.00 – 1.80 they strongly disagreed; if the mean value is between 1.81 – 2.60 they disagreed; neither disagreed nor agreed if it's between 2.61 – 3.40; agreed if it's between 3.41 – 4.20; and strongly agreed if it's between 4.21 – 5.00(Gray, 2017). With regards to the standard deviation, a value below 1.0 is considered less variable and a value above 1.0 suggests that it's highly variable.

The grand mean value obtained for product intelligence (Mean = 2.677, SD = 0.857) shows that the majority of the respondents neither agreed nor disagreed and that they don't have a varying stand about this variable. This means that the respondents remained neutral on the idea that the company collects information about their product, offering new products based on external information, comparing their products against their competitors and prices of coffee beans. This implies that the respondents assume that the intelligence collected on the products of the company has an impact on the sales volume to some extent.

Table 2.1: Summary of study variables

Variables	N	Mean	Std. Deviation
Product intelligence	60	2.677	0.857
Market intelligence	60	2.927	0.786
Competitor intelligence	60	2.777	0.814
Sales Volume	60	2.830	0.785

Source: Own Survey output, 2023

When considering the market intelligence, the score of the grand mean was 2.927 with a standard

deviation of 0.786. This indicates the majority of the respondents remain neutral with regards to the company analyzing opportunities in the market, analyzing competitive risks and analyzing the threats in the market. This also included remaining neutral on the idea that the company identifies ways to modify their current strategies to add value and collecting information about the market their customers are in. And with a standard deviation of 0.786 it's suggest that there is low variability with the answers given by the respondents. Overall, the respondents partially agree with market intelligence affecting the sales volume of the company.

Similarly, the majority of the respondents remained neutral on the intelligence gathered on competitors affecting the sales volume of the company. The grand mean was 2.777 with a standard deviation of 0.814. The respondents agreed that the company does collect information in order to identify existing and potential competitors. However, they had varied answers with regards to the company monitoring foreign and local competitors, the use of externally published information about their competitors and the use of information gathered to avoid being surprised by their competitors. The standard deviation of 0.814 suggests that the answers are less variable.

The overall sales volume was also perceived neutrally by the respondents as the grand mean was found to be 2.830 with a standard deviation of 0.785. There is a varying answers for the questions provided under sales volume. However, the majority agreed that marketing intelligence has enabled the company to meet its sales volume target. This is also true for the company increasing the number of products based on the marketing intelligence, the use of product intelligence to increase sales volume and the use of competitor intelligence to increase sales volume. With a standard deviation of 0.790, the answers given are not highly variable.

2.2 Inferential Statistics

Inferential statistics uses various analytical tool to be able to draw inferences about the population data from the sample data. It helps in drawing conclusions. Inferential statistics is used in this study to examine the relationship between marketing intelligence and sales volume. In order to understand this relationship and address the study's objectives, regression analysis, ANOVA test and between coefficients determination is used.

Before carrying out a correlation and regression test, first the data should be checked to see if it is normally distributed. As the test for a normally distributed data uses Pearson correlation and linear regression while an Ordinal regression and Spearman Rank correlation is used for a data that is not normally distributed. Shapiro-Wilk test is used as the data set 60 as shown in table 2.2. The significance level of all the variables are above 0.05 which indicates that the data is normally distributed.

Table 2.2: Test of Normality

	Shapiro - Wilk		
	Statistics	**df**	**Sig.**
Product Intelligence	0.986	60	0.742
Competitor Intelligence	0.962	60	0.062
Market Intelligence	0.971	60	0.161
Sales Volume	0.962	60	0.061

Source: Own Survey, 2023

2.2.1 Correlation Test

Correlation coefficient is a statistical measure which shows the strength of a linear relationship between two variables(Jason, 2021). Its values lies between -1 and 1, where -1 denotes a perfect negative correction and 1 represent a perfect positive correlation. A correlation coefficient with a 0 value means that there is no linear relationship. The closer the value to 1, the stronger the association is and vice versa. If the value lies between 0.0 and 0.2 there is very weak association/ no association, 0.2 – 0.4 it is weak with association, 0.4 – 0.6 it is moderate with association, 0.6 – 0.8 it is strong with association, 0.8 – 1.0 it is very strong with association. This same guideline applies to negative values as well(Holmes et al., 2015). Pearson's correlation was used in this study to examine the relationship between the independent and dependent variables using one-tailed test with a level of 95% confidence level and significance of below 0.05.

As shown in table 2.2, the results of the correlation test signifies that there is a relationship between the independent variables and the dependent variable with a varying degree. Product intelligence with a value of r = 0.324 suggests that it has a positive but weak association with sales volume. Similarly competitor intelligence with r = 0.404 has a slightly better association than product intelligence with a positive and moderate association with sales volume. On the other hand, market intelligence has the better relationship with sales volume with r = 0.701 which shows that it has a positive strong association with the dependent variable. Overall, it can be concluded that there is a positive relationship between marketing intelligence and sales volume.

Table 2.3: Relationship between Marketing Intelligence variables and Sales Volume

Pearson Correlation	Sales Volume	Product Intelligence	Competitor Intelligence	Market Intelligence
Sales Volume	1.000			
Product Intelligence	0.324	1.000		
Competitor Intelligence	0.404	0.869	1.000	
Market Intelligence	0.701	0.585	0.624	1.00

Source: Own Survey, 2023

2.2.2 Assumptions of Regression Test

Regression analysis makes a number of assumptions about the data to be evaluated. This needs to be considered before making any conclusions to the data collected. The following regression assumptions were carried.

a) Linearity Test: linear regression assumes that the relationship between independent and dependent variables are linear. This means that the data collected follows a straight line and not scattered around as a non-linear relationship can cause errors in the result. The result can overestimate or underestimate the dependent variable at certain points. The other assumption with this test is that the independent variable is not random and there is some type of relationship between the independent and dependent variable. Figure 2.1 shows the expected value for all the independent variables. It shows that the values are distributed randomly and evenly across the plot line. This shows that the variables satisfy the linearity test.
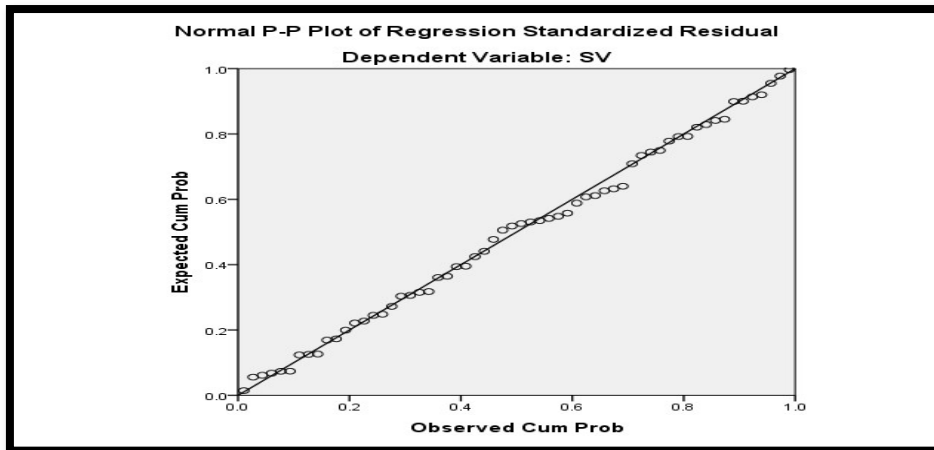
Figure 2.1: Scatter plot for Linearity test (Source: Own Survey, 2023)

b) Collinearity Test

Collinearity test is a statistical test to check if there is any correlation between the independent variables. If the independent variables show that they are correlated it means that they cannot independently predict the value of the dependent variable. This leads to reducing their statistical significance. In this case, as there are three independent variables a multicollinearity test is run to check if the variables violate this assumption. The Variance Inflation Factor (VIF) measures the extent to which there is multicollinearity in the regression analysis. If the VIF value is greater than 10 then it is suggest that multicollinearity exists. Also if the value of the tolerance is below 0.1 then multicollinearity exists. Table 2.4 shows that all the tolerance level is above 0.1 and the VIF levels are all below 10(Gray, 2017) which means that the assumptions of this test have not been violated.

Table 2.4: Collinearity Test

	Tolerance	VIF
Sales Volume (Constant)		
Market Intelligence	0.587	1.702
Product Intelligence	0.244	4.095
Competitor Intelligence	0.219	4.565

Source: Own Survey, 2023

2.2.3 Regression Analysis

Regression analysis is a type of statistical analysis to estimate the relationship between dependent variable and one or more independent variables. It can be used to assess the strength of the relationship between the stated variables which are product intelligence, market intelligence and competitor intelligence. A simple linear regression is conducted which includes a model summary, ANOVA test and Beta Coefficient analysis to understand the impact each independent variable has on sales volume.

Table 2.5: Model Summary for Market Intelligence

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.701[a]	.491	.482	.56500

a. Predictors: (Constant), MI

b. Dependent Variable: SV, Source: Own Survey, 2023

Table 2.6: ANOVA Test for Market Intelligence

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	17.871	1	17.871	55.982	.000[b]
1	Residual	18.515	58	.319		
	Total	36.386	59			

a. Dependent Variable: SV

b. Predictors: (Constant), MI, Source: Own Survey, 2023

Table 2.7: Coefficient for Market Intelligence

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.782	.283		2.758	.008
	MI	.700	.094	.701	7.482	.000

a. Dependent Variable: SV , Source: Own Survey, 2023

Table 2.5 shows summary of how the independent variable, which in this case is market intelligence, impacts the dependent variable sales volume. It indicates that the market intelligence variable has a positive and strong relationship with sales volume of Kerchanshe Coffee. This is shown by the value of R = 0.701. The goodness-of-fit of the model is represented by R^2 which has a value of 0.491. This illustrates that 49.1% of the variation in sales volume was explained by the variable market intelligence. The ANOVA test shown in table 2.6 shows that it has an F-value of 55.982 which is significant at $p<0.05$. The higher the F value, the more likely the variation associated with the independent variable is real and not due to chance. Therefore, it can be inferred that the sales volume has been significantly explained by the market intelligence variable.

Table 2.8: Model Summary for Product Intelligence

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.324[a]	.105	.089	.74938

a. Predictors: (Constant), PI

b. Dependent Variable: SV

Source: Own Survey, 2023

Table 2.9: ANOVA Test for Product Intelligence

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	3.815	1	3.815	6.793	.012[b]
1	Residual	32.571	58	.562		
	Total	36.386	59			

a. Dependent Variable: SV
b. Predictors: (Constant), PI
Source: Own Survey, 2023

Table 2.8 shows summary of the model for product intelligence against sales volume. Based on the result it can be inferred that the independent variable has a positive but weak influence on sales volume as the R value is 0.324. The goodness-of-fit test has a value of $R^2 = 0.105$, suggesting that 10.5% of the variation in sales volume can be explained by product intelligence. When considering the ANOVA test, table 2.9 shows that this independent variable has an F- value of 6.793 with a significance level of $p < 0.05$. This means that even if the result shows a weak correlation between the independent and dependent variable, product intelligence has an influence on the sales volume of the company. This is justified by the fact that p value is less than the significance level of 0.05 which allows for the null hypothesis to be rejected.

Table 2.10: Coefficient for Product Intelligence

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.036	.320		6.371	.000
	PI	.297	.114	.324	2.606	.012

a. Dependent Variable: SV
Source: Own Survey, 2023

Table 2.11: Model summary for Competitor Intelligence

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.404[a]	.164	.149	.72441

a. Predictors: (Constant), CI
b. Dependent Variable: SV
Source: Own Survey, 2023

Table 2.12: ANOVA Test for Competitor Intelligence

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.950	1	5.950	11.338	.001[b]
	Residual	30.436	58	.525		
	Total	36.386	59			

a. Dependent Variable: SV

b. Predictors: (Constant), CI , Source: Own Survey, 2023

Table 2.13: Coefficient for Competitor Intelligence

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.746	.335		5.209	.000
	CI	.390	.116	.404	3.367	.001

a. Dependent Variable: SV

Source: Own Survey, 2023

Table 2.11 shows the model summary for competitor intelligence and based on the result it can be inferred that the variable competitor intelligence has a moderate influence on sales volume as R = 0.404. It has a goodness-of-fit of R^2= 0.164. This shows that 16.4% of variation in sales volume is due to competitor intelligence. When considering the ANOVA test in table 2.12, it has an F = 11.338 with a significance level of $p<0.05$. Based on this result, it can be inferred that competitor intelligence has an impact on sales volume and the null hypothesis can be rejected.

The regression analysis result showed that the independent variable does have an effect on the sales volume of the company. Lastly, when considering the coefficient results for all independent variable, it can be seen that the independent variables have a varying effect on sales volume where marketing intelligence has relatively the highest effect on sales volume with (B = 0.70, P < 0.05). This is followed by competitor intelligence with values of (B = 0.390, P < 0.05) and lastly product intelligence with values of (B = 0.297, P < 0.05). Overall, based on the results in the various table presented above, it can be safe to state that the marketing intelligence system has statistically moderate influence on the sales volume of Kerchanshe Coffee with a significance level of 95% ($p<0.05$).

2.3 Discussions

Various rapid changes in the business environment can cause problems and threats to business if

not handled with due caution. As the world is operating in an ever changing environment it is important for businesses to be able to get an up to date, appropriate and relevant information quickly to help in the countless decision making processes. The coffee industry is one of those industries that experiences various changes. And considering that it is an agricultural product the weather creates additional pressure on the industry as it is a factor that can't be controlled by humans. Furthermore, considering other factors such as the shift in consumers taste, competition, economic and political issue etc. it stresses the importance of having a marketing intelligence system in place. This research stems from this concept where a business needs to be aware of its external environment to continue to be competitive. This study focuses on the three components of marketing intelligence system and how it impacts the sales volume of Kerchanshe Coffee.

The result of the findings demonstrates that marketing intelligence has a positive impact on increasing the sales volume of Kerchanshe Coffee. Especially the component market intelligence has the prime impact on sales volume ($r = 0.701$, $p < 0.05$) and these value states that these two variables have a positive strong relationship as well as the strongest effect ($B = 0.700$, $p < 0.5$). When considering the industry, it can be noted that creating continuously new product or modifying products is not as important. The main focus would be in continuously producing top quality coffee beans that meets the standards that have been set. As stated above, coffee industry faces numerous problems and changes which means that a coffee business needs to be continually aware of what is happening in the market. This is important as the business can be able to set out action plans to mitigate and overcome problems that occur within the industry or overcome the challenge before it occurs.

For example, during 2019/2020 the world was hit with COVID-19 which created shockwaves and drastic changes for almost all industries including the coffee industry. When comparing the level of coffee that was sold during the year 2018/2019 and 2019/2020, there was a 4.81% drop in metric ton sold. And the level of coffee sold for the next two years also decreased continually. Considering the need for social distancing during COVID-19, the cultivation and harvesting of coffee beans have been impacted as most of the work is labor intensive(Roughan, 2020). With proper and up to date information, a business can be able to make swift decisions and ensure that the adverse effect created by this type of disasters can be overcome easily. Furthermore, a business can set contingency plans so that when threats occur the work flow doesn't get disrupted in trying to figure out what to do. A proper market intelligence system can help a business gain better understanding about its competitors, customers and markets and help in setting effective strategies.

The relationship between product intelligence and sales volume is positive and has an effect on

enhancing the sales volume even if it isn't to the extent of market intelligence. The product intelligence has a positive relationship (r= 0.324, p<0.05) with a weak effect (B=0.390, p<0.05) on sales volume. When compared to the other two independent variable, product intelligence has the lowest. Yet it doesn't mean that it has no effect on sales volume because it does even though based on the result it is weak relationship. Product intelligence collects information on the product performance including getting feedback from customers. By understanding what changes need to be done to the products it is more likely the sales volume increases as the changes are based on what is needed by the market. Kerchanshe Coffee produces a nine variety of coffee which is unique in its own way which is demanded in the market even though it is not to the level of other coffee producing countries like Brazil.

The last variable, competitor intelligence has a positive relationship with sales volume (r=0.404, p< 0.05) and has an effect on sales volume (B=0.390, p<0.05). When comparing it to product intelligence, competitor intelligence has a higher level of significant impact on sales volume. Competitor intelligence helps a business to increase sales volume as it allows to identify what the competition is doing so that the business can identify ways to improve their business. As well as identify opportunities in the market which is untapped or underserved(Tit, 2022). With regards to the coffee industry, one example that is going to affect businesses are the increasing importance of Robusta coffee over Arabica coffee. By understanding what other coffee producing countries are doing then a business can analyze and state what is missing so they can tap into that market. Overall when all other things being constant, marketing intelligence system has an impact on sales volume of Kerchanshe Coffee. Even though the individual components have a different level of impact on sales volume, it is essential for a business to have this system in place and be part of their everyday decision making process.

3.1 Summary of Major Findings
Based on result stated in chapter three, the major findings can be summarized as follows:

For specific objective one which is identifying the effect of competitor intelligence on sales volume, the results showed that the mean for competitor intelligence was M = 2.777 with a standard deviation of SD = 0.814. Further the variables has a positive moderate relationship which is shown through r = 0.404, p < 0.05 and has a strong effect (B = 0.404, p < 0.05) on sales volume. These results shows that the majority of the respondents have a neutral stand on whether competitor intelligence has an impact on sales volume with a mean of M = 2.777. Based on the data gathered and analyzed, it can be concluded that competitor intelligence has an effect on sales volume. As it accounts for $R^2 = 16.4\%$ change in sales volume of Kerchanshe Coffee.

Specific objective two focused on examining the effect of product intelligence on sales volume. The results showed the mean of product intelligence was M = 2.677 and a standard deviation of SD = 0.857. The relationship between sales volume and product intelligence components ended up having a positive weak relationship (r = 0.324, p < 0.05) and has the lowest effect on sales volume compared to the other two components (B = 0.324, p <0.05). Majority of the respondents had a neutral stand on the effect of product intelligence on sales volume similar to competitor intelligence with a mean of M = 2.677. Even though it is weak association it can't be ignored that product intelligence does have some effect on sales volume as R^2 = 0.105. Meaning that 10.5% of sales volume change is attributed to product intelligence.

Specific objective three looked at analyzing the effect of market intelligence on sales volume. The mean of marketing intelligence was M = 2.927 and had a standard deviation of SD = 0.786. Unlike the other two components market intelligence has a strong positive relationship (r = 0.701, p < 0.05) and has the greatest effect on sales volume with B = 0.701 when p < 0.05. Even though the respondents have a neutral outlook on the effect that market intelligence has on sales volume, the results show that it has one of the greatest impact on sales volume. It has an R^2 of 0.491 which shows that 49.1% of impact on sales volume is attributed to market intelligence.

3.2 Conclusion

This study focused on trying to investigate the effect marketing intelligence system has on sales volume of Kerchanshe Coffee. The investigation focused on the three components of marketing intelligence which are product intelligence, market intelligence and competitor intelligence. The results indicated that marketing intelligence has a positive effect on sales volume and plays a role in increasing the volume of products sold. Each of the stated components had their own varying effect on sales volume and considering the type of industry it is, market intelligence has the greatest impact on volume sold. By understanding what is happening in the market, a business can be able to make proper plans to take advantage of opportunities created in the market. It can also be used in order to avoid threats. When market intelligence is coupled with product intelligence and competitor intelligence it is seen that sales volume of the company can be increased. As these components have a significant influence on sales volume the null hypothesis can be rejected.

In a fast moving world, information is key for any business and with proper information a business can compete with others. In order to get proper information, it is essential a business lays out a system in which information that is useful, relevant and up to date can flow towards the business. Even though this study focused on the external environment, information to be used in a business should be both from internally and externally sourced information to have the greatest impact.

Marketing intelligence system needs a workforce who are able to collect the necessary information and transmit to the proper place in a timely manner. In addition to the workforce, it is crucial that the information collected is put to use in making plans and strategies for the business in the short and long run. Otherwise it wastes time, energy and money of the company as it's an extra activity which is not adding to the business's performance.

Furthermore, based on the result a business like Kerchanshe Coffee can take advantage over other coffee producers in the country by implementing marketing intelligence system. It ensures that they are able to recognize changes in the market, consumers and environment better and quicker to help in creating the necessary plans to overcome the threats and take advantage of the opportunities present in the market. And considering that they are an exporting company with customers all around the world including competitors it increases the need for implementation of the system. And as shown in the empirical literature marketing intelligence system is important in any business no matter where they are as we are living in a continually changing environment.

3.3 Recommendations

Having marketing intelligence system in a business is crucial and important in allowing managers to make swift decisions supported by the right information. Coffee is the second famous drink worldwide and has been exported since the 15th century. It continues to be an agricultural product that is demanded especially by the industrialized nations such as the United States, Europe and Asia. There are many countries that produce different types of coffee which have their own unique differences. This means that there is competition in trying to sell coffee beans to different customers located in different countries. Accompanied by the various changes happening in the external and physical environment, having the right information in place is important. Knowing the impact marketing intelligence has on sales volume is important. Based on the findings and conclusion, the following possible suggestions are stated:

- Understanding the consumer trends in the industry is important. Kerchanshe Coffee exports 90% of its production to countries like United States, South Korea, China and Germany etc. The trend in these countries especially Asia is that they are moving towards Robusta Coffee which is cheaper and more acidic compared to Arabica Coffee. This could mean that the business is losing customers. Thus, management should have in place a system where they can track the changes in the consumers taste so they can come up with a plan to better market their coffee products. This is on both the national and international level.

- The need to track the satisfaction of customers is important. Management need to create a system where they can follow up with their customers to track how they feel about the products being provided. This is essential because customer who aren't satisfied are more than likely to go

looking for other producers. When considering the fact that there are many countries growing coffee beans it is not hard to find a substitute company. The company shouldn't be complacent in thinking that because there aren't many coffee companies in Ethiopia that can compete with them that not following up with customers isn't important.

• The company needs to have a system where they can check the trends and changes going on in the market. This is because without knowing what is happening in the world a company can't set effective strategies and plans for the short, medium and long term. As COVID-19 showed us that it can drastically impact the way a business does its work and affects the ability to meet the stated objectives. Furthermore, as there are many regions that has political instability, it is crucial the company knows where conflicts are happening. So that they can create plans to ensure that there is no setbacks in their production and distribution process.

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**An Assessment of Customer's Online Purchasing Practice: The Case of beU Delivery,
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Abstract

Nowadays, more and more individuals are opting to order their meal online, which has led to a change in food consumption patterns. The purpose of this study is to evaluate the extent of consumer online shopping behavior in Ethiopia with reference to beU Delivery. This study employed a descriptive design. Both quantitative and qualitative approaches are used in this research. This study uses primary data gathered through structured questionnaire as it is the case with quantitative research design. 120 people were selected from Bole, while 80 were from Hayahulet. The customer responses regarding the ease of using beU Delivery's online platform paint a diverse picture of opinions and concerns. A substantial proportion of users faced difficulties navigating the platform, as indicated by the majority who disagreed strongly or simply disagreed. Conversely, a smaller but still notable minority found the platform easy to use. The customer responses regarding attitude towards beU Delivery's online service reveal mixed opinions. When it comes to convenience, a notable proportion of respondents disagreed or had a neutral stance, while a considerable percentage agreed that the service is convenient. The perception of beU Delivery valuing its customers and providing excellent customer service also varied, with a significant portion expressing reservations or disagreement. These findings demonstrate the need for beU Delivery to address customer service issues, improve convenience, and enhance value proposition to enhance customer satisfaction and loyalty

1. Introduction

1.1. Background of the Study

The evolution of e-commerce has had a significant impact on the way people consume food. Nowadays, more and more individuals are opting to order their meals online, which has led to a change in food consumption patterns (Hwang et al., 2019). According to Silva et al. (2017), e-commerce platforms refer to the technologies developed to assist online businesses with their sales, marketing, and operations. Wei et al. (2018) conducted research to investigate the intention of online shoppers to purchase fruits. They noted that there has been an increase in the number of online platforms available for fruit purchase in recent years. This trend has significantly contributed to the growth of e-commerce and has boosted the standard of living for many people. Online food delivery is now a popular trend in the e-commerce industry, and it presents an affordable means of reaching a larger audience (Ray et al., 2019).

The concept of online food delivery (OFD) involves the utilization of online channels by consumers to place orders for food from restaurants and fast-food retailers (Elvandari et al, 2018). Through the OFD system, consumers are presented with a wider range of food options and restaurants to choose from (Pigatto et al., 2017). By incorporating the OFD system, restaurants and fast-food retailers can enhance their customer base in a cost-efficient way, while consumers can easily order their preferred meals without any inconvenience (Ray et al., 2019). With the continuous technological advancements in recent times, OFD has experienced several changes. As such, restaurants often make use of third-party platforms and food aggregators as a means of facilitating online food delivery, which enables them to attain a broader market reach in a cost-effective manner (Williams et al., 2020).

Recent years have shown an exponential increase in OFD. According to the "Online Food Delivery Services Worldwide Market Report 2020-30," the market for OFD is expected to rise from $107.44 billion in 2019 to $154.34 billion in 2023, at an annual growth rate of 11.51%. The aforementioned data show that the OFD system has enormous development potential, which has led academics to investigate the OFD from many perspectives and use a variety of conceptualisations and approaches (Ray et al., 2019).

Following the COVID 19 outbreak, some online food delivery services have appeared in Ethiopia, and people have begun to use them. beU Delivery is one of the first and most well-known OFD company in Addis Ababa that was established in the year 2021. beU Delivery utilizes a mobile app as an e-commerce tool and is famous for its extreme sales promotion, which includes daily discounts on both its service and the foods. According to Google Play Store more than 100,000

users have downloaded the beU delivery app.

Companies that develop food technology are now totally dependent on technological platforms. In order to comprehend how to recognise new technology from the perspectives of its developers and consumers, the Technological Acceptance Model (TAM) was created (Davis, Bagozzi, & Warshaw, 1989). The TAM essentially holds that a person's behaviour is driven by his or her purpose and has been frequently used in the fields of social psychology and marketing. Their attitude and subjective norm mutually determine their intention, in turn. By focusing on the cognitive and affective drivers of technology adoption, (Davis and his colleagues) further evolved TAM into a significant study paradigm in the information system sector. Specifically, the TAM postulates that perceived ease of use (PEOU) and perceived usefulness (PU) together determine attitude, which in turn leads to intention to use a new system or technology. It also posits that such an intention is the best predictor of the actual system use. TAM has proved to be applicable to explain attitude, intention, and behavior in various contexts and areas, such as e-learning, internet and mobile banking, internet and website usage, and e-commerce.

1.2.Statement of the Problem

The Internet and mobile technology have an impact on both consumers and businesses. Four billion people use the internet, with 92.6% of them using mobile devices, according to Nielsen (2018). Customers are engaging in a variety of digital activities more regularly and for longer periods of time. Because internet technology and applications make it simpler, more convenient, and less expensive for customers to locate a larger choice of things than conventional buying, online shopping is a fast-expanding sector. Along with the growth and advantages of online shopping, people are buying food online at a never-before-seen pace, with Generation X, Millennials, and Generation Z being the most ardent consumers.

Despite the fact that Google Play Store statistics shows a surge in number of beU Delivery mobile application downloads in Ethiopia, there exist a limitation in its usage. Through an observation on customer reviews and then a small preliminary study of 10 participants conducted by the student researcher, gaps on customer adoption of the mobile application, quality on the delivery process, dissimilarity between the display of foods (promised food) and the actual food, transparency on costs and its overall usefulness was found.

According to Van der Heijden et al. (2003), research on online customer practice should focus on two problems that distinguish online consumers from traditional consumers: technological engagement and trust. Many authors agree with this assumption. Furthermore, a detailed study by Changchit et al. (2017) reveals that the technology acceptance model (TAM) developed by Davis

et al. (1989) has been frequently used in previous research that explored online buying practice. This model includes characteristics that explain behavioral intent and the intention to utilize technology directly or indirectly. Perceived Ease of Use (PEOU) is a gradation of characteristics associated to technology use that make the individual feel at ease (Davis 1989); Perceived Usefulness (PU) is a gradation in which a person's job performance is improved by the usage of technology.

Studies on consumers' online use of food delivery services in developing nations like Ethiopia are less common. Research employing the Technology Acceptance Model in the nation focuses on e-learning and mobile banking. This study especially looks at how attitudes, trust, perceived utility, and perceived ease of use affect consumers' intentions to use online meal delivery. This study adds trust to the TAM because it seems to be a key component of online purchasing behavior. In actuality, it offers fresh perceptions on how different aspects affect online food purchases in Ethiopia.

The purpose of this study is to unearth facts that are unique to the organization so that it can identify gaps in service delivery, and to evaluate the extent of consumer online shopping behavior in Ethiopia with reference to beU delivery.

1.3. Research Questions

Based on the research topic, the following research questions are formulated:

1. How do customers perceive the ease of use of online food delivery service?
2. To what extent do customers perceive the usefulness of online food delivery service?
3. What is the attitude of customers towards online food delivery service?
4. To what extent do customers trust the company's online food delivery service?

1.4. Objectives of the Study

1.4.1. General Objective

The general objective of this study is to assess consumers online purchasing practice in beU Delivery.

1.4.2. Specific Objectives

The research has the following specific objectives:

- To identify how customers perceive ease of use of online food delivery service;

- To examine the usefulness of online food delivery service perceived by customers;
- To describe customers' attitude towards the company online food delivery service; and
- To examine customers' trust towards the company online food delivery service.

1.5. Significance of the Study

The advantage of online food delivery service in Ethiopia is poorly understood. Not many studies on such service and customers' response have been undertaken thus far. This paper can provide information to the company as part of an input in further investigation in the subject matter and the company can have a better understanding of how to reach customers and give topmost services that can satisfy them. It can provide knowledge regarding consumer purchase practice for online food delivery service providing companies entering the e-commerce market. It is likely to provide a base line to other interested researchers and develop students' knowledge regarding online food purchasing practices.

1.6. Scope of the Study

This study thematically focuses on the assessment of customers' online purchasing practice by using technology acceptance model (TAM). To achieve this, the scope of this study examines the different factors that determine customers' online purchasing practice in 2023 within the time limit of 4 months and the company's two-year information because beU Delivery has been operating for 2 years from 2021-2023. Participants on this study are customers who have made at least one online purchase on beU delivery application. Geographically, this study is limited to customers in Addis Ababa, Ethiopia, specifically around Bole and Hayahulet. Methodologically, this study uses qualitative research design and descriptive research approach. Data is collected from questionaries given to beU Delivery customers.

2. Research Design and Methodology

2.1. Research Design

This study employed a descriptive design. Descriptive research is used to acquire information on the current status of a condition and to describe "what exists" in terms of variables or conditions in a specific context. According to Creswell (2003), the descriptive research approach is used to gather information on the present or existing state. This study aims to assess the current condition of customers' online purchasing practises for food delivery, as well as their perceptions of a negative or positive effect on the use of beU Delivery's online food delivery service. Both quantitative and qualitative approaches are used in this research. The quantitative measurement approach helps to understand ideas acquired via close-ended questions, and the qualitative

measurement method assists in the interpretation of concepts that were gathered through open-ended questions.

2.2. Population, Sample Size and Sampling Technique

To get proper and relevant information regarding their purchasing practice, the target population for this research consists of beU Delivery customers located in Addis Ababa. The study focuses on two specific areas Bole and Hayahulet.

The non-probability sampling technique was chosen due to the lack of a comprehensive and exact customer database. A total of 200 customers, as recommended by Malhotra (2006), were taken as a reliable sample size for data collection. Among these, 120 were selected from Bole, while 80 were from Hayahulet. The decision to select a higher number of customers in Bole was based on its relatively larger population density and greater commercial activity; Hayahulet was taken as the best location based on the recommendation from beU Delivers database.

2.3. Types of Data to be Collected

This study makes use of both primary and secondary data sources. Primary data is obtained by researchers with the goal of using it immediately in their investigation, whereas secondary data is data that already exists and was collected by researchers for previous studies (Churchill and Iacobucci, 2005). The student researcher distributed a structured questionnaire to the appropriate people in order to gather primary data, and investigated secondary data, such as papers, academic journals, pertinent academic publications, and works in order to support the study's outcomes and conclusions.

2.4. Methods of Data Collection

For this study, primary data was gathered through a questionnaire that is structured as it is the case in quantitative research design. Kothari (2004) explains that a questionnaire is a data collection instrument consisting of a series of questions designed to gather information from respondents. The purpose of a questionnaire is to obtain data on specific research objectives or variables. The questionnaire was designed with both close-ended questions that required respondents to express their degree of agreement using a five-point Likert rating scale from (1) strongly disagree to (5) strongly agree and open-ended question that require customers to write their responses. Questionnaires were distributed to beU Delivery customers that have ordered food by using the mobile application at least once.

2.5. Methods of Data Analysis

The data for this study is analyzed by using descriptive statistics as well as quantitative and qualitative methods. Descriptive statistics is used to summarize and display the obtained data in a relevant and brief manner. This includes calculating measurements such as frequencies and percentages to characterize the characteristics and distributions of the variables under consideration, and customer responses on the open-ended questions are narrated.

3. Data Presentation, Analysis and Interpretation

3.1. General Information

The general information includes demographic factors including gender, age, educational level and occupation of the respondents. The research required to establish the gender, age, and education of the respondents. The purpose of the general information was to find out the characteristics of the respondents and to show the distribution of the population in the study.

Table 3.1 General Information

Variables	Category	Frequency	Percent
Gender	Male	110	56.1
	Female	86	43.9
	Total	196	100.0
Age	18-29	120	61.2
	30-40	69	35.2
	41-50	6	3.1
	Over 50	1	0.5
	Total	196	100.0
Educational Level	Primary	-	-
	High School	72	36.7
	Diploma	43	21.9
	Degree and above	81	41.3
	Total	196	100.0
Occupation	Businessman	62	31.6
	Employee	82	41.8
	Student	46	23.5
	No Job	6	3.1
	Total	196	100.0

Source: Own survey result, 2023

As shown in Table 3.1, variables are distributed across various categories. The data shows that 110 participants are identified as male, representing 56.1% of the total, while the remaining 43.9% are identified as female, totaling 86 respondents.

With 120 respondents out of the total falling in the 18-29 age range (61.2%), the second important variable discussed is age. Those falling in the 30-40 age range accounted for 69 respondents (35.2%). 6 respondents belonged to the 41-50 (3.1%), age range and only 1 respondent fell into the over 50 (0.5%) age range.

For the educational level variable, there were a total of 196 respondents. Among these, 81 individuals (41.3%) held a degree or higher, 72 respondents (36.7%) had completed high school, and 43 respondents (21.9%) earned a diploma.

Out of the total respondents, occupation varied among 62 businessmen (31.6%), 82 employees (41.8%), 46 students (23.5%), and 6 participants (3.1%) with no job.

Table 3.2 How Frequently do you use beU Delivery to Order Food

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once a month	22	11.2	11.2	11.2
	Every two weeks	57	29.1	29.1	40.3
	Once a week	52	26.5	26.5	66.8
	Three times a week	34	17.3	17.3	84.2
	Daily	31	15.8	15.8	100.0
	Total	196	100.0	100.0	

Source: Own survey result, 2023

According to the table above, 66.8% of the users order from beU Delivery at least once a week, followed by about 40.3% who order every two weeks, while 26.5% of them participants order once a week. Notably, a significant percentage of users, 11.2% order from beU Delivery only once a month. A large proportion of respondents order more frequently: 17.3% order 3 times a week and 15.8% order daily. In general, the data suggests that a significant portion of the surveyed population uses beU Delivery regularly, with a significant number relying on it to deliver food several times a week or even a day.

3.2. Customers Responses Regarding Perceived Ease of Use

Table 3.3 Descriptive Result for Customers Perceived Ease of Use

Items	Strongly disagree	disagree	neutral	agree	strongly agree	Total
I find it easy to navigate beU Delivery's online platform.	13.3	43.4	7.1	28.1	8.2	100.0
I find it easy to locate the products I am looking for on the online platform.	10.2	38.3	13.3	32.1	6.1	100.0
I find it easy to complete an online purchase on beU Delivery's platform.	11.7	40.8	12.8	30.1	4.6	100.0
I am able to easily track my orders on the online platform.	9.2	42.3	16.3	28.6	3.6	100.0
The online platform provides clear and concise instructions for the purchasing process.	8.7	40.8	14.8	35.7	-	100.0

Source: Own survey result, 2023

As table 3.3 indicates, a sum of 56.6% of customers disagreed with the statement stating that they found it difficult to navigate online platforms. This includes 43.4% who disagreed and 13.3% who strongly disagreed. A small percentage of respondents, 28.1% agreed that the platform is easy to navigate. In addition 8.2% strongly agreed and 7.1% of respondents were neutral. Taken together, these results suggest that a significant proportion of users have problems navigating the beU Delivery online platform, while a small but still notable minority find it easy to use.

As the above table shows opinions are divided when it comes to the ease of finding products on an online platform. Majority of respondents 38.3% disagreed with the statement, while 32.1% agreed, 13.3% were neutral, 6.1% strongly agreed, and 10.2% strongly disagreed. Generally these results indicate that there is a significant portion of users who struggle to locate the products they are looking for.

The table also presents the responses to a survey question about the ease of completing online purchases on beU Delivery's platform. The majority of respondents (40.8%) disagreed with the statement, indicating that they found it difficult to complete an online purchase. On the other

hand, 30.1% agreed that it was easy, while a smaller percentage 4.6% strongly agreed. A notable proportion 12.8% remained neutral, and 11.7% strongly disagreed. These results suggest that there is room for improvement in the user experience of beU Delivery's platform, as a substantial number of respondents expressed dissatisfaction or uncertainty.

The above table presents data on customers' opinions regarding their ability to track orders on an online platform. Accordingly, 9.2% strongly disagreed and 42.3% disagreed that they could easily track their orders, while 16.3% remained neutral. On the contrary, 28.6% agreed and 3.6% strongly agreed. Generally, these data show that a significant portion of customers expressed dissatisfaction or doubt about the tracking process, while a smaller percentage had a positive experience. A customer has also given its comment:

"Unsatisfactory beU service! No one arrived despite the app's claim that the meal was delivered."

The customers' comment suggests that they had an unsatisfactory experience with the online platform's tracking system. Despite the app indicating that the meal had been delivered, no one actually arrived with the meal. It highlights a specific instance where the tracking process failed, leading to frustration and disappointment with the platform's service.

The table also reveals that opinions are divided among customers regarding the clarity and conciseness of instructions provided for the purchasing process on the online platform. A combined 49.5% - strongly disagreed (8.7%) and disagreed (40.8%) - with the statement indicating a significant level of dissatisfaction. On the other hand, 14.8% remained neutral, while 35.7% agreed that the instructions were clear and concise.

3.3. Customers Responses Regarding Perceived Usefulness

Table 3.4 Descriptive Result for Customers Perceived Usefulness

Items	Strongly disagree	disagree	neutral	agree	strongly agree	Total
Using beU Delivery's online platform has saved me time and effort.	7.1	40.8	10.7	37.2	4.1	100.0
The online platform provides a wide range of food products that meet my needs.	3.6	30.6	18.9	34.7	12.2	100.0
The online platform provides accurate and up-to-date information about the food products.	8.7	40.3	7.1	38.8	5.1	100.0
The online platform provides a seamless and efficient purchasing process.	16.8	37.8	19.4	26.0	-	100.0
beU Delivery's online platform provides a variety of payment options that are convenient for me.	25.0	40.8	14.8	19.4	-	100.0

Source: Own survey result, 2023

Table 3.4 presents the distribution of responses regarding the perceived usefulness of using beU Delivery's online platform. Majority of respondents expressed disagreement, with 40.8% disagreeing and 37.2% agreeing with the statement. A smaller percentage of respondents were neutral (10.7%), while a very small percentage strongly disagreed (7.1%) or strongly agreed (4.1%). Generally, the results indicate a mixed perception of the platform's usefulness, with a slight leaning towards disagreement. Two customers also commented related to time and effort:

"I went through one of the worst experiences ever. After I placed my initial order, they phoned me after an hour to cancel it and instructed me to purchase from another restaurant, which I did. Two and a half hours later, the food I had ordered was delivered, making the total time I waited for delivery three and a half hours."

"Once I ordered a food and after waiting for 25 minutes, they called to inform me

that my order had been cancelled without my knowledge. It took more than 2.5 hours to complete my second purchase. They finally gave me the driver's number after I had contacted them three times. When I told him I had to meet him on the main road because it was late, the driver insisted he would not come to my house."

This comments indicate that in one instance, the customer faced a lengthy and frustrating ordeal where their initial order was canceled after an hour, leading to a longer wait time of three and a half hours for the delivered food. In another case, the customer's order was canceled without their knowledge, resulting in a wait time of over 2.5 hours for their second purchase. In addition, the deliverers uncooperative behavior added to the customer's dissatisfaction. These comments further emphasize the challenges and frustrations faced by customers, contributing to the overall mixed perception of the platform's usefulness.

The above table also presents the distribution of responses regarding the perceived range of food products meeting the users' needs on beU Delivery's online platform. A small percentage of respondents strongly disagreed (3.6%), while a larger proportion disagreed (30.6%) with the statement. A considerable number of respondents expressed a neutral stance (18.9%), whereas a significant portion agreed (34.7%) or strongly agreed (12.2%) that the platform provides a wide range of food products that meet their needs. Overall, the results suggest that a majority of respondents believe the online platform caters to their food preferences.

The table above displays the distribution of responses regarding the accuracy and up-to-datedness of information provided about food products on beU Delivery's online platform. A relatively small percentage of respondents strongly disagreed (8.7%), while a larger proportion disagreed (40.3%) with the statement. A small percentage expressed a neutral stance (7.1%), whereas a considerable number agreed (38.8%) or strongly agreed (5.1%) that the platform provides accurate and up-to-date information about food products. Overall, the results indicate a mixed perception, with a significant portion of respondents expressing doubts about the information's accuracy and up-to-datedness.

The table presents the distribution of responses regarding the perceived seamlessness and efficiency of the purchasing process on beU Delivery's online platform. A significant percentage of respondents expressed dissatisfaction, with 16.8% strongly disagreeing and 37.8% disagreeing with the statement. A notable number of respondents remained neutral (19.4%), while a relatively lower percentage agreed (26.0%) that the platform provides a seamless and efficient purchasing process. The data does not show any respondents strongly agreeing with the statement. Overall, the results suggest that a majority of respondents find the purchasing process on the platform lacking in terms of seamlessness and efficiency.

The table displays the distribution of responses regarding the availability of convenient payment options on beU Delivery's online platform. A significant percentage of respondents expressed dissatisfaction, with 25.0% strongly disagreeing and 40.8% disagreeing with the statement. A notable number of respondents remained neutral (14.8%), while a smaller percentage agreed (19.4%) that the platform provides a variety of convenient payment options. The data does not show any respondents strongly agreeing with the statement. Overall, the results suggest that a majority of respondents find the available payment options on the platform to be lacking in convenience. A comment from a customer is as follows:

> "Payment only accepted in cash no alternative payment method, insufficient meal
> descriptions on the app, and furthermore, the delivery driver won't deliver your
> order to your door."

The customer's comment highlights several issues related to the availability of convenient payment options on beU Delivery's online platform. They mention that only cash payments are accepted, with no alternative payment methods provided. This aligns with the data presented, which shows a significant percentage of respondents expressing dissatisfaction with the platform's payment options.

3.4. Customers Responses Regarding Attitude

Table 3.5 Descriptive Result for Customers Attitude

Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
I feel that beU Delivery's online service is a convenient option for me.	3.1	37.8	24.0	30.6	4.6	100.0
I feel that beU Delivery values its customers and provides excellent customer service.	9.7	43.4	14.8	31.1	1.0	100.0
I feel that beU Delivery's online service provides good value for my money.	2.0	39.3	15.3	37.8	5.6	100.0
I am likely to continue using beU Delivery for my future online purchases.	6.1	37.8	15.8	36.2	4.1	100.0
I would recommend beU Delivery's online service to friends and family.	5.1	39.3	13.3	35.7	6.6	100.0

Source: Own survey result, 2023

Table 3.5 presents the distribution of responses regarding the attitude towards beU Delivery's online service as a convenient option. A small percentage of respondents (3.1%) strongly disagreed, while a larger proportion (37.8%) disagreed with the statement. A significant number of respondents (24.0%) expressed a neutral stance, whereas a considerable percentage (30.6%) agreed or (4.6%) strongly agreed that the online service is a convenient option for them. Overall, the results suggest that the majority of respondents have mixed opinions, with a notable proportion considering the service convenient but also a considerable number being neutral or disagreeing.

The table above shows the distribution of responses regarding the perception of beU Delivery valuing its customers and providing excellent customer service. A notable percentage of respondents (9.7%) strongly disagreed, while a significant proportion (43.4%) disagreed with the statement. A fair number of respondents (14.8%) expressed a neutral stance, whereas a considerable percentage (31.1%) agreed or strongly agreed (1.0%) that beU Delivery values its customers and offers excellent customer service. Overall, the results indicate mixed perceptions, with a significant portion of respondents having reservations or disagreeing with the statement. Two customers have given their comments as follows:

> *"The delivery person doesn't answer the phone after two hours of waiting, and the customer service (call center) ignores you after you explain what occurred and won't pick up the phone. Worst service ever. They should resign if they don't want to do their job. Don't spoil it for other people."*

> *"Really poor service. They are impolite and have a weak work ethic. It takes me 40 minutes to learn that my purchase has been cancelled. They never even called to let me know that my order was cancelled."*

Both comments highlight significant failures in customer service, including unresponsive delivery personnel, unhelpful call centers, lack of communication, and impolite behavior. These experiences contribute to the customers' strong negative sentiments and reinforce their dissatisfaction with beU Delivery's service quality.

The table also shows the distribution of responses regarding the perception of beU Delivery's online service providing good value for money. Only a small percentage of respondents (2.0%) strongly disagreed, while a significant proportion (39.3%) disagreed with the statement. A fair number of respondents (15.3%) expressed a neutral stance, whereas a considerable percentage (37.8%) agreed or (5.6%) strongly agreed that the service provides good value for money. Overall, the results suggest that the majority of respondents have a positive perception of the service's

value for money, although there is a notable proportion of respondents who disagree or remain neutral.

The above table displays the distribution of responses regarding the likelihood of continuing to use beU Delivery for future online purchases. A small percentage of respondents (6.1%) strongly disagreed, while a considerable proportion (37.8%) disagreed with the statement. A fair number of respondents (15.8%) expressed a neutral stance, whereas a significant percentage (36.2%) agreed or (4.1%) strongly agreed that they would continue using beU Delivery. Overall, the results indicate a mixed perception, with a notable portion of respondents expressing hesitation or disagreement about their future usage, while a substantial number indicated a willingness to continue using the service.

The table above presents the distribution of responses regarding the likelihood of recommending beU Delivery's online service to friends and family. A small percentage of respondents (5.1%) strongly disagreed, while a considerable proportion (39.3%) disagreed with the statement. A fair number of respondents (13.3%) expressed a neutral stance, whereas a significant percentage (35.7%) agreed or (6.6%) strongly agreed that they would recommend the service. Overall, the results suggest mixed opinions, with a notable proportion of respondents expressing hesitation or disagreement in recommending the service to others, although a substantial number indicated a willingness to make recommendations.

3.5. Customers Responses Regarding Trust

Table 3.6. Descriptive result for customers Trust

Items	Strongly disagree	disagree	neutral	agree	strongly agree	Total
I trust beU Delivery's online service to protect my personal information.	-	20.4	28.1	39.8	11.7	100.0
I trust beU Delivery to deliver my orders on time and in good condition.	13.8	45.9	13.3	24.5	2.6	100.0
I trust beU Delivery's online food displays are delivered as promised	20.9	40.3	10.7	25.0	3.1	100.0
I feel that beU Delivery's online service is transparent about the costs associated with my orders.	12.8	33.2	18.9	30.1	5.1	100.0
I feel that beU Delivery's online service is a trustworthy option for online purchasing.	9.2	41.8	15.8	32.1	1.0	100.0

Source: Own survey result, 2023

Table 3.6 illustrates the distribution of responses regarding the level of trust in beU Delivery's online service to protect personal information. A significant percentage of respondents (20.4%) disagreed with the statement. A considerable portion (28.1%) expressed a neutral stance, while a higher percentage (39.8%) agreed or (11.7%) strongly agreed that they trust beU Delivery's online service to protect their personal information. These results indicate a relatively positive level of trust, with a majority of respondents expressing confidence in the service's ability to safeguard their personal data.

The above table displays the distribution of responses regarding the level of trust in beU Delivery's ability to deliver orders on time and in good condition. A notable percentage of respondents expressed a lack of trust, with 13.8% strongly disagreeing and 45.9% disagreeing with the statement. Additionally, 13.3% of respondents remained neutral, while 24.5% agreed and only 2.6% strongly agreed that they trust beU Delivery in delivering orders as expected. These results indicate a significant portion of respondents harboring doubts or concerns about the timeliness and condition of deliveries by beU Delivery.

The table displays the distribution of responses regarding the level of trust in beU Delivery's ability to deliver online food displays as promised. With 20.9% strongly disagreeing and 40.3% disagreeing with the proposition, a significant percentage of survey participants said they lacked trust. In addition, 25.0% of respondents agreed, while 10.7% disagreed, and just 3.1% strongly agreed that they trusted beU Delivery's online food displays are delivered as promised. According to these findings, significant numbers of respondents expressed doubts or mistrust concerning the delivery of food displays as promised by beU Delivery.

> "I paid 390 Birr for a burger at Tsega Milk, however there was no ketchup and no french fries. This is the second time this has occurred to me; the first time I ordered a burger and milkshake for 600 Birr, there were neither french fries nor ketchup. I could have purchased 1 kilo of beef and cooked it. I believe people should go in person to place orders rather than using an app."

The customer's negative experiences with missing items suggest that beU Delivery may not consistently deliver orders as advertised or displayed online. It raises doubts about the reliability and accuracy of the online food displays, indicating a potential gap between customers' expectations and the actual fulfillment of their orders. These instances further support the notion that online food displays may not always be delivered as promised, adding to the customer's frustration and disappointment.

The table also illustrates the distribution of responses regarding the perception of beU Delivery's

online service transparency about the costs associated with orders. A significant proportion of respondents expressed dissatisfaction or skepticism, with 12.8% strongly disagreeing and 33.2% disagreeing with the statement. Additionally, 18.9% of respondents remained neutral, while 30.1% agreed and only 5.1% strongly agreed that they perceive beU Delivery's online service as transparent about costs. These results indicate a notable portion of respondents perceiving lack of transparency regarding cost information.

> "They delivered my order by 9:00AM after I placed it at 3:00AM. I have no idea why they initially claim something is 166 Birr, then when the delivery person shows up, it's 200 Birr. This has occurred three times."

This comment highlights lack of transparency and consistency in communicating the costs associated with orders on beU Delivery's online platform. The discrepancy between the initially stated price and the final amount creates confusion and undermines trust in the platform's pricing transparency. It supports the perception expressed by a significant proportion of respondents in the table's data, who disagreed or expressed skepticism about beU Delivery's online service transparency regarding costs.

The table above shows the distribution of replies to beU Delivery's online service as a trustworthy alternative for online shopping. With 9.2% strongly disagreeing and 41.8% disagreeing, a sizable portion of respondents indicated uncertainty or lack of faith. Furthermore, 32.1% agreed and just 1.0% strongly agreed that they believe beU Delivery's online service to be reliable for online purchases, while 15.8% of respondents were ambivalent on the matter. These findings reveal that a significant number of respondents had issues or reservations regarding the trustworthiness of beU Delivery's online service.

> "I placed an order for food that was just a few hundred meters away, but the app stated that the total cost would be 150 br, or 115 br + 35 br. I knew the lunch would cost 90 br. It's obvious that it's a deception and a way to fool a customer. How was it possible to spend over 66% on a single order?"

This comment highlights the customer's suspicion and belief that beU Delivery's online service is engaging in deceptive practices. It supports the findings of the table's data, which show a significant proportion of respondents expressing uncertainty or disbelief in the trustworthiness of beU Delivery's online service. The customer's experience raises concerns about transparency, pricing accuracy, and overall trustworthiness, further contributing to the reservations expressed by respondents in the table.

4. Summary, Conclusions and Recommendations

This chapter summarizes the key results, conclusions, and recommendations of the research. As a result, the study's findings were briefly summarized in the first part, along with the conclusion that was reached. The last part of this chapter offers recommendations based on the findings.

4.1.   Summary

The provided data consists of survey results regarding customers' general information, perceived ease of use, perceived usefulness, and attitude towards beU Delivery's online platform.

In terms of general information, the data shows the demographic factors of the respondents. The majority of respondents were male (56.1%) and fell into the 18-29 age range (61.2%). In terms of educational level, a significant portion had a degree or higher (41.3%), while others had completed high school (36.7%) or earned a diploma (21.9%). In terms of occupation, the respondents varied, with businessmen (31.6%) and employees (41.8%) being the most common categories.

Regarding the frequency of using beU Delivery, the data reveals that 29.1% of users order from the platform every two weeks, 11.2% order from beU Delivery only once a month. Weekly orders were the most common (26.5%), followed by ordering three times a week (17.3%) and daily (15.8%).

The perceived ease of use section shows mixed responses from customers. Many users expressed difficulties in navigating the online platform (56.6%) and finding the products they were looking for (38.3%). Additionally, a significant proportion of customers (40.8%) found it challenging to complete an online purchase and (51.5%) track their orders. The clarity and conciseness of instructions for the purchasing process also received mixed responses by 49.5%.

Regarding perceived usefulness, customers expressed a mixed perception of beU Delivery's online platform. While some (37.2%) agreed that it saved them time and effort and provided a wide range of food products, others (46.9%) disagreed with these statements. Customers (48.9%) also had doubts about the accuracy and up-to-datedness of the information provided and 54.6% of them on the seamlessness and efficiency of the purchasing process. The availability of convenient payment options received negative feedback, with many customers dissatisfied (65.8%).

Customers' attitudes towards beU Delivery's online service were generally positive, but there were some reservations. A significant percentage of customers (30.6%) found it to be a convenient

option and 37.8% felt that it provided good value for money. However, there were concerns about the company's customer service (53.1%) and the likelihood of continued usage (40.3%). Despite these reservations, many customers (42.3%) would still recommend beU Delivery to friends and family.

4.2. Conclusions

The customer responses regarding the ease of use of beU Delivery's online platform paint a diverse picture of opinions and concerns. A substantial proportion of users faced difficulties navigating the platform, as indicated by the majority who disagreed strongly or simply disagreed. Conversely, a smaller but still notable minority found the platform easy to use. Similarly, opinions were divided when it came to locating products, with a significant portion expressing struggles in finding what they desired. Completing online purchases also proved challenging for a majority of respondents, while a smaller percentage reported an effortless experience. The ability to track orders garnered mixed feedback, with a notable segment expressing dissatisfaction or uncertainty. A customer's specific comment highlighted a significant failure in the tracking system, leading to frustration and disappointment. Furthermore, the clarity and conciseness of purchasing instructions fell short for a substantial number of customers, indicating a notable level of dissatisfaction. These findings collectively underscore the need for improvements in user experience and the necessity to address the concerns voiced by customers.

The customers' responses regarding the perceived usefulness of beU Delivery's online platform indicate a mixed perception, with a majority of respondents expressing disagreement. The comments from customers highlight negative experiences, such as lengthy wait times, canceled orders, and uncooperative behavior from delivery drivers, contributing to the overall mixed perception. Regarding the perceived range of food products, a majority of respondents believe that the platform provides a wide range of food products that meet their needs. However, when it comes to the accuracy and up-to-datedness of information about food products, there is a mixed perception, with a significant portion of respondents expressing doubts. The purchasing process on the platform is seen as lacking in terms of seamlessness and efficiency, with a majority of respondents expressing dissatisfaction. Similarly, the availability of convenient payment options is perceived as lacking, with a majority of respondents expressing dissatisfaction. The customer's comment emphasizes the absence of alternative payment methods and insufficient meal descriptions on the app, aligning with the data presented. These findings indicate areas where beU Delivery can improve, such as reducing wait times, enhancing information accuracy, and providing more convenient payment options, to enhance the perceived usefulness and overall customer experience.

The customer responses regarding attitude towards beU Delivery's online service reveal mixed opinions. When it comes to convenience, a notable proportion of respondents disagreed or had a neutral stance, while a considerable percentage agreed that the service is convenient. The perception of beU Delivery valuing its customers and providing excellent customer service also varied, with a significant portion expressing reservations or disagreement. The comments from customers highlight significant failures in customer service, such as unresponsive delivery personnel, unhelpful call centers, and lack of communication, contributing to negative sentiments and dissatisfaction. In terms of value for money, the majority of respondents had a positive perception, although a notable proportion disagreed or remained neutral. When considering future usage of beU Delivery, there was a mixed perception, with a significant portion expressing hesitation or disagreement, while a substantial number indicated a willingness to continue using the service. Lastly, in terms of recommendations, there were mixed opinions, with a notable proportion expressing hesitation or disagreement, although a substantial number indicated a willingness to recommend the service. These findings demonstrate the need for beU Delivery to address customer service issues, improve convenience, and enhance value proposition to enhance customer satisfaction and loyalty.

The customer responses regarding trust in beU Delivery's online service reveal a complex picture. When it comes to protecting personal information, a majority of respondents expressed confidence in the service's ability to safeguard their data, indicating a positive level of trust. However, doubts emerged when it came to delivering orders on time and in good condition. Many customers shared negative experiences of missing items, raising concerns about the accuracy of online food displays and the fulfillment of their expectations. The perception of transparency regarding costs associated with orders was also a point of contention, with customers expressing skepticism and dissatisfaction. These sentiments were reinforced by instances of pricing discrepancies and confusion. Such experiences eroded trust and added to the reservations expressed by a significant number of respondents. These findings show that there is a clear need for beU Delivery to address delivery accuracy, transparency, and consistency to bridge the gap between customer expectations and their actual experiences, fostering trust in their online service.

4.3. Recommendations

Based on the conclusions drawn from the customer responses, recommendations regarding beU Delivery ease of use could be made. Firstly, addressing the difficulties in navigation is crucial; simplifying the interface, improving search functionalities, and providing clear labels and intuitive navigation paths can enhance usability. Secondly, efforts should be made ensuring that customers can easily locate the items they are looking for. This can be achieved through improved categorization, advanced filtering options, and personalized recommendations. Thirdly,

streamlining the online purchasing process is vital, focusing on eliminating any unnecessary steps, providing clear instructions, and ensuring a seamless checkout experience. Additionally, the tracking system should be enhanced to minimize errors and inaccuracies, providing real-time updates and reliable information to customers. Lastly, the feedback regarding the clarity and conciseness of instructions necessitates revisiting and revising the purchasing guidelines to make them more user-friendly and easily understandable. Implementing these recommendations can lead to a more user-centric and satisfactory experience on the beU Delivery platform.

As for beU delivery's usefulness in addressing the issue of lengthy wait times and canceled implementing measures such as optimizing delivery routes, increasing the number of delivery drivers during peak hours, and improving communication with customers regarding order status can help alleviate these concerns. Secondly, enhancing the accuracy and up-to-datedness of information about food products is essential. Regularly updating the platform's product database, verifying information with suppliers, and implementing user-generated content mechanisms like reviews and ratings can contribute to a more reliable and trustworthy platform. Thirdly, streamlining the purchasing process and improving its efficiency is vital. Simplifying the user interface, minimizing steps required for placing an order, and optimizing the platform's performance can significantly enhance the seamlessness of the overall experience. Lastly, expanding the range of convenient payment options is recommended. Integrating popular digital payment mechanisms such as Tele birr, CBE birr, Apollo and other mobile banking systems allowing for cash-on-delivery, and considering alternative payment methods will cater to a wider range of customer preferences.

Regarding customer's attitude towards beU Delivery online food service, firstly, improving customer service should be a top priority. This can be achieved by addressing the identified failures, such as training delivery personnel to be more responsive and helpful, implementing effective communication channels, and ensuring call centers be equipped to handle customer inquiries and complaints efficiently. Secondly, enhancing convenience is crucial. This can involve streamlining the ordering process, improving website or app usability, and providing clear and timely communication regarding delivery updates. Additionally, focusing on value for money by offering competitive pricing, promotions, and loyalty programs can help sway customer perceptions in a positive direction. Lastly, to address hesitations and encourage recommendations, implementing customer feedback mechanisms and actively seeking input from customers can show a commitment to continuous improvement.

Concerning customer's trust in beU Delivery's online food service, firstly the company should prioritize improving delivery accuracy and ensuring orders are delivered on time and in good condition. This can be achieved through better inventory management, improved quality control

measures, and effective communication with customers regarding any delays or issues. Secondly, enhancing transparency is crucial. Providing clear and detailed information about costs associated with orders, including item prices, delivery fees, and any additional charges, can help alleviate customer skepticism and dissatisfaction. Implementing mechanisms to address pricing discrepancies and promptly resolving any issues that arise will contribute to building trust. Moreover, beU Delivery should actively seek customer feedback, listen to their concerns, and take appropriate actions to bridge the gap between customer expectations and actual experiences.

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Contribution Of Export Diversification For Economic Growth In Ethiopia, Ebtisam Muzemil, Wolkite University

Abstract

Export diversification has often been claimed to be a key element of development strategies for developing countries including Ethiopia. This study aims to examine export diversification that has been pursued by two regimes, identifying internal and external constraints, and opportunities to diversify Ethiopia export. The major objectives of the study are to analyze the long run impact of export diversification on economic growth during the period 1990-2022. In this study export diversification is measured through the empirical analysis of the model has performed in assessing the relationship between export diversification and economic growth of the country including Gross Capital Formation and Exchange Rate as an additional variable. The empirical result suggests, and it was found that there is long run relationship among the variables. Therefore, export diversification and economic growth have a long run relationship. The researcher recommends that more emphasis should be given in the production and export of manufactured inputs that have higher elasticity demand than agricultural commodities which have low elasticity in response to price and supply.

1. INTRODUCTION

1.1 Background of the study

Foreign trade plays decisive role in the economy of developing countries. However, the efforts of developing countries towards expanding their foreign exchange earnings are largely transferred by different constraints. The main constraints on domestic front include smallness of the volume of exportable products, and the limited degree of diversification composition of exports. The fact that exports are made up of mainly unprocessed primary products on the external front show the demand for price of primary products excessive composition among developed countries. The fact is that developing countries are limited in industrial products with higher price relative to those primary products (WTO, 2003).

Motivated by the desire to spread risks, raising capacity utilization and increasing total export diversification has been the concern of most developing countries including Ethiopia. Despite such concern, however, very few developing countries in East and South East Asia (such as South Korea, Taiwan, Hong Kong, Singapore, Malaysia and Thailand) as well as developing America (such as Brazil, Argentina and Mexico) have actually managed to achieve a diversified export structure with greater volume of manufacturers (Birhanu, 2003).

The overall performance of Africa in terms of export diversification has been far from satisfactory and most countries continued to be totally dependent on a few traditional exports. As argued by the World Bank (2000), many African countries have lost market share in their traditional exports while at the same time to achieve significant export diversification in the post 30 years, such unsatisfactory performance given the regions huge potential for more diversified production and export signify the existence of same constraints either in the supply or demand side or both (Birhanu, 2003).

Ethiopia's export portfolio is characterized by a highly concentrated on a few groups of commodities (coffee sometimes, called one crop economy) which are highly vulnerable to change in the price of primary commodities. Needless to say, Ethiopia is in particular in almost all of the performance of the major coffee suppliers (like Brazil and Vietnam) to the world market falls short from major coffee supplier (Shewangizaw, 2003).

Generally, the Ethiopian economy is not well developed and characterized by unstable export sectors; its exports are constrained in small number of primary products. This has been lagging its contribution to the growth or economy and, needless to mention, the export items are agriculture products, with coffee as the major foreign exchange earnings.

1.2 Statement of the Problem

Export contributes a lot to the development of the county. This is because it enables to earn foreign exchange, which is crucial for financing import development goods. The experience of East Asian countries also confirms that making huge subsides investment in the export sector can hasten economic growth. This country which provided larger subsides to export sector was able to realize miracle. Most developing countries, however, are often exposed to external shocks. For instance, many of them were hit by the widespread balance of payment crisis of the 1985, which in turn resulted in serious development problems. The main courses for their exposure to external shocks have been their reliance on primary commodities for export, the real price of which have shown a downward trend since 1980's. Consequently, the export earning of these countries are not significant. The situation in Ethiopia is not different from that of other developing countries. About 91 percent of the export commodities are obtained from agriculture and its product (MEDAC, 1999).

Most developing countries have continued to be very dependent on a few commodities for their export results in secular and unpredictable declining trends in international prices. Consequently, such large volatility in export earnings has a significant adverse impact on the macro economy of developing countries in order to reduce the extensive dependence on primary commodities, for generating export earnings, the need to diversify their range of production of primary commodities (Teshale, 2005).

Similar to other nation, Ethiopia export earning is heavily dependent on a few agricultural primary commodities whose world market prices have been unsuitable. The export earnings generated from the export had remained the same for long period of time in terms of commodities. Thus, there are still high traditional commodities and geographic concentrations. Consequently, the country failed to finance its needs (Debele, 2002).

Depending on a few products or commodities, especially primary commodities suffer problems susceptible to the climate change of the nature and international price movement. Hence, commodity exports are not supportive of technology transfer unlike to merchandise exports (Brook, 1997).

Ethiopian export sector is characterized by over dependence on the few agricultural products with limited export of manufactured and semi- manufactured goods (Ghiorgis, 1992). Many research have been done regarding international level of export diversification as a basis of economic growth. This study aims to investigate the contribution of export diversification for economic growth in Ethiopia during the period 1990-2022 and analyze structure of Ethiopian export sector.

In addition to this, the study fills the time gap of existing literatures by including current information and analyze the performance of the sector and provided policy recommendations.

1.3 Objective of the Study

1.3.1 General Objective
The general objective of the study was to assess the contribution of export diversification for economic growth in Ethiopia.

1.3.2 Specific Objective
More specifically the paper had the following objectives:

➢ Investigate the contribution of export diversification for economic growth;

➢ Analyze structure of Ethiopian export during the study period; and

➢ Look at the major commodity's Ethiopian exports and their contribution from the total export.

1.4 Scope of the Study

Due to the width and complex nature of the study, this investigation tried to cover the period 1990-2022. It attempted to analyze the role of export diversification during this period. It also emphasized the export of Ethiopia and assessed their diversification. The research was undertaken at the national level.

1.5 Methodology of the Study

The researcher has used descriptive methodology and econometric analysis to collect, analysze and interpret the data obtained from different sources.

Types and Sources of Data

All the data in this study was secondary data. The document review in this study comprised Annual Reports of National Bank of Ethiopia's (NBE) on exports trade during the years 1990-2022, reports of the Central statistics Agency of Ethiopia (CSA), Ethiopian Custom Authority (ECA), Ethiopian Economic Associations (EEA), World Bank (WB), and International Monetary Fund (IMF). In addition to this, different books, annual reports, documents of economic journals and Internet were used.

1.6 Method of Data Analysis

1.6.1 Descriptive Analysis

The paper was analyzed using different methods to analyze the time serious data. To show the contribution of export diversification on Ethiopian economic growth, descriptive method of data analysis was used.

1.6.2 Econometrics Analysis

In addition to descriptive analysis, the econometrics analysis was used to show the influence of each explanatory variable on dependent variable. The study adopted ARDL model in order to assess the short run and long-run relationship between the dependent (endogenous) variable and independent (exogenous) variables. The statistical software package used for the econometric analysis was STATA 15.

1.7 Econometrics Model Specification

The study used Autoregressive Distributed Lag (ARDL) approach because the unit root test or stationary test shows one variable is stationary at level and the remaining are stationary at 1st difference and 2nd difference. As a result, the study used ARDL model. Pesaran and Shin (1995) proposed Autoregressive Distributed Lag (ARDL) approach to cointegration or bound procedure for a long run relationship, irrespective of whether the underlying variables are I(0), I(1) or a combination of both. In such situation, the application of ARDL approach to cointegration will give realistic and efficient estimates.

1.8 Description of the variables

The dependent variable:

➤ **Real gross domestic product (GDP)** is an inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year. Real GDP is expressed in base-year prices. It is often referred to as constant-price GDP, inflation-corrected GDP, or constant-dollar GDP. Put simply, real GDP measures the total economic output of a country and is adjusted for changes in price.

The independent variable:

➤ **Total Exports** are goods and services that are produced domestically, but then sold to customers residing in other countries. Those exports bring money into the country, which

increases the exporting nation's GDP. While an increase in exports leads to economic growth, higher income levels can also lead to increased trade, leading to bilateral interactions.

➢ **Commodity concentration** is believed to be the major contributor to instability in export revenue. It is argued that countries with commodity concentration are adversely affected by volatility in market prices through swings in foreign exchange revenues. In this study, export diversification is measured using the Herfindahl Index (HI), which is the most frequently applied measure of trade and commodity concentration. Since the Herfindahl index is a measure of export concentration, we expect it to be negatively related to GDP per capita growth. The HHI index takes values from 0 to 1, while higher value show greater concentration and values closer to 0 indicate greater diversification.

➢ **Geographic concentration:** This index measures, for each product, the degree of export market concentration by country of origin. It tells us if a large share of commodity exports is accounted for by a small number of countries or, on the contrary, if exports are well distributed among many countries. The index ranges from 0 to 1 with higher values indicating more market concentration.

➢ **Exchange rate** is a relative price of one currency expressed in terms of another currency (or group of currencies). In finance, an exchange rate (also known as a foreign-exchange rate, forex rate) between two currencies is the rate at which one currency will be exchanged for another. It is also regarded as the value of one country's currency in terms of another currency foreign exchange rates. When a country's GDP rises, its currency's worth also rises. It works the same way in the other direction, too. When a country's GDP falls, its currency also weakens. The exchange rate can have an influence on economic growth. And the economic growth rate can influence the exchange rate.

➢ **Gross capital formation** (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Fixed assets include land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. Higher economic growth leads to higher capital formation and that in turn, increases in capital formation resulting in higher economic growth.

Augmented Dickey Fuller test

The Augmented Dickey Fuller test (ADF) unit root test has been taken to verify whether the variables in our model are stationary or not. In applying ARDL model, the variables interred in the regression should not be integrated of order two. To check thus condition, unit root test is conducted before any sort of action taken even. Though the ARDL framework does not require re-testing variables to be done, the unit root test could convenience us whether or not ARDL

model should be used. A random time series is said to be stationary, if its mean and variance are constant over time and the value of covariance between two-time period depends only on the distance between the two-time period and not on the actual time at which the variance is computed (Gujarati, 1995). In order to check for the time series properties stationary of the variables, augmented dickey fuller test (ADF) has been used.

Test of co integration

The ARDL approach starts with specifying unrestricted error correction model (UECM) (Pesaran, 2001). The UECM integrates the short run dynamics with long run equilibrium without losing any long run information. From UECM, the long run coefficients are the coefficient of the one lagged explanatory variable divide by the coefficient of the one lagged dependent variable (Pesaran, 2001). The study employed an ARDL modeling approach to examine the long-run relationship and dynamic interaction between Real GDP and its determinants. ARDL model can be written as:

$\Delta RGDPt = \alpha_0 + \alpha_1 RGDPt-1 + \alpha_2 TXt-1 + \alpha_3 CCIt-1 + \alpha_4 GCIt-1 + \alpha_5 EXRt-1 + + \alpha_6 GCFt-1 + \sum \beta_1 pi=1 \Delta RGDPt-1 + \sum \beta_2 pi=0 \Delta TXt-1 + \sum \beta_3 pi=0 \Delta CCIt-1 + \sum \beta_4 pi=0 \Delta GCIt-1 + \sum \beta_5 pi=0 \Delta EXRt-1 + \sum \beta_6 pi=0 \Delta GCFt-1 + \varepsilon t$

Where α_0 is the intercept, α_1- α_6 represent the long-run coefficients, β_1- β_6 are the short-run coefficient of ARDL model, εt is the white noise residuals, Δ is the difference operator, and p is number of lag.

Error correction model (ECM)

After estimating the long run coefficients the second step is estimation of error correction representation. This ECM representation shows the short run dynamics of the model along with the long run equilibrium of the model. The error correction model (ecm_{t-1}), shows fast or degree of adjustment the variables converge to equilibrium. If the error correction model term has a negative sign, the variables converge to equilibrium. The term ECMt as a speed of adjustment parameter or feedback effects is derived as the error term from the co-integration models. It shows how much of the disequilibrium is being corrected, that is, the extent to which any disequilibrium in the previous period is being adjusted. A positive coefficient indicates a divergence, while a negative coefficient indicates convergence (Nkoro and Kelvin, 2016).

Diagnostic Test

In this study, the diagnostic test such as Breusch-Godfrey LM test for autocorrelation, Skewness/Kurtosis tests for Normality, Breusch-pagan/Cook-Weisberg test for heteroscedasticity were used and the test showed that all are consistent to estimate the ECM model.

3. Result and Discussion

This chapter involves displaying the result obtained from the study, analysing them and inferring the proper interrelation.

3.1 Descriptive analysis

This part of analysis describes each variable in the study period and gives explanation by observing the graph.

Table 3.1: Descriptive of statistics of the variable

Variables	Observation	Mean	Std. Dev.	Min	Max
RGDP	33	830772.5	624422.4	247914.6	2248572
TX	33	3.36e+07	4.60e+07	300267	2.00e+08
CCI	33	48.81303	11.9897	36.47	71.1
GCI	33	44.68061	5.821758	34.1	58.73
EXR	33	13.83309	10.96137	2.07	48.56736
GCF	33	274631	412375.1	5269.364	1560325

Source: own computing using STATA software

As the above table shows, the dependent variable RGDP has a maximum value of 2248572 million birr recorded in 2022 and its minimum is 247914.6 million birr in 1992. From the given time period, a maximum amount of TX is 2.00e+08 thousand birr and its minimum value 300267 thousand birr; CCI has a maximum of 71.1% and a minimum of 36.47%; GCI has a maximum of 58.73 % and a minimum of 34.1%; EXR has a maximum value of 48.567 birr and a minimum of 2.07 birr. Finally, GCF has a maximum value of 1560325 million birr and a minimum of 5269.364 million birr. The average value of RGDP, TX, CCI, GCI, EXR and GCF from 1990 up to 2022 has been 830772.5, 3.36e+07, 48.81303, 44.68061, 13.83309, 274631, respectively.

3.2 Econometric Analysis

3.2.1 Stationary or Unit Root Test

A unit root test is applied to ascertain stationarity of variables used in a time series data. It aids in examining if a particular variable used is stationary or static. The Augmented Dickey-Fuller (ADF) test is employed to test the stationarity of the variables in the model.

Table 3.2: ADF Tests for Unit Roots

Variables	With constant, at 1st lag difference				
	Test Statistics	1% Critical Value	5% Critical Value	10% Critical Value	Stationary at
RGDP	-5.748	-3.723	-2.989	-2.625	2nd difference
TX	-3.075	-3.723	-2.989	-2.625	2nd difference
CCI	-4.032	-3.716	-2.986	-2.624	1^{st}difference
GCI	-5.227	-3.716	-2.986	-2.624	1st difference
EXR	-3.675	-3.723	-2.989	-2.625	2nd difference
GCF	6.321	-3.709	-2.983	-2.983	Level

Source: own computing using STATA software

According to the table above, the test results revealed that the variables used in the regression model are stationary. This means that the null hypothesis is rejected. Because the null hypothesis in the ADF unit root test is that there is unit root or non-stationary and the alternative hypothesis is that no unit root or stationery. The decision rule is based on comparing the absolute value of computed Test-statistic with the absolute value of computed critical value. As summarized in the table above GCF is stationary at levels, CCI and GCI are stationary at 1st difference and the remaining RGDP, TX and EXR are stationary at 2nd difference.

3.2.2 ARDL Bounds test for Co-integration

The next procedure is test for co-integration, i.e. to test the presence of long run equilibrium relationship among variables or not. In this study ARDL Bounds test was employed to test for the existence of co-integration by using the right lag length selection measure.

Table 3.3: ARDL Bounds test for Co-integration

F statistics=9.953		
T-Statistics=-1.458		
Critical Values		
Level of significance	I(0) bound	I(1) bound
10%	2.26	3.35
5%	2.62	3.79
1%	3.41	4.68

Source: Own computing Using STATA software

The above result which is found from ARDL bound test shows the existence of long run

relationship among the variables. . Thus, the study rejects the null hypothesis at significance level of one percent five percent and ten percent because in ARDL bound test the null hypothesis is that there is no levels relationship or no long run relationship and the alternative hypothesis is that there is levels relationship or long run relationship. The F-statistic found from the ARDL bound test is 9.953 which is greater than critical bound values i.e. upper bound value and lower bound value at 1%, 5% and 10%significance level. In general, the study shows there is long run relationship or Co-integration among the variables: Real Gross Domestic Product, Total Export of Goods and Services, Hirschman Concentration Index, Geographic Concentration Index, Exchange Rate and Gross Capital Formation.

3.2.3 Long run and short run Estimation of the Model
3.2.3.1 Long run Estimation of the Model
The time series data used in the regression covers periods from 1990 to 2022. The results of the estimated variables are summarized on the table below.

Table 3.4: Estimated results of the long run

Number of observations   =   30

R-squared   =   0.9864

Adj R-squared   =   0.9605

Root MSE   = 9862.1820

Variable	Coefficient	Std. Error	t-statistic	p>(t)
TX	0.0165852	0.010593	1.57	0.148
CCI	-33716.88	17628.15	-1.91	0.085 **
GCI	-126946.1	69650.34	-1.82	0.098**
EXR	260324.5	135680.4	1.92	0.084**
GCF	-3.362864	2.268127	-1.48	0.169
Constant	743181.2	173946.9	4.27	0.002

Source: own computation using STATA software

R^2 =0.9864 and Adjusted R^2=0.9605: (Signifies that the regression equation has an explanatory power).

(** At 10% significance level)

Interpretation of values of R-Square (R^2) implies how much of the variation in the dependent variable is explained by explanatory variables. This study reveals, in the long run, 0.9864 or

98.64% of the variation in RGDP is explained by the explanatory variables used in the empirical analysis and only the remaining 1.36% is not explained by the explanatory variables.

The outcome of the regression estimation and variables is discussed as follows:

➤ **Total export**: The empirical finding shows that export is one of determining factors of export growth of Ethiopia. As summarized in Table above, export has a positive impact on output growth in case of Ethiopia and it is insignificant in at 1%, 5% and 10% level of significance. Other things remaining constant, 1 unit increase in the Ethiopian Export leads to 1.65% rise in output (real GDP) of a nation in the long run. Those exports bring money into the country, which increases the exporting nation's GDP. While an increase in exports leads to economic growth, higher income levels can also lead to increased trade, leading to bilateral interactions.

➤ **Commodity Concentration Index**: The empirical indication on Ethiopia's case indicates that Commodity Concentration Index is not positively correlated with Real GDP and it is statistically significant at 10% level of significance in the long-run. Other things remaining constant, 1 unit increase in Commodity Concentration Index leads to 33716.88 decrease in output (real GDP) of a nation in the long run.

➤**Geographic Concentration Index:** The empirical result shows that Geographic Concentration Index is not positively correlated with Real GDP and it is statistically significant at 10% level of significance in the long-run. A 1 unit increase in Geographic Concentration Index leads to 126946.1 decrease in output (real GDP) of a nation in the long run. . This is because when one country depends on the markets of a few developed countries, there will be occurrence of fluctuation in foreign exchange earnings if that country faces many economic crises.

➤ **Exchange Rate:** The empirical finding shows that Exchange Rate is one of determining factors of export growth of Ethiopia. As the above table result indicates, Exchange Rate has a positive impact on output growth in the case of Ethiopia and it is significant at 10% level of significance. Other things remaining constant, 1 unit increase in Exchange Rate leads to 260324.5 increase in output (real GDP) of a nation in the long run.

➤ **Gross Capital Formation:** The empirical result indicates that Gross capital formation has a negative impact on output growth in the case of Ethiopia and it is significant at 10% level of significance. 1 unit increase in gross capital formation leads to 3.362864 decrease in output (real GDP) of a nation in the long run. There are some evidences that suggest that a negative relationship exists between investment and real GDP in developing countries with heavy debt burdens. There are several theories that attempt to explain this relationship, including the crowding-out effect, the debt overhang hypothesis, and the fiscal fatigue hypothesis. These

theories suggest that high levels of debt can lead to reduced investment, which in turn can lead to slower economic growth. However, it is important to note that this relationship is not always clear-cut and may depend on a variety of factors, such as the specific country and its economic circumstances.

3.2.3.2 Short-run Estimation of the Model

After estimating the long run coefficient estimation, it is important to show short run model result. The following table presents the result of short run estimation of the model.

Table 3.5: Short run Estimation of the Model

Number of observations   =   30

R-squared   =   0.9864

Adj R-squared   =   0.9605

Variables	Coefficient	Std. Error	t-statistics	p>(t)
TX	-0.0028969	0.0009688	-2.99	0.014**
CCI	3308.495	966.4808	3.42	0.007*
GCI	3275.985	1466.137	2.23	0.049**
EXR	-5252.227	4700.911	-1.12	0.290
GCF	-0.121133	0.11524	-1.05	0.318
Constant	743181.2	173946.9	4.27	0.002*
ECT-1	-0.1205798	0.0827225	-1.46	0.176

Source: own computation using STATA software

(*At 1% significance level, At **5% significance level)

As the above short run estimation of model result reveals, three explanatory variables- TX, CCI and GCI are statistically significant at 5%, 1% and 5% level of significance, respectively. And the remaining EXR and GCF are statistically insignificance at 1%, 5% and 10% level of significance. Unlike long run estimation of model result, in short run TX has negative impact on nations' real GDP. Similarly, CCI and GCI have positive impact on nation's real GDP which is contrasting to long run result. EXR has also a positive impact on nation's real GDP. The only variable which has an impact similar to its long run result is GCF. It has a negative impact both in long run and short run.

This ECM representation shows the short run dynamics of the model along with the long run equilibrium of the model. The error correction model (ecm$_{t-1}$) shows speed or degree of adjustment the variables converge to equilibrium. After the acceptance of long-run coefficients

of the model, the short-run ECM model is estimated. The estimated lagged error correction term (ECT-1) is negative and insignificant at 1%, 5% and 10% level of significance. If the error correction model term has a negative sign, the variables converge to equilibrium. The coefficient of (ECT-1) i.e.-0.1205798 indicates that the short run disequilibrium adjusts to its long run equilibrium by 12.05 percent each year. Furthermore; the value of the R Squared implies that about 98.64% of variations in Real GDP are explained by the variations in the independent variables used. So, the goodness of fit of the short run model is showed to be strong.

3.2.4 Diagnostic Tests

Diagnostics test are typically undertaken to detect model misspecification and as a guide for model improvement. And it is a must to test the data for different problems which would mislead the output and end up with wrong interpretations and conclusions. Different tests such as Breusch-Godfrey LM test for autocorrelation, Skewness/Kurtosis tests for Normality, Breusch-Pagan / Cook-Weisberg test for heteroscedasticity were used to assure the robustness of the model.

1. **Autocorrelation test**

Table 3.6:   Autocorrelation test

Breusch-Godfrey LM test for autocorrelation	
chi2	17.711
prob>chi2	0,0000

Source: own computation using STATA software

The above result shows that the value of Prob > chi2 is less than 0.05 i.e.(0.0000<0.05). Breusch-Godfrey LM test for autocorrelation test indicates autocorrelation problem. It is corrected through Durbin-Watson statistic test, and the result was as follows:

Table 3.7: Durbin-Watson statistic test

Durbin-Watson statistic (original)	0.557916
Durbin-Watson statistic (transformed)	0.995578

Source: own computation using STATA software

The result of Durbin-Watson statistic test shows that the value of Durbin-Watson statistic (transformed) is 0.995578 which is less than 2.Therefore, the autocorrelation problem is detected.

2. Heteroscedasticity test

Table 3.8: Heteroscedasticity test

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity	
Chi2(1)	0.75
Prob > chi2	0.3866

Source: own computation using STATA software

Heteroscedasticity test shows that the error term/ or residual has a constant variance or not. The study used Breusch-Pagan / Cook-Weisberg test for Heteroscedasticity. Thus, in the table above, the Breusch-Pagan Cook-Weisberg heteroscedasticity test statistics shows the absence of heteroscedasticity because the value of Prob > chi2 is greater than 0.05 i.e.(0.3866>0.05). So we accept the null hypothesis and there is no heteroscedasticity problem.

4. Conclusion and Recommendation

4.1 Conclusion

Recently, the issue of accelerated economic growth is gaining much attention by many development economists. The decline in economic growth of most of the Sub-Sahara African countries and other LDCs coupled with the alarming population growth have led to stagnation and even a continual decline in the income of these countries. This has led to closer look into the economic structure of these countries to determine factors determining the growth and hence help these countries to achieve a sustained economic growth. Despite the focus on export diversification in the development plans of the country (Ethiopia), the export pattern is still dominated by traditional products and more so on coffee whose world price is fluctuating.

The study attempted to analyze Ethiopia's trade strategies and efforts in diversifying exports during the two successive regimes, particularly by focusing on selected policies for export promotion and diversification.

Export diversification was one of the agenda of the ten years perspective plan of the Dergue regime. By emphasizing the role of state owned export companies, the plan aimed to achieve geographic diversification towards socialist economies and neighboring African countries as well as diversification towards manufacturing

The economic policy of the Transitional Government of Ethiopia acknowledges the importance of export diversification along a free market path and the issue of export diversification is explicitly stated in the current agricultural development led industrialization strategy as well as

the accompanying export development strategy of the government. The important steps (measures) that have been taken by the government in this respect include streamlining of export licensing procedures, liberalization of the foreign exchange market, export tax rebate, the promulgation of export duty incentives scheme, the introduction of an export credit guarantee and foreign exchange retention schemes.

The study assessed whether exports contribute to economic growth or not in the Ethiopian context using a time series econometric model. It used the Augmented Dickey-Fuller tests for stationary. The results from the unit root testing revealed that all variables are stationary i.e. one variable is stationery at a level and the remaining are stationery at first difference and at second difference. The study used ARDL bound test approach to perform a co-integration test and it was found that there is long run relationship among the variables.

Despite the implementation of various policies and strategies, the performance in export diversification and growth has been yet at a lower level. The country still has a narrow base of export structure with growing trade deficits and deteriorating terms of trade, which had adversely affected its ability to finance its imports. The study has also revealed that the major deterring factors for a low level of export growth include: unsound foreign exchange policy, poor infrastructure, high transaction costs, under-developed private sector, poor access to trade finance, and low level of border trade. Generally, the outcomes of the study show that the challenges facing export diversification and growth in Ethiopia have structural, institutional, and policy perspectives.

4.2 Recommendations

This paper tried to examine the role of export diversification for economic growth. In doing so, it analyzed the contribution of different factors which are believed to determine the economic growth of a country.

The entire analysis of this paper leads to the following recommendations which are aimed to reduce concentration of exported commodities.

➢ Countries should attain competitiveness through their efforts to industrialize their economy. Since the world's demand for primary products is not very dynamic, Ethiopia may not be competitive through exporting primary products according to its existing comparative advantage. In order to guarantee a sustainable and long term competitive position in the global market, it is required to create a conducive environment (for instance, regulations for industrialization through sound industrial policy) and generate new capacities in order to diversify the current export structure. So diversification of export commodity is the major solution to alleviate the poor

performance of the export sector .By diversification of the commodity, we mean that the export sector may not be easily fluctuating, because a fall in earning of one export commodity may be compensated by the rise in the other one. And this diversification should be shifted from agricultural export to manufactured exports. Because manufactured products have high demand and price elasticity.

➢ Since major exportable commodities of the country are coming from the agriculture sector, the government should facilitate conditions to assess agricultural inputs through import that help to produce new exportable commodities in the sector.

➢ Special incentives for exporters should be given through reducing tariff on imported important products, specially on import of capital input and marking various international agreements to reduce tariff imposed on the country's export commodities and machination any export tax on exportable commodities of the country.

➢ Since the role of foreign direct investment in the production of new export products become increasingly important, especially flower industries and leather industries, the government should give special emphasis to foreign investors through facilitating an area that will promote a good opportunity through efficient utilization of idle resources. For example, Ethiopia has a huge amount of cattle but the country does not use that potential; and it should facilitate areas which are unused efficiently; for example in the frontier areas of the country, there is unutilized land that can produce exportable commodities.

➢ Improving infrastructure including roads, airports, telecommunication, and power are part of export promotion. The absence or poor performance of infrastructure added costs to exporters. More attention should be given to upgrading and modernizing the existing facilities and efforts should also be made to expand or open new area of transportation, telecommunication network etc.,; this obviously increase the competitiveness of the sector.

➢ Moreover, emphasis should be given to the production and export of manufactured inputs that have higher elasticity demand than agricultural commodities which have low elasticity in response to price and supply.

➢ The study showed negative relationship between commodity concentration index and economic growth i.e. positive relationship between export diversification and economic growth. Therefore, policy makers should be careful in designing policies to promote and strengthen in diversifying the export sector.

➢ Finally the policy should be at least towards a full utilization of the export sector through diversification.

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The Effect of Employee's Motivation on Organizational Performance: The Case of Ethiotelecom /Head Office/

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1. INTRODUCTION

1.1 Background of the Study

The success or failure of a company is dependent on the enthusiasm and dedication of its employees to their jobs. Motivation plays a key role in enhancing employee effectiveness and efficiency. Employee motivation is directly linked to employee engagement, profitability and productivity. An organization should know that their workers are their great assets and need training. The staffs are encouraged to do their jobs effectively and efficiently. Some staff have passion and benefits. Organizations should be mindful of their employees' needs. A motivated employee is responsive of the precise goals and goals he or she ought to achieve consequently he or she directs its attempt in that course. Motivation principle is concerned with what determines purpose directed behavior. Those wishes, how the fulfillment of goals and or comments on their success reinforces a successful behavior and the way perception in a single's capacity to perform a specific task will actuate behavior that is anticipated to achieve the successful overall performance of that challenge (Armstrong, 2009).

Telecommunications service was introduced in Ethiopia by Emperor Menelik II in 1894 when the construction of the telephone line from Harar to the capital city, Addis Ababa, was commenced. Ethio telecom, previously known as the Ethiopian Telecommunications Corporation (ETC), is an integrated telecommunications services provider in Ethiopia, providing internet and telephone services. Ethio telecom is owned by the Ethiopian government and maintains a monopoly over all telecommunication services in Ethiopia. Based in Addis Ababa, it was one of the "Big-5" group 3 of state-owned corporations in Ethiopia, along with Ethiopian Airlines, the Commercial Bank of Ethiopia, Ethio-Insurance, and the Ethiopian Shipping Lines. However, Safaricom is going to enter the market as a competitor. For its international traffic links and communication services, ETC mainly uses its earth station at Sululta which transmits to and receives from both the Indian Ocean and the Atlantic Ocean satellites.

Employee performance fundamentally depends on many factors like high salary and fringe benefits, provision of allowances, leadership style, empowerment, recognition and award, autonomy and freedom of performing a job, training and career development, good working condition, and so on. However, there are two types of motivated behavior in the organization:

intrinsically and extrinsically motivated behavior (Kat, 2009). Lack of employee motivation leads to lower productivity, an inability to overcome challenges, apathy and poor customer service (Leonard, 2019). It also leads to absenteeism, late-coming, uncommitted employees' lower levels of engagement and higher employee turnover (Rutachururwa, 2013; Andritotis, 2017).

There has been limited research on employees' motivation factors in the African context. A recent Nigerian study tried to address this by examining the role of intrinsic and extrinsic motivational factor on the commitment and performance of employees in the Nigerian beverages industry. The results found that various intrinsic, extrinsic and social motivation factors are strongly related to employee commitment and performance. The results also indicated that the absence of motivational incentive may lead to negative employee behaviors.

In Ethiopia, an employee's motivation is the key to success. To do this, managers should be able to motivate employees. Employees' motivation practice and theory are difficult concepts, touching on several disciplines. Strategies for employees' motivation are treating people fairly, satisfying employee's needs, setting work-related goals, restricting jobs and base rewards on job performance. When employees feel successful, they are naturally motivated to accomplish more. Proper employees' motivation can save a company time, money and resources (MLA, 2010).

There is still limited literature on the effect of employee motivation on organizational performance in developing countries like Ethiopia. Motivating employees is a valuable asset which delivers huge value to the organization in maintaining and strengthening its performance growth. The more employees are motivated to tasks accomplishment the higher will be the organization's performance and success (Suresh, 2013). Based on the fact stated above the research was intended to investigate the effect of employees' motivation on organizational performance in Ethio Telecom (HQ).

2 Statement of the Problem
In a complex modern world, corporations face growing problems with regard to the morality and retention of their employees. There are several motivational aims; one common goal is to motivate employees to do better. An efficient organization is characterized as the competence of an organization to achieve its desired goals. In order to achieve the efficiency and performance of an enterprise, elements have to be maintained and supported (Sudiardhita, et. al., 2018). Lack of employee motivation leads to lower productivity, an inability to overcome challenges, apathy and poor customer service (Leonard, 2019). It also leads to absenteeism, late-coming, uncommitted employees' lower levels of engagement and higher employee turnover (Rutachururwa, 2013).

According to the preliminary interview the researcher made with regard to employee's motivation in Human Resource department of Ethio Telecom, the staffs have a number of problems associated with intrinsic and extrinsic motivation provided by the organization. For instance, basic salary, transport allowance and housing are said not to be enough and the pay system is not fair as compared to other organizations. The medical benefits provided by the organization are not satisfactory and it does not have quality services. There is also lack of convenient work place and leadership style, absence of freedom and absence of interesting jobs. Moreover, there is lack of employee engagement. Most employees seem to be not committed to their work and they lack trust in the organization. There is also lack of work commitment and lack of loyalty observed in many of Ethio Telecom staff. Due to the above motivation practice, the organization may lose competent and high performer employees. The gap the researcher noticed was that Ethio Telecom is doing the motivation practice without knowing which factor satisfies the employee and motivates them to increase performance. Therefore, the study was conducted to analyze the effectiveness of employee's motivation in organizational performance in Ethio telecom (Head Quarter). If these problems are left unsolved, it is obvious that it negatively affects the future progress of the organization.

The researcher targeted Ethio telecom because there is a shortage of research work on the area of public and service giving companies. Moreover, Ethio telecom was the first and the only firm that gives the telecommunication service in Ethiopia. Although Safaricom is going to enter in the market, still Ethio telecom has dominance.

3. Research Design and Methodology

3.1 Research Design

Research design is fundamental in deciding the analysis and the approaches for collecting the evidence, analyzing the evidences and reporting the findings. The research design applied for this research is explanatory because the research focuses on cause and effect (singh, 2006). Research approaches are plans and the procedures for research that extend the steps from wide-ranging assumptions to detailed methods of data collection, analysis, and interpretation. The selection of a research approach is also founded on the nature of the research problem or issue being addressed, the researchers' personal experiences, and the audiences for the study. There are three fundamental approaches to research: (a) qualitative (b) quantitative (c) mixed methods (John, 2014). It should be noted that quantitative survey is the most suitable one to use if the purpose of the study is to define the degree of relationship which exists between the dependent and independent variables. Therefore, this research by using quantitative research approach examines and measures the relationship between employees' motivation and organizational performance.

3.2 Population and Sampling Techniques

The target population of this study was employees' who work in Ethio telecom Headquarter human resource department. The study population was 94. Sample size refers to a number of items to be selected from the population. Using Taro Yamane (1967), a sample size of 48 respondents was selected. This is the minimum recommended size of the researcher's survey. It is the most ideal method to use when the only thing you know about the underlying population you are sampling from is its size. The sample size was calculated using the formula and, 90% confidence interval.

$$n = {N}/{1 + N(e)^2}$$
$$n = {96}/{1 + 96(0.1)^2}$$
$$= 48$$

- ✓ N: the population of the study
- ✓ n: sample size of the study
- ✓ e: degree of error expected

The probabilistic sampling techniques was applied to this study because, as mentioned above, it involves quantitative approach which deals with statistical techniques to recognize the overall patterns in the relations of processes.

3.3 Types of Data Collection

Data collection involves the gathering of relevant and important data used for conducting particular research work. It is the basis for acquiring data. The study used primary data (questionnaire) and secondary data (documentary) collection tools.

3.4 Methods of Data Collection

The questionnaire, an array of questions answered by persons in order to provide information for a specific purpose, was the primary instrument. The structured and self-administered questionnaire was developed based on the literature review.

Questionnaire is the major tool of capturing the primary data because of its advantages over the other methods and its efficiency or ability to obtain more information from the source (Kothari, 1992).

3.5 Method of Data Analysis

After the collection of data, the researcher analyzed the data by using inferential analysis which is applicable only to explanatory research design. The researcher conducted two analyses. The first one was correlation analysis to know if there is a relation or not between the independent

variable (Employee's motivation) and the dependent variable (Organizational performance). The other one was regression analysis that will indicate or measure the cause-and-effect relationship.

4.Data Presentation, Analysis and Interpretation

This chapter presents a detailed analysis of data collected from a field survey via the administration of the questionnaire. It aims to present the findings from the data collected and align towards the research objectives, questions, and hypothesis. The collected data were classified, organized and analyzed using MS-Excel and SPSS software.

4.1 General Response Rate

A total of 48 questionnaires were distributed to employees of the Ethio telecom, and 100% of them were returned properly and adequately completed.

4.2 Respondent's Demographic Information:

The demographic characteristics analysis included gender, age, marital status, work experience, educational level and job position of the respondents.

Table 4.1 Statistics table for all sample

Statistics							
		Gender	Age	Marital Status	Work Experience	Educational Status	Position
N	Valid	48	48	48	48	48	48
	Missing	0	0	0	0	0	0

Source: (researcher own survey, 2023)

As it is shown in Table 3.1, all the respondents have participated in demographic representation. There is no missing variable in the table with its appropriate respondent. This implies that the effort of the student researcher is well recognized by the participants.

Table 4.2 Demographic Distribution of Respondents

Categories variable	Categories	Frequency	Percent	Cumulative frequency
Gender	Female	22	45.8%	45.80%
	Male	26	54.2%	100.00%
Age	18-30	12	25.0%	25.00%
	31-40	22	45.8%	70.80%
	41-50	8	16.7%	87.50%
	above 50	6	12.5%	100.00%
Marital Status	Single	14	29.2%	29.20%
	Married	34	70.8%	100.00%
	Divorced	0	0.0%	100.00%
Work Experience	1-5	17	35.4%	35.40%
	6-10	13	27.1%	62.50%
	11-15	12	25.0%	87.50%
	16 and above	6	12.5%	100.00%
Educational Status	up to 12th	0	0.0%	0.00%
	certificate or diploma	0	0.0%	0.00%
	Degree	35	72.9%	72.90%
	masters and above	13	27.1%	100.00%
Position	Manager	4	8.3%	8.30%
	Supervisor	7	14.6%	22.90%
	support giving	19	39.6%	62.50%
	Expert	18	37.5%	100.00%

Source: (researcher own survey, 2023)

As it is shown in Table 3.1, among 48 people the researcher conducted on the highest percentage of participants in this study are males who form 26 (54.2%) of the total respondents while 22 (45.8%) of the respondents are females. It shows that males are greater than females. due to their number, it is very easy to motivate female than male. In the case of age classification, 12 (25.0%) of the respondents fall under 18-30. And 22 (45.8%) are of age 31-40 years, 8 (16.7%) are of age 41-50 years and 6 (12.5%) are of age greater than 50 years. This had shown that majority of the respondents are well matured, and works are accomplished by employees who are matured enough. The researcher sees that among 48 people the research conducted on, 34 (70.8%) are married, 14 (29.2%) are single and 0 (0%) are divorced. These statistics had shown that most respondents were quite married. As per the responses received from the filled questionnaires, majority of the respondents that are 17 (35.4%) have been working from 1-5 years interval in the organization, 13 (27.1%) of the respondents have been working between 6-10 years in the organization. 12 (25.0%) respondents have a length of services between 11-15 years.

Table 4.3: Responses regarding Employee Engagement

No.	Employee engagement	Respondents				
		SA	A	N	D	SD
1.	I am happy with my current job.	6	30	6	4	2
		(12.5%)	(62.5%)	(12.5%)	(8.3%)	(4.2%)
2.	I feel safe and energetic at work.	4	26	11	7	0
		(8.3%)	54.2%)	(22.9%)	(14.6%)	(0%)
3.	I have clear goals & priorities in my work.	8	23	11	5	1
		(16.7%)	(47.9%)	(22.9%)	(10.4%)	(2.1%)
4.	I'm willing to accept challenges at work.	13	26	6	3	0
		(27.1%)	(54.2%)	(12.5%)	(6.3%	(0%)

Source: (researcher own survey, 2023)

However, the lowest number of respondents was nearly 6 (12.5%) who had a length of service above16 years. As per the data, it can be seen that there is a good level of employee retention in the Ethio Telecom (HQ) in Human Resource Department since the majority of the respondents had been working in the organization for 1-5 years and the above. This further revealed while that the employees had a sense of job security. The table also shows that most of the respondents are bachelor's degree holders indicating 35 (72.9%). Besides there are no respondents with having a certificate/Diploma. Whereas13 (27.1%) respondents were having Masters and above. This indicates that most of the employees are more skilled and have an appropriate educational level to perform well. Skilled workforces are more productive and contributing better to organizational performance in the firm. If skilled employees are highly motivated by the management, it will result in effective organizational performance. Based on the respondent's occupational level, 18 (37.5%) were experts. 19(39.6%) supports giving, 7 (14.6%) were supervisors and 4 (8.3%) were managers. In consideration of the results, it is observed that the organization has a hierarchical departmental structure within each directorate and motivation must be done accordingly.

The respondents were asked to indicate whether they are engaged at work provided by their jobs and the results are shown. As table 3.3 shows, most of the respondents reacted that they feel safe and energetic at work 26(54.2%) agree and 4(8.3%) strongly agree, accept challenges at work 26(54.2%) agree and 13(27.1%) strongly agree, have clear goals and priorities in their work 23(47.9%) agree and 8(16.7%) strongly agree, happy with their current job 30(62.5%) agree and 6(12.5%) strongly agree. Others point contrary for feeling safe and energetic at work 7(14.6%) disagree and 0% strongly disagree, accepting challenge work 3(6.3%) disagree and 0% strongly disagree, having clear goals and priorities in their work 5(10.4%) disagree and 1(2.1%) strongly

disagree, happy with their current job 4(8.3%) disagree and 2(4.2%) strongly disagree. Others fall into the neutral mode.

Table 4.4: Responses regarding Leadership style

No.	Leadership Style	Respondents				
		SA	A	N	D	SD
1.	My boss is flexible about how I accomplish my job.	6 (12.5%)	30 (62.5%)	6 (12.5%)	4 (8.3%)	2 (4.2%)
2.	My boss treats employees with respect.	6 (12.5%)	30 (62.5%)	6 (12.5%)	4 (8.3%)	2 (4.2%)
3.	My boss involves me in decision-making processes.	6 (12.5%)	30 (62.5%)	6 (12.5%)	4 (8.3%)	2 (4.2%)
4.	I'm satisfied with my boss's managing style.	6 (12.5%)	30 (62.5%)	6 (12.5%)	4 (8.3%)	2 (4.2%)

Source: (researcher own survey, 2023)

The respondents were asked for the leadership style questions. Here, in case of boss's flexibility, 12.5% respondents strongly agreed that their boss is flexible about how an employee accomplishes the job; meanwhile, 62.5% agreed, 8.3% disagreed, 4.2% strongly disagreed and 12.5% are neutral about the statement. In case of treating employees, 12.5% respondents strongly agreed that their boss treats them with respect; meanwhile, 62.5% agreed, 8.3% disagreed, 4.2% strongly disagreed, 12.5% are neutral about the fact. In case of the decision-making process, 8.3% respondents disagreed that their boss involves them in decision-making processes; 12.5% strongly agreed, 62.5% agreed, 4.2% strongly disagreed and 12.5% are neutral on it. In case of managing style, 8.3% respondents disagreed that they are satisfied with their boss's managing style; meanwhile, 12.5% strongly agreed, 62.5% agreed, 4.2% strongly disagreed, and 12.5% are neutral about it.

Table 4.5: Responses regarding Work environment

No.	Work Environment	Respondents				
		SA	A	N	D	SD
1.	I enjoy working with my co-workers.	4 (8.3%)	26 (54.2%)	11 (22.9%)	7 (14.6%)	0 (0%)
2.	I get adequate materials/equipment for work.	4 (8.3%)	26 (54.2%)	11 (22.9%)	7 (14.6%)	0 (0%)
3.	My organization improves the work environment.	4 (8.3%)	26 (54.2%)	11 (22.9%)	7 (14.6%)	0 (0%)
4.	My organization is conducive.	4 (8.3%)	26 (54.2%)	11 (22.9%)	7 (14.6%)	0 (0%)
5.	My organization's working culture is satisfactory.	4 (8.3%)	26 (54.2%)	11 (22.9%)	7 (14.6%)	0 (0%)

Source: (researcher own survey, 2023)

Responses regarding with work environment were, in the case of a good relationship with others, 8.3% respondents strongly agreed that they enjoy working with their co-workers; meanwhile, 54.2% agreed, 14.6% disagreed, 22.9% are neutral and 0% strongly disagrees about the statement. In case of getting adequate materials/equipment for work, 54.2% respondents agreed that they get adequate materials/equipment for work; however, 14.6% disagreed, 0% strongly disagreed and 22.9% are neutral with the fact. In case of working culture, majority of respondents 14.6% disagree that the organization's working culture satisfactory; but, 8.3% strongly agreed, 54.2% agreed, 0% strongly disagreed and 22.9% are neutral about it. 54.2% respondents agreed the organization is attractive to work; Although, 8.3% strongly agreed, 14.6% disagreed, 0% strongly disagreed and 22.9% are neutral about the fact. 14.6% respondents disagreed that the organization is improving the work environment; meanwhile 8.3% strongly agreed, 54.2% agreed, 0% strongly disagreed and 22.9% are neutral. In case of organizing social gatherings, 54.2% respondents agreed that the organization organizes social gatherings; meanwhile 8.3% strongly agreed, 14.6% disagreed, 0% strongly disagreed and 22.9% are neutral about it.

Table 4.6: Response regarding to compensation

No.	Compensation	Respondents				
		SA	A	N	D	SD
1.	I am not satisfied with my current salary.	6 (12.5%)	30 (62.5%)	6 (12.5%)	4 (8.3%)	2 (4.2%)
2.	Incentives motivate employees to perform well.	6 (12.5%)	30 (62.5%)	6 (12.5%)	4 (8.3%)	2 (4.2%)
3.	I get allowances for special duties and overtime job.	4 (8.3%)	26 (54.2%)	11 (22.9%)	7 (14.6%)	0 (0%)
4.	The top management rewards employee effort.	4 (8.3%)	26 (54.2%)	11 (22.9%)	7 (14.6%)	0 (0%)
5.	I'm satisfied with the organizational rewarding system.	4 (8.3%)	26 (54.2%)	11 (22.9%)	7 (14.6%)	0 (0%)

Source: (researcher own survey, 2023)

The study also shows that compensation is a very significant motivating factor for employees' motivation. Here, in case of salary, 62.5% respondents agreed that they are not satisfied with their current salary; meanwhile, 12.5% strongly agreed, 8.3% disagreed, 4.2% strongly disagreed and 12.5% are neutral with the statement. In case of incentives, 8.3% respondents disagreed that incentive motivates employees to perform well; meanwhile, 12.5% strongly agreed, 62.5% agreed, 4.2% strongly disagreed and 12.5% are neutral with the fact. When we look at getting allowances, 14.6% respondents disagreed that as they get allowances for special duties and overtime job; meanwhile, 12.5% strongly agreed, 62.5% agreed, 0% strongly disagreed and 22.9% are neutral about it. In case of rewarding efforts, 14.6% respondents disagreed that the top management rewards employee effort; meanwhile, 8.3% strongly agreed, 54.2% agreed, 14.6% strongly disagreed and 22.9% are neutral. And 62.5% respondents agreed that they are satisfied with the overall organizational rewarding system; meanwhile, 8.3% strongly agreed, 14.6% disagreed, 0% strongly disagreed and 22.9% are neutral about it.

4.3 Employee Motivation and Organizational Performance

This sub-section includes the effect of motivation factors on organizational performance, and the relationship between independent and dependent variables.

4.3.1 The Effect of Motivational Factors on Organizational Performance

Table 4.7: Effect on Organizational Performance

No.	Organizational Performance	Respondents				
		SA	A	N	D	SD
1.	Employee motivation can increase company profitability.	23 (47.9%)	20 (41.7%)	4 (8.3%)	1 (2.1%)	0 (0%)
2.	In order to maximize sales, motivate workers will be a must.	17 (35.4%)	23 (47.9%)	7 (14.6%)	1 (2.1%)	0 (0%)
3.	Motivating employees helps the company to grow its market share.	18 (37.5%)	23 (47.9%)	6 (12.5%)	1 (2.1%)	0 (0%)
4.	Employee motivation would help to satisfy customers	18 (37.5%)	23 (47.9%)	6 (12.5%)	1 (2.1%)	0 (0%)

Source: (researcher own survey, 2023)

As table 3.7 shows, 47.9% respondents strongly agreed that employee motivation can increase company profitability; meanwhile, others points are: for agree (41.7%), neutral (8.3%), disagree (2.1%) and strongly disagree (0%). In order to maximize sales, motivate workers will be must, (35.4%); meanwhile, other point for agree (47.9%), neutral (14.6%), disagree (2.1%) and strongly disagree (0%). In case of grow market share, 37.5% respondents strongly agree that in order to grow market share motivating employee is helpful meanwhile, others point for agree (47.9%), neutral (12.5%), disagree (2.1%) and strongly disagree (0%). In case of customer satisfaction, 37.5% respondents strongly agreed that employee motivation help to satisfy customers; meanwhile, others point for agree (47.9%), neutral (12.5%), disagree (2.1%) and strongly disagree (0%).

4.3.2 The Relationship between Independent and Dependent Variables
A. Correlations

For the case of table 3.8, the researcher uses abbreviation for the independent and dependents variables. Those are:

OP (Organizational performance), EE (Employee engagement), LS (Leadership style), WE (Work environment) and CO (Compensation).

Table 4.8 Pearson correlation analysis

Correlations						
		OP	EE	LS	WE	CO
OP	Pearson Correlation	1	.774	.771	.696	.791
	Sig. (2-tailed)		.000	.000	.000	.000
EE	Pearson Correlation	.774	1	.859	.842	.923
	Sig. (2-tailed)	.000		.000	.000	.000
LS	Pearson Correlation	.771	.859	1	.687	.892
	Sig. (2-tailed)	.000	.000		.000	.000
WE	Pearson Correlation	.696	.842	.687	1	.942
	Sig. (2-tailed)	.000	.000	.000		.000
CO	Pearson Correlation	.791	.923	.892	.942	1
	Sig. (2-tailed)	.000	.000	.000	.000	
Source: (researcher own survey, 2023)						

The above table 3.8 shows the correlation matrix indicates that the independent variables (engagement, leadership style, work environment, compensation, and career development) were positively correlated with organizational performance. Furthermore, the table shows that (Compensation) achieved the highest positive correlation with organizational performance. However, (work environment) has the lowest correlation with organizational performance. Moreover, it also shows that engagement, leadership style, work environment, compensation, and career development have a significant relationship with an organizational performance at the value of (0.000), which is less than 0.01. In addition, the result explains that an increase in engagement, leadership style, work environment, compensation, and career development will lead to an increase in the performance of the organization. As a consequence, the hypothesis was accepted. And there is no removed variable with stepwise analysis method.

B. Regression

Regression analysis established the nature of relationship between two or more variables and then`` estimates the unknown variable (dependent variable) with the help of known variable (independent variables). In other words, there are two types of variables in a regression analysis. The variables, which is used to predict the variable of interest is called the independent or explanatory variable or predictor, and the variable whose value is to be predicted is called the dependent variable or explained variable or regressed.

Table 4.9 Stepwise Regression Analysis Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.809[a]	.654	.631	1.700

Source: (researcher own survey, 2023)
a.   Predictors: (Constant), CO, LS, EE

There are multiple correlations (R = 0.809) of three significant predictors with the criterion (D.V). From the model, the factors that influence organizational performance are employee engagement, leadership style and compensation. The three factors have a significant effect size, which explains the adjusted R^2 (63.1%) of the variability towards employee engagement, leadership style and compensation that influence organizational performance. The adjusted R^2 with 65.4% of the variance in respondents agree that these are one of the factors that contribute to OP.

Table 4.10 ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	240.721	3	80.240	27.758	.000[b]
	Residual	127.189	44	2.891		
	Total	367.910	47			

Source: (researcher own survey, 2023)
a.   Dependent Variable: OP
b.   Predictors: (Constant), CO, LS, EE

Table 3.10 shows that the F-value is the Mean Square Regression (80.240) divided by the Mean Square Residual (2.891), yielding F=27.758. The 3 models in this Table are statistically significant (Sig=.000). Therefore, an organizational performance that is both intrinsic and extrinsic factors combined are significant predictors of organizational performance at F=27.758.

Table 4.11 Regression Coefficients and Significance of the Independent Variables Coefficients.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	B		
1	(Constant)	1.996	.828		2.412	.020
	EE	.218	.227	.226	.961	.342
	LS	.208	.148	.280	1.401	.168
	CO	.228	.182	.333	1.253	.217

Source: (researcher own survey, 2023)

a.   Dependent Variable: OP

Table 3.11 revealed the degree of influence of both motivational factors on the level of organizational performance and its levels of significance. Three significance predictors out of four independent variables are positively related to the criterion in the stepwise regression. The compensation has the highest regression coefficient at 0.228, followed by employee engagement 0.218, and compensation 0.208.

Based on the results in the Table 3.10, the significance level for all items is less than 0.01. Therefore, we accept the alternative hypothesis and reject the null hypothesis. That is, employee motivation has a positive effect on organizational performance.

Linear Regression Model is given as $Y = a + \beta x_1 + \beta x_2 + \beta x_3 + e$

Where Y = Organizational Performance

a = Constant

β = Coefficient of independent variables (X_n)

X_n= Dependent variables

n = Number of independent variables

e = Error term (10%)

Therefore, motivation = 1.996 + 0.218 + 0.208 + 0.228 + 0.1

4.4 Hypothesis Testing

In this section the hypothesis that were mentioned in the research was tested.

✓ H1: Employee's engagement has a positive impact on organizational performance.

As we see from result of the regression analysis, the relationship between employee engagement and employee performance is positive and significant (β = .218, p<0.05). This showed that for every single unit increase in employee engagement, there would be .218 %increases on employee performance in the organization. Thus, based on the result the ρ value is less than 0.05 H1 is accepted.

✓ H2: Leadership style has a positive impact on organizational performance.

The study found out that of all the independent variables leadership style has significant influential variable to employee performance in the organizational (β =.208, p<0.05) which is acceptable and significant. That means as one unit increases in leadership style then organizational performance will be increased by .208 %.

✓ H3: Compensation has a positive impact on organizational performance.

As per the result of the study, H3 is accepted since compensation has a positively and significantly related with organizational performance which indicate that, as intrinsic reward increases by 1unit, organizational performance increases by .228 % with β =.228 and ρ value is less than 0.05.

Table 4.12 Summary Analysis of Hypothesis Testing

NO	Hypothesis statement	Test result	Decision rule
H1	Employee's engagement has a positive impact on organizational performance	β =.218, p<0.05	Accepted
H2	Leadership style has a positive impact on organizational performance	β =.208, p<0.05	Accepted
H3	Compensation has a positive impact on organizational performance	β =.228, p<0.05	Accepted

Source: (researcher own survey, 2023)

5. Summary of Major Findings, Conclusions and Recommendations

5.1 Summary of Major Findings

This section comprises a summary associated with findings related to theoretical and empirical findings, based on the objectives of the study were discussed respectively. The primary objective of this study was to examine the effect of employee motivation on organizational performance in the Ethio Telecom (Head quarter) HR department.

Based on the analysis and interpretation made in the previous chapter, the major findings are summarized as follows: The data collected from a field survey using questionnaires was analysed using MS-Excel and SPSS software. The findings begin with an overview of the response rate, indicating that all 48 distributed questionnaires were properly completed and returned. The demographic information of the respondents, including gender, age, marital status, work experience, educational level, and job position, is presented.

The information shows that the majority of respondents are male 26(54.2%), while 22(45.8%) are female. In terms of age, 25.0% of the respondents fall into the 18-30 age group, 45.8% are aged 31-40, 8(16.7%) are aged 41-50, and 4(12.5%) are above 50 years old. Marital status analysis reveals that 34(70.8%) of the respondents are married, while 14(29.2%) are single. In terms of work experience, 35.4% have 1-5 years of experience, 13(27.1%) have 6-10 years, 12(25.0%) have 11-15 years, and 6(12.5%) have 16 years or more. Educational status shows that 35(72.9%) of the respondents hold a bachelor's degree, while 13(27.1%) have a master's degree or higher. Regarding job position, 4(8.3%) are managers, 7(14.6%) are supervisors, 19(39.6%) are in support-giving positions, and 18(37.5%) are experts.

The data analysis and interpretation section discuss the relationship between employee motivation and performance. It presents responses regarding employee engagement, indicating that 30(62.5%) of the respondents agree and 6(12.5%) strongly agree that they are happy with their current job. In terms of feeling safe and energetic at work,26(54.2%) agrees and 4(8.3%) strongly agree. Regarding having clear goals and priorities in their work, 23(47.9%) agree and 8(16.7%)

strongly agree. When it comes to being willing to accept challenges at work, 54.2% agree and 13(27.1%) strongly agree.

The other one focuses on leadership style, revealing that 30(62.5%) of the respondents agree and 6(12.5%) strongly agree that their bosses are flexible about how they accomplish their job. Regarding how their bosses treat employees with respect, 30(62.5%) agree and 6(12.5%) strongly agree. When it comes to involvement in decision-making processes, 30(62.5%) agree and 6(12.5%) strongly agree. In terms of satisfaction with their boss's managing style, 30(62.5%) agree and 6(12.5%) strongly agree.

Responses regarding work environment are indicating that 26(54.2%) of the respondents agree and 8.3% strongly agree that they enjoy working with their co-workers. In terms of getting adequate materials/equipment for work, 26(54.2%) agree and 4(8.3%) strongly agree. Regarding whether their organization improves the work environment, 26(54.2%) agree and 4(8.3%) strongly agree. When it comes to the organization being conducive, 26(54.2%) agree and 4(8.3%) strongly agree. In terms of the organization's working culture being satisfactory, 26(54.2%) agree and 4(8.3%) strongly agree.

The information presents responses regarding compensation, showing that 30(62.5%) of the respondents agree and 6(12.5%) strongly agree that they are not satisfied with their current salary. In terms of whether incentives motivate employees to perform well, 30(62.5%) agree and 6(12.5%) strongly agree. Regarding receiving allowances for special duties and overtime jobs, 26(54.2%) agree and 4(8.3%) strongly agree. When it comes to the top management rewarding employee effort, 26(54.2%) agree and 4(8.3%) strongly agree. In terms of satisfaction with the organizational rewarding system, 26(54.2%) agree and 4(8.3%) strongly agree.

The section on employee motivation and organizational performance reveals a positive correlation between intrinsic and extrinsic motivational factors (employee engagement, leadership style, work environment, compensation) and organizational performance. The correlation matrix indicates strong positive relationships between these variables.

Regression analysis shows that employee engagement, leadership style, and compensation significantly influence organizational performance. The adjusted R-square value of 0.631 suggests that these factors explain approximately 63.1% of the variability in organizational performance. Hypothesis testing confirms the positive impact of employee engagement, leadership style, and compensation on organizational performance. The regression coefficients and significance levels support the acceptance of these hypotheses.

In conclusion, the data analysis and interpretation provide valuable insights into the relationship between employee motivation and organizational performance. The study demonstrates the significance of factors such as employee engagement, leadership style, and compensation in driving performance within the organization.

5.2 Conclusion

Based on the analysis of the collected data, the following conclusions were drawn. The majority of the respondents were male, indicating a higher representation of males in the organization. The age distribution showed that the majority of the respondents were in the age range of 31-40, indicating a mature workforce. Most of the respondents were married, indicating a higher percentage of married employees in the organization. In terms of work experience, a significant number of respondents had been working in the organization for 1-5 years, indicating a good level of employee retention. The educational level of the respondents was mostly bachelor's degree holders, indicating a skilled workforce. The majority of the respondents held positions as experts and support-giving roles, indicating a hierarchical departmental structure within each directorate.

The analysis of employee motivation and performance status revealed that the majority of the respondents reported feeling safe and energetic at work, accepting challenges, having clear goals and priorities, and being happy with their current job. In terms of leadership style, most respondents agreed that their bosses were flexible, treated employees with respect, involved them in decision-making processes, and were satisfied with their managing style. Regarding work environment, the majority of respondents enjoyed working with their co-workers, felt they had adequate materials/equipment for work, and perceived the organization as conducive with satisfactory working culture. In terms of compensation, the majority of respondents were not satisfied with their current salary, agreed that incentives motivate employees, and reported receiving allowances for special duties and overtime work.

5.3   Recommendation

Based on the conclusion, the following recommendations can be made:

The organization should strive for gender balance and diversity in its workforce to ensure equal representation and provide equal opportunities for both males and females. Efforts should be made to motivate and encourage female employees. In addition to this, the organization should continue to focus on employee retention by providing a supportive work environment and job security. Efforts should be made to retain employees beyond the 1-5 years' experience range to ensure continuity and stability. Besides, the firm should invest in continuous skill development programs and provide opportunities for employees to pursue higher education. This will enhance the overall skills and educational level of the workforce and contribute to better organizational

performance.

There are some recommendations in the area of employee motivation and performance status. The organization should provide leadership training programs for managers and supervisors to enhance their flexibility, respect towards employees, involvement in decision-making, and overall managing style. This will contribute to a positive work environment and employee motivation. In addition to that the organization should focus on improving the work environment and fostering a positive organizational culture. Efforts should be made to strengthen relationships among employees, provide adequate materials/equipment for work, and organize social gatherings to promote a sense of belonging and satisfaction. The compensation and reward System of the organization should be improved. The firm have to review its compensation and reward system to address the concerns raised by employees regarding their current salary. Consideration should be given to providing incentives and rewards that motivate employees and recognize their efforts. By implementing these recommendations, the organization can enhance employee motivation, job satisfaction, and overall performance, leading to a more productive and successful work environment.

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Assessment of Internal Audit Practice: The Case of Commercial Bank of Ethiopia

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1. INTRODUCTION

1.1 Background of the Study

The globalization of the economy, technological advancement, complexity of business, and allegations of fraudulent financial reporting have recently sharpened the ever-increasing attention paid to internal control and internal auditing (Karagiorgos et al. 2009). The developing role of the internal auditing also is reflected in its current definition, i.e. internal auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance process (Savcuk, 2007). It can be argued from this definition that internal auditor is required to be a multi skilled individual. Sawyer (1995) states that the internal auditor's job is not done until defects are corrected and remain corrected.

"Van Gansberghe (2005) also explained that internal audit effectiveness in organizations should be evaluated by the extent to which it contributes to the demonstration of effective and efficient service delivery, as this drives the demand for improved internal audit service. This shows that internal audit is effective if it meets the intended outcome it is supposed to bring about. Effective internal audit undertakes an independent evaluation of financial and operating information and of systems and procedures, to provide useful recommendations for improvements as necessary. Auditing is an important activity for all types of organizations whether governmental, private for profit, not for profit or any other.

Auditing is a systematic process of objectively obtaining and evaluating evidence regarding assertions about economic actions and events to ascertain the degree of correspondence between those assertions and established criteria and communicating the result to interested user (Schwinger, 2005).

The need for auditing, either externally or internally, is increasing from time to time because it enables organizations to ensure that their resources had been utilized for their intended use. Internal auditing is an independent, objective assurance and consulting activity designed to add

value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic discipline to evaluate and improve the efficiencies of risk management, control, and governance processes (Jennifer, 1997). According to researchers Abera, Meron and Yosef (2019); Habtamu, Hilina and Yohannes. (2019); Tamiru Tsegaye (2018)), the interaction of various factors, such as the relationship between external and internal auditors, the size of the internal audit department, the caliber of the audit work, professional competence, organizational independence, career advancement, and top management support, determines the effectiveness of internal auditing. Internal auditing always assists management in ensuring that an effective internal control system is in place and that the business's operations are conducted in a cost-effective, effective, and efficient manner. Internal auditors who perform their job effectively may become expertise in the design and implementations of all other types of controls. The effectiveness of internal audit greatly contributes to the effectiveness of each audited in particular and the organization at large (Dittenhafer, 2001). An internal audit functions capability to provide useful audit findings and recommendations that would help raise management's interest in its recommendations and the professional proficiency of the internal audit.

Educational and professional qualifications, work experience, and continuing professional development is essential in attaining audit effectiveness. Moreover, the organizational setting in which internal audit operates, i.e. the organizational status of the office, its internal organization and the policies and procedures applying to each audited, should enable smooth audits that lead to reaching useful audit findings. However, internal audit effectiveness should be brightened as a dynamic process that continuously is shaped by the interaction among the different factors mentioned above. Therefore, the major concern of this study was to assess internal audit in Commercial Bank of Ethiopia at corporate level.

1.2 Statement of the Problem

Since we live in a dynamic environment, every business activity that takes place every day undergoes constant change and improvement, making it more complex and competitive. While corporate operations are growing more complicated, the institution's internal control system needs to be strong and sufficient and must have up-to-date knowledge with respect to dynamics occurring in business to safeguard the interests of the institution and its stakeholders. Participating in controlling activity is one of management's responsibilities in every organization including CBE. Nowadays, a profession known as internal auditing activity supports this controlling activity. Internal auditing decomposes the examination and evaluation of the adequacy and effectiveness of the organization system of internal control and qualities of performance in carrying out assigned responsibilities (Soltani, 2007). Internal audits frequently are carried out by

staff members of an organization who answer to a senior official within that organization. It is an evaluation exercise carried out within an organization to assess accounting, financial, and other operations as a foundation for management support. Auditing is a sensitive area and a backbone of all companies; because of this reason, it needs continuous assessment. According to our preliminary study there were a number of issues with the CBE internal auditing practices, including: lack of subject matter expertise independence, management interference with internal auditors' work, lack of confidence on the part of internal auditors to adhere to the bank's rules, regulations, and procedures, lack of adequate training for auditors, and reluctance on the part of other employees to provide sufficient evidence or documents to support their findings. In light of these, this study aims to come with answer for the main question: "How is the internal auditing practice of Commercial Bank of Ethiopia?" Even though there were different researches done in different banks with the same objective, most of them were conducted at branch and district level. Abera, Meron and Yosef (2019) titled "Assessment of Internal Audit: The Case of Wegagen Bank, East District:" A senior essay, St. Mary's University; Bereket, Daniel and Mukerem (2013) "Assessment of Internal Audit: the case of CBE:" A senior essay, St.Mary's University; Eden Sisay and Bethlehem Tesfaye(2014)" Internal Auditing Practice: the case of Commercial Bank of Ethiopia Head Office: A senior essay, St. Mary's University; Habtamu, Hilina and Yohannes (2019)" Assessment of Internal Audit: the case of CBE in REPI Branch: A senior essay, St. Mary's University. Hence, our paper differs from others by its scope; the focus area of study was at corporate level of Commercial Bank of Ethiopia (CBE).

1.3 Research Questions

The following are the main questions raised in the study.

- To what extent do the internal auditors of CBE have independence to ensure internal control?
- How effectively and efficiently do internal auditors consult managers of the Bank?
- How effectively does the internal audit department satisfy audit objectives?
- How effectively does the internal audit department perform the types of audit stated in the charter?

1.4 Objectives of the Study
1.4.1 General Objective

The core objective to conduct this study is to assess the internal audit practice of Commercial Bank of Ethiopia.

1.4.2 Specific objectives

- To assess the extent of independence of CBE's internal auditors to insure internal control.
- To describe the effectiveness and efficiency of internal auditors of CBE in consulting its management.
- To assess the effectiveness of CBE's internal audit department in satisfying audit objectives.
- To describe the effectiveness of CBE's internal audit department in performing the type of audits stated in its charter.

1.5 Significance of the study

The significance of this study is based on the above rationales. Moreover, this study drops light on the scarcity of these types of study. The findings and recommendation of this study will be valuable on how the Bank can use the internal audit service most effectively and efficiently. Furthermore, this study will serve as a reference for other researchers who want to investigate more in similar topic areas.

1.6 Scope of the study (delimitation)

The study was to assess the internal audit practices of the CBE at Corporate level in Addis Ababa. Since internal audit, practice consists of broad concepts and issues, this study focused on part of the audit practice mainly on assessment of auditors' independency, management's attitude towards the audit department and implementation of rules and regulations of the bank by the auditors and the availability and implementation of audit evidence. Data collected for the study is from the Audit Department of CBE found at Debre Work building in Addis Ababa because it is the only branch of CBE which works corporate level of auditing. In addition, both primary and secondary data used to assess the Internal Audit of CBE.

2. Research design and methodology

2.2.1 Research approach

The study tried to identify the internal audit practice in Commercial Bank of Ethiopia. To achieve this objective, we applied mixed research approach because we collected and analyzed both quantitative and qualitative data within the same study.

2.2.2 Research design

In order to describe the phenomena associated with a subject population, descriptive research method was conducted. Descriptive research method is preferred because it is appropriate to analyze both the quantitative and qualitative data (mixed research approach). Kothari (1985) notes that descriptive design is concerned with describing, recording, analyzing and reporting

conditions that exist or existed. Engelhart (1972) also elaborates that descriptive methods are widely used to obtain data useful in evaluating present practices and in providing the basis for decision-making.

2.2.3 Target population

The target group of the study is restricted to the internal auditors of the Bank found at the corporate level. According to the manager of internal audit process, the total numbers of internal auditors in the internal audit process as of March 2023 are 45. After the list of these internal auditors, 100% of total population was selected using census survey.

As they are already few in numbers and in order to minimize a sampling risk, there is no need to sample from the 45 auditors, thus we applied census method. We used all the population so as to get better information both from the team leader and employees working in internal audit department on the issues under the study and to make the study more comprehensive.

2.4.4 Data type and source

In order to increase the accuracy of data to be collected, the researchers used both primary and secondary data.

Primary data

The primary data were collected from corporate level internal audit officers through questionnaire and unstructured interview. Advantage of using primary data is that we are collecting information for the specific purpose of our study.

Secondary data

The secondary data were gathered from the compliance financial statement, CBE's audit charter and manual books, and other relevant documents pertaining to the research under consideration. Compared to primary data, secondary data tends to be readily available and inexpensive to obtain.

2.4.5 Data gathering tools/instruments

In the data collection process, different data collection instruments were used according to the source of data that have to be collected to conduct the study. The main technique of gathering primary data was through surveys. These surveys were conducted in the form of unstructured interviews and questionnaires that are intended to show both qualitative and quantitative data on the issues of internal audit practices. On the other hand, in order to assess internal audit practice, secondary data were gathered from the records held by CBE through structured document review.

2.4.6 Method of data analysis

The collected data were edited, organized and tabulated. The quantitative data were analyzed and interpreted through descriptive statistics with table and percentage, and the qualitative data were analyzed via narrative as well as thematic analysis techniques.

2.4.7 Organization of the study

The research paper contains four chapters. The first chapter includes background of the study, statement of the problem, basic research questions and objectives of the study, significance of the study, scope, and limitation of the study. The second chapter covers the literature review, which explains the theoretical concept and empirical practice about internal audit. The third chapter consists of data presentation, interpretation and analysis. The last chapter focuses on the summary, conclusion and recommendation based on the research findings.

3. Data Presentation, Interpretation and Analysis

This chapter presents, interprets and analyzes the data collected through questionnaire and interview. During the data collection, the researchers focused on the internal audit in Commercial Bank of Ethiopia at corporate level. The researcher conducted an analysis of descriptive statistics and throughout the analyzing process, statistical description method such as frequency and percentage method was employed. Moreover, tables are used to present the finding of the study. The data analysis through quantitative and qualitative techniques was done in an attempt to filter the basic findings that answer our research questions.

3.1 Response Rate

The study targeted 45 respondents using census method in which all of them (targeted 45 respondents) filled and returned the questionnaires. This is represented 100% response rate. A survey response rate of 50% or higher considered excellent in most circumstances. A high response rate is likely driven by high levels of motivation to complete the survey, or a strong personal relationship between business and customer. A response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a rate of 70% and over is excellent, Mugenda and Mugenda(2003).

3.2. Data presentation and interpretation
3.2.1 Demographic characteristics of respondents

Demographic data was used to give details about the employees' working background in CBE. It shows the information regarding respondents' gender, age, educational background, years of experience, and current position.

Table3.1: Presentation of Demographic Data

Questionnaire		Respondents	
		Frequency	**%**
Item			
Gencer	Male	39	87
	Female	6	13
Age	less than 30yrs	0	0
	31-45yrs	25	56
	46-60	20	44
	above 60yrs	0	0
Educational Background	Diploma	0	0
	Degree	24	53
	Masters	21	47
	Other	0	0
Work Experience	less than 5yrs	9	20
	5-10yrs	7	15.6
	11-15yrs	13	28.9
	above 15yrs	16	35.6
Current Position	Manager/supervisor	11	24.4
	Senior internal auditor	6	13.3
	Team leader	9	20
	Internal auditor	19	42.2

The study about gender found that 87% of the respondents were male and the remaining 13% were females. The study about age of respondents found that 56% of the respondents were 31-45 years old and 44% of them were 46-60years old. The researchers also requested the respondents to indicate their highest level of education. From the responses, 53% of respondents indicated their highest level of education as degree, and 47% of respondents indicated their highest level of education as masters. The study about work experience identified the number of years they served in the internal audit department of CBE. The finding shows that 20% of the respondent's worked for less than 5 years with in the department, 15.6% of them served for 5-10 years, 28.9 of respondents' experience level was 11-15 years, and 35.6% of them worked above 15 years. The study about current position of auditors indicates that 24.4% of respondents are managers/supervisors of internal auditors; 13.3% of them are senior internal auditors; 20% are team leaders; and 42.2% are internal auditors.

3.3.1 Statements regarding independence of internal auditors of CBE to ensure internal control.

Table 3.2: **P**resentation of statements regarding independence of internal auditors of CBE to ensure internal control.

Item No	Statements regarding independence of internal auditors of CBE to ensure internal control.	Strongly agree		Agree		Neutral		Disagree		Strongly Disagree	
		No.	%	No.	%	No.	%	No.	%	No.	%
1.1	Internal audit is free from intervention in performing its duties	0	0	3	7	1	2	19	42	22	49
1.2	Internal auditors feel free to include any audit findings in their audit report	1	2	18	40	0	0	25	56	1	2
1.3	Internal auditors have unrestricted access to all data, information, records, property, personnel, systems and processes without interference of management	7	16	13	29	4	9	9	20	12	27
1.4	The internal auditor's assessments and reports are unbiased	15	33	21	47	7	16	2	4	0	0
1.5	The internal auditors have helped CBE to comply with regulation	16	36	26	58	2	4	0	0	1	2

Suleiman and Dandago (2014) have defined internal audit as an independent appraisal function in an organization to examine and evaluate the organization's activities. Any intervention from any other department in the organization in the process of audit affects this basic feature of internal audit. From the above table, no respondent has strongly agreed that internal audit of Commercial Bank of Ethiopia was free from interventions in performing its duties, 7% agreed, 2% had no opinion, 42% of them disagreed, and 49% strongly disagreed. This implies that there

is an intervention in the process of internal auditing at the Bank compromising the quality of the audit result.

The respondents were also asked whether the internal auditors of the Bank feel free to include any audit findings in their audit report. From Table 1, we can see that 2% of the respondents strongly agreed, 40% agreed, 56% disagreed, and 2% have strongly disagreed. This indicates that the job of internal auditors needs improvement because personnel of the department do not have the same feeling. As Tampubolon (2005) assumes the loss of freedom by the internal auditors is blindness and deafness to the management of the Bank's internal auditing as the eyes and ears of the company to assure proper policy implementation.

The respondents were asked to rate internal auditors unrestricted access to all data, information, records, property, personnel, systems and processes without interference from the management. In the above table, 16% of the respondents strongly agreed, 29% agreed, 9% were neutral, 20% disagreed and 27% have shown strong disagreement to the issue. From the data, it is difficult to take position whether the internal auditors of the Bank have full access to the things they would like to access or not. Because of the vagueness of their response to interpret, the researcher had unstructured interview with respondents. They replied that there is a difference based on their hierarchy of job, that is top level auditors have full access of information and remaining parties do not.

According to Gigerenzer and Gaissmaier (2011), bias is an unexpected factor that disrupts human decision making process. From the above table, 33% of the respondents strongly agreed that assessments and reports of the internal auditors of the Bank are unbiased, 47% agreed, 16% of them had no opinion, 4% have disagreed. This indicates that internal auditors of the Bank are systematic, objective, professional and unbiased.

3.3.1 Statements regarding effectiveness and efficiency of internal auditors to consult managers of the Bank

Table 3.3: Presentation of statements regarding effectiveness and efficiency of internal auditors to consult managers of the Bank

Item No	Statements regarding effectiveness and efficiency of internal auditors to consult managers of the bank	Strongly agree		Agree		Neutral		Disagree	
		No.	%	No.	%	No.	%	No.	%
2.1.	Internal auditors play a great role in consulting management.	17	38	23	51	3	7	2	4
2.2.	Internal audit department carries out activity of consulting management and accomplishes its objective well.	15	33	24	53	1	2	3	7
2.3.	Consulting activity of internal auditors for management is carried out without waste of resource.	0	0	1	2	4	9	10	22
2.4	The consult from internal auditors have helped the management to identify risks.	1	2	3	7	0	0	16	36
2.5	The internal auditors have consulted the management to develop effective internal control plan.	18	40	16	36	9	20	2	4

The respondents were also asked to rate if the internal auditors of the Bank helped the Bank to comply with regulations. From Table 1, 36% of the respondents strongly agreed, 58% of them agreed, 16% were neutral, and 4% of the respondents disagreed. This implies that Commercial Bank of Ethiopia is in compliance with the regulations of the country due to its internal auditors. Complying with regulations reduces legal costs for a business.

Internal auditors nowadays emphasize the values added in governance and control (Cohen & Sayag, 2010). The consultancy from internal auditors to managers produces better financial results to the business as their consult comes after performance evaluation. From table 3.3, 38% of the respondents replied that they have a strong agreement that internal auditors have a great role in consulting the management of the Bank, 51% of them agreed, 7% were neutral, and 4% of them disagreed. This implies that a great role is played by internal auditors of CBE in management consultancy. Internal auditors' suggestions and recommendations add value to the business as a

whole and particularly to the management of the business.

The main objective of internal audit activity is to effectively manage material, human and financial resources, fraud prevention, and minimization transaction risks. Regarding this, the respondents were asked if the internal audit objective is achieved by consulting the management of the Bank. From the above table, 33% of the respondents strongly agreed, 53% of them agreed, 2% were neutral, 7% disagreed and 4% had a strong disagreement to the issue. This shows that internal auditors' consultancy is objective achievement by CBE internal auditors. An achievement from internal audit activity improves the use of information.

The respondents were also asked if the management consultancy activity of internal auditors of the Bank is carried out without resource waste. From table 2, 2% of the respondents agreed, 9% of them had no opinion, 22% disagreed, and 67% of them strongly disagreed. This implies that there is wastage of resources in consulting the management. Resource wastage is negative, which may lead to shortage of resources at the same time, in the practice of the positive internal auditing.

Internal auditing has a role of identifying risks that the company deals with. Respondents were asked whether the consult from internal auditors of the Bank helped to identify risks. From the above table, 2% of the respondents strongly agreed, 7% of them agreed, 36% disagreed, and 56% strongly disagreed. This indicates that no auditors consult has enabled the management of Commercial Bank of Ethiopia to identify risks. Internal auditors' failure to do this may cost the company its existence because whether a risk is identified or not, is going to be a threat.

Internal control consists of policies and procedures designed to provide management with reasonable assurance that the company achieves its goal. From table 2, respondents were asked to rate the internal auditors' consultancy of the management of CBE to develop effective internal control plan. 40% of the respondents have strongly agreed, 36% of them agreed, 20% had no opinion, and 4% of them disagreed. This shows that the effectiveness of CBE's internal control system is partly due to its internal auditors. Effective internal control produces reliable financial report, efficient operation and compliant company.

3.3.4. Statements regarding internal audit department to satisfy audit objectives stated on the charter.

Table3.4: Presentation of statement regarding internal audit department to satisfy audit objectives stated on the charter.

Item No	Statements regarding internal audit department to satisfy audit objectives stated on the charter	Strongly agree		Agree		Neutral		Disagree		Strongly Disagree	
		No.	%	No.	%	No.	%	No.	%	No.	%
3.1.	Internal auditors review the main categories of incomes and the process analysis with respect to the internal control over operations.	7	16	25	56	10	22	3	7	0	0
3.2.	Internal auditors review the main cost elements and make analytical procedures regarding expenses, transactions and investigation of unusual elements.	6	13	32	71	3	7	4	9	0	0
3.3.	Internal auditors make analysis on procedures of investment to protect the assets against losses of any kind.	6	13	34	76	2	4	3	7	0	0
3.4	Internal auditors analyze the existing system of internal control and suggest improvement in this system.	9	20	33	73	2	4	1	2	0	0
3.5	Internal auditors detect and correct inefficient operational and weak points, then prepare recommendation to change in the control system.	20	44	16	36	8	18	0	0	1	2
3.6	Internal auditors take up an investigation at special request of the management.	24	53	14	31	6	13	0	0	1	2
3.1.	Internal auditors review the main categories of incomes and the process analysis with	7	16	25	56	10	22	3	7	0	0

	respect to the internal control over operations.									
3.2.	Internal auditors review the main cost elements and make analytical procedures regarding expenses, transactions and investigation of unusual elements.	6	13	32	71	3	7	4	9	0	0

From Table 3.4, 16% of the respondents strongly agreed that the internal auditors of Commercial Bank of Ethiopia review the main categories of incomes and analyze the internal control process over operations, 56% agreed, 22% were neutral, and 7% disagreed. This implies that there is a revision on main categories of incomes for CBE and analysis on its internal control process over operations. The revision on its main categories of incomes enables the company to have an understanding of its major income sources, and to see the contribution of each source of income to its total income. On the other hand, analysis of the internal control process over operations is a mechanism for the Bank to improve its control system over operations in terms of technology and human resource.

The respondents were also asked on their agreement level on the internal auditors review of the main cost elements and on the internal auditors making of analytical procedures regarding expenses, transactions and investigation of unusual elements. 13% of the respondents strongly agreed, 71% agreed, 7% were neutral, and 9% disagreed. From this, it is evident that the Bank makes review of its cost elements, analysis of its expenses, transaction and investigation of unusual elements. This is very important to enable the company to make evidence-based decisions and keep the company logical.

From the above table, it is indicated that 13% of the respondents have strongly agreed that the Bank's internal auditors make analysis of investment procedures of the Bank to protect it from any kind of loss, 76% agreed, 4% did not have any opinion, and 7% disagreed. This shows that Commercial Bank of Ethiopia's internal auditors are involved in the protection the Bank from loss by analyzing the Bank's investment activities. Analyzing the investment activities of the Bank keeps its positive return earning from time to time.

The respondents were also asked to rate the Bank's internal auditors' analysis of the existing internal control system and if they suggest improvement on the system. 20% of strongly agreed 73% agreed, 4% of them were neutral regarding the issue, and 2% of them disagreed. This implies that the internal auditors of Commercial Bank of Ethiopia's internal auditors make internal control

improvement suggestions by making analysis of the system. This way the Bank is in the possession of competent internal control system.

Table 3 also presents the opinion of respondents regarding the Bank's internal auditors' participation in the detection and correction of inefficient operational weak points to prepare recommendations for better control system. 44% of the respondents strongly agreed that the internal auditors play this role, 36% of them agreed, 18% had no opinion, nobody disagreed and 2% of the respondents strongly disagreed. This shows that the internal auditors of Commercial Bank of Ethiopia have a role of inefficiency detection at the Bank and a recommendation role for the improvement of the control system over operations. With this influence of internal auditors the Bank, can achieve efficient controls over its operations and can create the sense of belongingness among the internal auditors.

Table 3.5: Presentation of statements regarding effectiveness of internal audit department to perform the types of audits stated in the charter

No	Statements regarding effectiveness of internal audit department to perform types audit stated in the charter.	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
		No.	%	No.	%	No.	%	No.	%	No.	%
4.1.	Internal auditors perform Compliance Audit to evaluate how well CBE conforms and adheres with relevant policies, procedures, laws, regulations, directives and contracts.	25	56	16	36	3	7	0	0	1	2
4.2.	Internal auditors perform Financial Audit to assess, evaluate and make recommendation regarding accounting financial reporting of transactions and activities to ensure that financial activities of the Bank is completely and accurately reflected in the financial report.	12	27	27	60	5	11	0	0	1	2
4.3.	Internal auditors perform Performance Audit to emphasize sound financial management that is evaluation of operations to	11	24	32	71	1	2	1	2	0	0

	identify areas in which economy, efficiency and effectiveness can improve or evaluate compliance with and the adequacy of operational policies, plans and procedure.									
4.4.	Internal auditors perform Information System Audit to evaluate controls related to the Bank's automated information processing systems.	17	38	22	49	5	11	0	0	1	2
4.5.	Internal auditors perform Fraud/ Special Investigation Audits, Follow-Up Audits and Integrated/ Comprehensive Audits	28	62	16	36	0	0	0	0	1	2

The respondents were also asked to express their feeling if the internal auditors the take up investigation at special request of the management. 53% of the respondents strongly agreed on this issue, 31% agreed, 13% had no opinion, 0% disagreed, and 2% of the respondents strongly disagreed. This indicates that special request of managers at the banks results in investigation by internal auditors. Such investigations enable the bank to detect whether frauds are found at the bank.

3.3.5. Statements regarding effectiveness of internal audit department to perform the types of audit stated in the charter

According to Arens et al (2012), compliance audit is a review of an organization's financial records performed to determine whether the organization is following specific procedures, rules, or regulations set by some higher authority. From Table 3.5, 56% of the respondents of this research strongly agreed that internal auditors of Commercial Bank of Ethiopia perform compliance audit to evaluate how well CBE conforms and adheres with relevant policies, procedures, laws, regulations, directives and contracts; 36% of them agreed; 7% of the respondents were neutral; and 2% of the respondents have strongly disagreed. This is an implication of the existence of compliance internal audit at CBE which provides assurance of detecting material misstatements resulting from non-compliance.

Financial audit is conducted to provide an opinion whether financial statements are stated in

accordance with specified criteria (IFRS or GAAP). From the above table, 27% of the respondents agreed that the Bank performs financial audit to assess, evaluate and make recommendations regarding accounting financial reporting of transactions and activities to ensure that financial activities of the bank are completely and accurately reflected in the financial report, 60% of them agreed, 11% of the respondents were neutral, and 2% of the respondents had a strong disagreement. This indicates that there is a financial audit conducted by internal auditors to make sure that there are standardized and reliable financial reports.

The respondents were also asked to rate the presence of performance audit to emphasize sound financial management that evaluates the operations to identify areas in which economy, efficiency, and effectiveness can improve the adequacy of operational policies, plans and procedure. From Table 4, 24% of the respondents strongly agreed, 71% of them agreed, 2% of the respondents were neutral, and 2% of the respondents disagreed. This implies that at CBE, there is a performance audit to improve the business operation of the Bank.

Information system audit cuts across a variety of information technology processes, communication and infrastructure which include operating systems, databases, servers, web services, software applications, security systems, etc. Regarding this, the respondents were asked if internal auditors of Commercial Bank of Ethiopia perform information system audit to evaluate controls related to the Bank's automated information systems. From the above table, 38% of the respondents have strongly agreed the presence of information system audit at the Bank, 49% of them agreed, 11% of the respondents were neutral, and 2% of the respondents had a strong disagreement. This implies that there is an information system audit at the Bank which is important to reduce information technology (IT) related risks and improve data security.

The respondents were also asked whether internal auditors of the Bank perform fraud audits, follow up audits, and integrated audits. From Table 4, 62% of the respondents have strongly agreed, 36% of them agreed, and 2% of the respondents had a strong disagreement. This shows that Commercial Bank Ethiopia's internal auditors conduct fraud audit which involves a detailed examination of records with an objective to find instances of fraud if there exists one

4. Summary, Conclusion and Recommendation
4.1 Summary of major findings
The main objectives of this paper were to asses internal audit practice of CBE at corporate level. As evidence shows in the analysis, the researchers asked different questions. Regarding the independence of internal auditors, the researcher asked opinion based on five statements. The summaries of findings are as follows:

Majority of respondents' answers state that:

• There is an intervention in the process of internal auditing in Commercial Bank of Ethiopia.

- The job of internal auditors needs improvement because personnel of the department do not have the   same feeling.
- The researchers also found their responses difficult to make an implication whether the internal auditors of the bank have full access to the things they would like to access or not because of the vagueness of their response to interpret; therefore, the researchers had unstructured interview with respondents. They replied that there is a difference based on their hierarchy of job, that is top level auditors have full access of information and remaining parties do not.
- Internal auditors of the Bank are systematic, objective, professional and unbiased.
- CBE is in compliance with the regulations of the country due to its internal auditors. Complying with regulations reduces legal costs for a business depending on response rate of respondents.

Regarding effectiveness and efficiency of internal auditors to consult managers of the Bank, the researchers asked opinion based on five statements. The summary of the findings is as follows:

The answers of the majority of the respondents imply that:
- A great role is played by internal auditors of CBE in management consultancy.
- Consultancy is objective achieving by CBE internal auditors.
- There is wastage of resources in consulting the management.
- No auditors' consult has enabled the management to identify risks.
- CBE's internal control system effectiveness is partly due to its internal auditors.

Regarding internal audit department to satisfy audit objectives stated on the charter, the researcher asked their opinion based on six statements. The findings are as follows:

The answers of the majority of the respondents imply that:
- There is a revision on main categories of incomes for CBE and analysis on its internal control process over operations.
- The Bank makes review of its cost elements, analysis of its expenses, transaction and investigation of unusual elements.
- CBE internal auditors are involved in the protection the Bank from loss by analyzing the Bank's investment activities.
- Internal auditors make internal control improvement suggestions by making analysis of the system.
- CBE internal auditors make internal control improvement suggestions by making analysis of the system. Special requests of managers result in investigation by internal auditors.

Regarding the effectiveness of the internal audit department to perform types of audits stated in the charter, the researchers asked their opinion based on five statements. The findings are as follows:

In their response, there is an implication of:

- The existence of compliance internal audit at CBE, which provides assurance of detecting material misstatements resulting from non-compliance;
- Financial audit conducted by internal auditors;
- Performance audit conducted to improve the business operation the Bank;
- The existence of an information system audit at the Bank which is important to reduce information technology (IT) related risks and improve data security; and
- CBE internal auditors conduct fraud audit, which involves a detailed examination of records with an objective to find instances of fraud if there exists one.

4.2 Conclusion

This study was aimed at assessing the internal audit practice in case Commercial Bank of Ethiopia at corporate level by using census method. The study revealed that:

- There is problem of independence of auditors due to management's intervention which causes loss of freedom to include any audit findings in their audit report.
- In general, internal auditors consult managers effectively but there is a problem of resource wastage to some extent. Resource wastage leads to low efficiency.
- Activities of internal audit department to satisfy audit objectives stated in the charter are done by auditors, but not 100%. Activities done by the department include: reviewing main categories of income, process of analysis with respect to the internal control over operations, and review of cost and analysis on expenses done by internal auditors, to some extent, to satisfy audit objectives but it still needs further improvement considering the minimum percentage of unperformed activities.
- It is confirmed that all type of audits stated in its charter: compliance audit, financial audit, performance audit, information system audit, fraud/special investigation audits, follow up audits, and integrated/comprehensive audits are performed effectively to satisfy audit objectives stated in the charter.

4.3 Recommendation

From the data analysis and findings, the researchers arrived at the following recommendations:

- As shown in this study auditing process lacks independence which impedes the definition that internal audit is an independent appraisal function in an organization to examine and evaluate the organization's activities. Any intervention from any other department in the organization in the process of audit affects this basic feature of internal audit. Thus to ensure independence of internal auditors, the company should carefully staff managers with positive attitude toward auditors' report; senior management should respond positively to the auditors' findings in order not to make them biased. And performance appraisal should be done only by board of directors

not managers of the firm; this enables auditors to feel free to include any audit findings in their report.

- Internal auditors consult managers effectively but there is a problem of resource wastage. The researchers recommend that the company's managers should control auditors' activities in line with efficient usage of available resources. Improving efficiency in the workplace is about helping employees work smarter, not harder. Figuring out how to work efficiently can improve productivity, growth and profits with the same resources.
- From this study it is also concluded that activities of internal audit department to satisfy audit objectives stated in the charter are done by auditors, but it still needs further improvement. The company, in order to develop effective collaboration with the associated charter, should actively make performance appraisal of auditors.
- In addition, effective audit can be produced if internal auditors have more organizational career opportunity for promotion and training in the internal audit processes; so the organization needs to make the career and advancement opportunity available to the internal auditors.

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The Relationship between Capital Structure and Agency Problem: The Case of Top Tier Corporate Banks in Ethiopia

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Abstract

Agency problem has gradually started being a problem in the business world. Agency problem is conflict between shareholders (principal) and the managers (agents). The divergent views by different researchers, especially from outside Africa, in respect to agency costs which create knowledge gap to determine to what extent capital structure affects the agency costs of companies in Ethiopian banks are unique in terms of culture, laws and regulations. In this study, we set out to find out what the cause of agency problem in the banks is; determine the relationship between agency costs and capital structure of corporate banks listed in the study; determine where the banks should focus on in terms of finance to avoid or decrease agency problem; and determine if agency problem decreases firms' value in the short term and long term. In this study, secondary data collection is employed; the analysis is made mainly by a simple regression used to test the main model; and t-test is used as a test of significance. Data to determine the connection between agency cost and capital structure form the top performing banks in Ethiopia between January 1, 2018 and December 31, 2022, are used. Evidence from the examination of the results shows that capital structure has a substantial correlation between agency costs and annual long-term debt, which indicates that the more long-term debt is used in the operational process, activities will lead to an improvement in a company's operating activities. Overall, the study suggests that a combination of incentive packages, increased debt, and the creation of synergy can help address agency costs in the selected banks. By aligning the interests of the management team with those of the shareholders and creating a positive work environment, the company can strive towards improved performance and reduced agency costs.

Keywords: Agency problem, agency costs, capital structure, debt financing

1 Introduction

1.1 Back ground of the study

Until recently, management and ownership of enterprises were vested on the same person, the capital provider, but because of the continuous growth in the firm's capability and influence on the entire economy, the management and ownership gradually were separated in the eyes of the firm, the outside people and the government. This separation between ownership and management formed the basis of the so-called agency theory. Owners started appointing professional managers to manage their companies. Shareholders have an interest in increasing the firms' value; managers may want to pursue selfish goals of increasing perquisites, company size and market value. Managers are afforded freedom and are closer to the information of the company's wellbeing and performance. This freedom may motivate the manager to act out and move against the interest of the shareholders resulting in agency cost (Zheng, M. 2013). According to Yegon et al., (2014), agency costs occur due to non-optimal performance of directors (managers). These behaviors include excessive corporate consumption, ineffective investment decisions, wrong asset management, and fraudulent actions on company assets. Jensen (1986) argues that agency problems are more likely to prevail in large companies. In order to minimize the agency cost, a firm's shareholder may employ different methods which are classified as internal and external. Internal mechanisms include compensation contracts, giving shares and monitoring activities within the firm, whereas external mechanisms include monitoring activities by the capital markets and legislators. Although such activities are useful to reduce the risks and losses that must be borne by shareholders due to the agency cost, it in itself is an additional cost mostly referred as supervision cost (Vasiliou, Eritios & Daskalakis, 2005). For this reason, agency problems can never be perfectly solved and managers may never act totally in the best interest of shareholders. As a result, shareholders experience loss in wealth due to divergent behaviors of managers especially when there are free cash flows in firms with low growth opportunities.

Agency cost can affect capital structure of a company and a company's capital structure has, vice versa, an effect on agency cost. Kochhar (1997) defines capital structure as a mixture of financial liabilities (debt and equity) that is used to finance firm operations. Debt comes in the form of bond issues or long-term notes payable while equity is classified as common stock, preferred stock or retained earnings. Various previous studies in corporate banks in the US and Europe by Jensen and Meckling (1976), (1986), (1992) suggest that optimal capital structure is not the answer to the agency problem; it is rather debt financing. They give three different reasons that could lead to managerial efficiency due to use of debt in a firm. Firstly, the debt decreases the

firm's free cash flows. Secondly, the managers increase efficiency in order to meet debt payment objectives. Thirdly, an increase in debt could increase monitoring by lenders. Many studies have supported this idea. Easterbrook (1984) in the study of agency cost expectation of dividends, argues that external capital market monitoring brought to companies by debt financing, forces managers in value maximizing strategies, rather than personal utility maximization. Research by Zheng(2013) shows that debt has an impact on the decrease in agency cost. Debt can also be used to control excessive use of free cash flow by the management, thereby reducing worthless investments. With increasing debt, the company has an obligation to return the loan and pay interest periodically. This condition causes managers to work hard to increase profits so that they can meet the obligations of using debt.

In Ethiopia, although this issue is not mentioned as much as in the rest of the world, it is a problem that needs some clarification. As we do not have a well-recognized capital market, it makes the term shareholders known to only a few, and the researches and papers concerning this matter are little to non-existence although the problem still exists. So, this study will examine the agency costs in the top tier corporate banks in Ethiopia and how it affects their capital structure and firm values.

1.2 Statement of the Problem

In this study, it is easy to identify agency problem or agency cost that exists in any given corporate or share company, whether we like it or not. In modern corporations, the agent (the management) works on behalf of the principal (the shareholders) who do not have the capacity or means to see and analyze the actions of the agent, even if they had the incentive to do it. The problem that arises here is that there may be a conflict in the objectives of the managers and the owners. The owners would like to see the value of the firm maximized. Meanwhile, the management would be making decisions to fulfill their own set of objectives that may include a guarantee of their current job and position, reducing the workload by investing in projects that are less complicated or require less attention and also favoring projects that have lower payback period which could mean a more secure alternative.

There are quite a number of possible scenarios or situations in today's business world that would give rise to the conflict of interests between shareholders and managers. The first is job security; management will try to avoid riskier investment to avoid bankruptcy risk and loss of job. The second issue is reinvestment and dividend payout ratio. Managers in firms with large free cash flows have incentives to waste original resources on the negative Net present value projects and financing their perquisites rather than payout cash to shareholders through dividends or share

purchase schemes. So once management has fulfilled their contractual obligations, they may misappropriate excess funds financially to align their pockets instead of maximization of share wealth given. These different possible conflicts that arise in the agent-principal relationship that reduces shareholders value, is important to be able to know what solution are appropriate in different circumstances. Use of debt as a major financing tool is proposed by many studies like (Meckling and Jensen 1976), (Zhang and Li,2008) and (Ang, Cole and Lin, 2000). But by far many more but contradicting statements and studies have also been made. Hang (2009) did a study on the role of capital structure and managerial incentive compensation in controlling the free cash flow as agency problem. His findings indicate that a negative correlation exists between the capital structure and free cash flow, and debt financing restrict the capability of the firm.

There is no known capital structure amount that grantees the abolishment of agency cost if the firm increases its debt to decrease agency cost. It would do so with some degree but would also add another risk to its business. There are very limited studies or paper made regard agency problem and capital structure in our country; so this study will try to identify the causes of agency problems for the above stated banks and what their capital structure has got to do with it; is it affecting it or not because there is a clear gap of knowledge of the agency problem and how whether it is affecting their firm or not and what appropriate measures could be taken to reduce it not only in Ethiopia but in the whole of Africa.

1.3 Objectives of the Study
1.3.1 General Objective
To examine agency problem and the relationship with capital structure in top tier banks in Ethiopia.

1.3.2 Specific Objectives
The specific objectives of the study will be:
1) To find out if there is a direct relationship between agency problem and a firm's capital structure;
2) To determine if debt financing reduces agency cost;
3) To determine if capital structure affects management's view to the organization; and
4) To determine if indeed free cash flow will cause agency problem.

1.4 Research hypothesis
1) Ho: There is a direct relationship between agency problem and a firm's capital structure.
Ha: There is no direct relationship between agency problem and a firm's capital structure.
2) Ho: Debt financing reduces agency cost.
Ha: Debt financing does not reduce agency cost.

3) Ho: Change in the capital structure would affect management's view to the organization.
Ha: Change in the capital structure would not affect management's view to the organization.
4) Ho: Free cash flow will cause agency problem.
Ha: Free cash flow will not cause agency problem.

1.5 Significance of the study

The study would open the eyes of the banks to agency problem and what it is costing them in terms of value. The researchers tried to illustrate how their capital structure is a powerful tool which can be used to determine the degree of existing agency cost and the degree of bankruptcy cost or risk. The other thing this study tried to identify is the root cause of agency problem in the banks and tried to recommend appropriate measures to fix them. There are several areas for further research that can build upon the findings of this study. One potential avenue for future research is to investigate the impact of variables such as information asymmetry and concentration of ownership on agency costs. These variables were not considered in the current study, but they could potentially have significant effects on the relationship between capital structure and agency costs. Exploring how these variables interact with capital structure can provide a more comprehensive understanding of the factors influencing agency costs in the banking sector.

1.6 Scope of the Study

Since all researchers are presently residents in Addis Ababa, data collected for the study is mainly in the banks head offices which are all in Addis Ababa. There are many theories regarding both capital structure and agency problem with both time and availability of the documents. The researchers could not access in full which means the study is restricted to documents which are freely available in the internet and different books. The study analyzed 5 years data from 2018-2022. The six top performing corporate banks mentioned earlier are the main focus of the study.

Table 1.1: List of banks that the research included

Banks	Average gross profit(birr)	Year of est.	Number of branches	Swift
Commercial Bank of Ethiopia	17.9 billion	1963	1444	CBETETAA
Dashen Bank	1.8billion	1995	438	DASHETAA
Awash InternationalBank	1.31billion	1994	430	AWINETAA
Cooperative Bank of Oromia	1.13billion	2005	467	CBORETAA
Bank of Abyssinia	565million	1996	233	ABYSETAA
Wegagen Bank	465million	1997	211	WEGAETAA

Source: National bank of Ethiopia Report 2020/2021

1.7 Research Methodology

This section specifies the methods and procedures that are employed in this study. It ensures that the data collected relate to the objectives of the study and that data analysis yields appropriate results.

1.7.1 Research design and approach

This study has an explanatory/analytic and a correlation nature. An explanatory research method is developed to show cause and effect while correlation research method shows the relationship between two or more variables. Thus, these designs are the most appropriate for the study. The study is done to identify root causes of agency problems and try to find appropriate solutions and show the relationship between the capital structure of those banks to their agency costs

1.7.2 Population and sample techniques

The whole population are top corporate banks in Ethiopia but the target populations are top performance corporate banks in Ethiopia and their financial statements. So, the researcher used judgmental sampling that represents and explains the whole population.

1.7.3 Data type and collection

Researchers utilized secondary data extracted from financial annual reports of all the banks mentioned earlier. Secondary data used in this study are from sources such as books written on agency problems and capital structure by similar researchers conducted previously and websites. However, the major source the researchers referred is the firm's own financial statement to

understand where the firm is going and which capital structure mix are they emphasizing on financial reports that are extracted from each company in the sample: annual sales, total annual overheads expenses, total long term liabilities at end of each year, total assets at end of each year.

1.7.4 Method of data analysis

The data collected are analyzed through quantitative analysis. Different statistical methods are used. The statistical test of significance are used to measure the association between the dependent and independent variables, while regression analysis was applied to determine the effect of capital structure on the agency costs. Correlation analysis was also carried out to determine and measure the strength and direction of the linear relationship between two variables.

1.7.5 Model specification

As this study used a hypothesis and the data analysis also requires it, the researchers clearly must identify variables and classify them as dependent and independent. In this study, we only have two variables, agency problems measured using indirect costs, that is the value lost by shareholders due to managers exerting insufficient effort and making decisions that suit their own selfish interests cost and determined by using efficiency ratio. Efficiency ratio = Annual overhead expenses/Annual income. And capital structure measured by long term debt to equity ratio = Long term debt/Equity. But an additional variable was used.

A dependent variable is a variable which is influenced by the movement of the independent variable, and an independent variable, as its name indicates, is not influenced by any other variables. In this study, the independent variable would be capital structure which contains debt and equity or cost of debt, and cost of equity. The capital structure will not change unless the firm decides to do so. If the agency cost increased or decreased while the agency cost is much Affected by capital structure, and if the capital structure is more focused on debt financing, the agency cost will be significantly lowered.

The model is as explained below:

$$Y = \beta_0 + \beta_1 X_I + \varepsilon_i$$

Where:

Y = is the agency cost

β_0 = the intercept and the constant to the equation reflecting agency cost that doesn't depend on the company structure.

X_i = Capital structure which is defined by equity and debt and measured by

β_i = The sensitive coefficient that show the change in the agency cost due to a unit change in the independent variable

ε = is the error term of the model and captures the estimation errors and errors due to omission of other variables that affect agency cost apart from the capital structure.

A simple regression is used to test the main model and t-test along with standard error test and confidence interval test is used as a test of significance. The F-test was used to measure the association between the dependent and independent variables while regression analysis was applied to determine the effect of capital structure on the agency costs.

1.8 Limitations of the Study

This study is done with several impeding factors in play. For starters, the study was conducted on only 6 banks which makes the sample size too low, and it will not reflect the low level corporate banks as the companies researched are only top performing corporate banks. Moreover, the period of research from 2018 until 2022 is another limiting factor. The five year period covered is not enough to provide conclusive results as to the effect of capital structure on agency costs. The other limiting factor is the number of independent variables that were used in the model that affects the agency costs. In this study, only capital structure was used and the ratio that was used to analysis specifically was not universally accepted way of measuring agency costs. This is because agency costs can be measured either directly or indirectly. In addition, calculations in this study are made through hand and simple software operation and no major analyzing tool was used. Plus the lack of an established capital market made our analysis and final interpretation more difficult.

2. Data Analysis, Results and Findings

2.1 Introduction

The data analysis and interpretation of the research findings are presented in this chapter. To address the study's goal, the chapter analysis, groups, and tabulates the available data. The goal of the study was to determine the connection between agency cost and capital structure for the top performing banks in Ethiopia. Data between January 1, 2018 and December 31, 2022 were included in the sample. The study's results, analysis of regressions, and conclusions are all discussed in turn.

2.2 Ratio analysis

To measure the companies agency problem and capital structure, the researcher set out to use the efficiency ratio= Annual overhead expenses/Annual income and the capital structure by long term debt to equity ratio = Long term debt/Equity. The results are shown in Table 4.1, where the efficiency ratio, long-term debt of each bank is organized for every year.

Table 3.1: Result of Ratio analysis

Years	Commercial Bank of Ethiopia		Dashen Bank		Awash International Bank	
	Efficiency ratio	Debt to equity ratio	Efficiency ratio	Debt to equity ratio	Efficiency ratio	Debt to equity ratio
2017/18	0.6118	0.04101	0.70588	0.0153	0.6315	0.0721
2018/19	0.76635	0.04496	0.72727	0.02109	0.62962	0.04524
2019/20	0.71086	0.02949	0.76785	0.02525	0.58024	0.0123
2020/21	0.78134	0.05517	0.7397	0.02475	0.647058	0.02921
2021/22	0.76463	0.0425	0.75728	0.02498	0.64963	0.04453
Years	Cooperative Bank of Oromia		Bank of Abyssinia		Wegagen Bank	
	Efficiency ratio	Debt to equity ratio	Efficiency ratio	Debt to equity ratio	Efficiency ratio	Debt to equity ratio
2017/18	0.84313	0.3297	0.69583	0.0167089	0.6666667	0.008944548
2018/19	0.733067	0.115842	0.74758	0.019503	0.64516129	0.0288581
2019/20	0.7934486	0.12076	0.7599	0.02106	0.78125	0.025339
2020/21	0.75261324	0.041835098	0.80952	0.02196	0.75	0.026782
2021/22	0.7882938	0.14455817	0.79901	0.018257	0.806	0.035312

Source: Research Findings

2.3 Descriptive Statistics

The findings presented in Table 3.2 indicate the mean, median and standard deviation of the means for the main variables of the study, namely efficiency ratio statistics are the sample averages over the study period.

Table 3.2: Descriptive statistics of key variables

	Min	Max	Mean	Median	Mode	Standard deviation(SD)
Efficiency ratio(Y)	0.58024	0.84313	0.728083	0.74879	-	0.067466401
Debt to equity ratio(X)	0.00894455	0.3297	0.05011	0.029034	-	0.062053205

Source: Research Findings

Based on the data, the efficiency ratio has an average of 72.8% and a standard deviation of 6.7%. The minimum efficiency ratio was attained by Awash International Bank in 2019/20 period and the maximum efficiency ratio was at the Cooperative Bank of Oromia in 2017/18 period. The long-term debt ratio is calculated with an average of 5 % and a standard deviation of 6.2%. The largest value of the long-term debt ratio was at the Cooperative Bank of Oromia in 2017/18 period and the lowest was at Wegagen Bank in 2017/18.

2.4 Inferential Statistics

The result of correlation analysis, which was used to determine the direction and strength of relationships between agency costs, capital structure, ownership concentration, and information asymmetry, as well as regression analysis, was used to determine whether there was a relationship between the variables.

2.4.1 Regression Analysis

Based on the efficiency ratio and the control variable capital structure, a regression study on capital structure versus agency cost was carried out. This was the regression equation:

$Y = \beta_0 + \beta_1 X_I + \varepsilon$

Data for the above variables was generated for top 6 top performing banks in Ethiopia

Table 3.3: The Coefficients of the Model

	Coefficients	Standard errors
Intercept/constant(ẞo)	0.427200354	0.0113293
Long-term debt to equity(ẞ1)	6.004436311	0.01231763

The table above depicts the relationship that exists between the independent variables and the dependent variables in terms of numerical forming the following relationship from the equation given above i.e.

Agency cost = 0.427200354+ 6.004436311X1+ ε

SE=   (0.0113293)   (0.01231763)

From the equation developed above, it means that, once capital structure increases by 1 unit, agency cost increases by 6.004436311 units. This implies that the use of 1 unit of equity against debt would increase the agency cost by 6.004436311

2.4.2 Statistical test of Significance

It is mandatory to know how 'good' is the fit of this line to the sample observation of Y and X;

that is to say it is needed to measure the dispersion of observations around the regression line. This knowledge is essential because the closer the observation to the line, the better the goodness of fit, i.e. the better is the explanation of the variations of Y by the changes in the explanatory variables.

Under this section, primary focus is on statistical criteria (first order tests). The two most commonly used first order tests in econometric analysis are:

2.4.2.1 Tests of the 'goodness of fit' with R^2

R^2 shows the percentage of total variation of the dependent variable that can be explained by the changes in the explanatory variable(s) included in the model.

In this study, the $R^2 = 0.1243549$. This means that the regression line gives a good fit to the observed data since this line explains 12.43% of the total variation of the Y value around their mean. The remaining 87.57% of the total variation in Y is unaccounted for by the regression line.

Since sampling errors are inevitable in all estimates, it is necessary to apply test of significance in order to measure the size of the error and determine the degree of confidence in order to measure the validity of these estimates. This can be done by using various tests. The most common ones are:

2.4.2.2 Standard error test

This test helps us decide whether the estimates β_0 and β_1 are significantly different from zero, i.e. whether the sample from which they have been estimated might have come from a population whose true parameters are zero. In our study the half beta is greater than Standard error of beta; the implication β_1 is statistically significant at 5% level of significance.

SE (β_1) = 0.01231763
½ β_1= 3.002218156

2.4.2.3 Student's t-test

Like the standard error test, this test is also important to test the significance of the parameters. The test Compares t* (the computed value of t) and tc (critical value of t table value) If t*> tc, the conclusion is β_1 is statistically significant.

In this study, since t*=487.4668513and tc=2.048, t*>tc. It implies that β_1 is statistically significant.

2.4.2.4 Confidence interval

In order to define how close the estimate is to the true parameter, researchers must construct confidence interval for the true parameter; in other words, researchers must establish limiting values around the estimate within which the true parameter is expected to lie within a certain "degree of confidence". The decision rule states that if there is zero in the confidence interval, the implication is that $\beta 1$ is statistically insignificant.

In this study, the confidence interval is between [5.979&6.02966]. It implies that $\beta 1$ is statistically significant.

Table 3.4: Summary of the test of significant

F test	T computed	T critical
0.00012437	487.4668513	2.048
SE ($\beta 1$)	R^2	CI
0.01231763	0.1243549	5.979&6.02966

Source: Research Findings

2.4.3 Correlation Analysis

The correlation analysis was carried out to determine and measure the strength and direction of the linear relationship between the two variables, describing the direction and degree to which one variable is linearly related to the another.

Table 3.5: Correlation Analysis

	efficiency ratio	long term debt to equity
Efficiency ratio	1	0.3704
Long term debt to equity	0.3704	1

Source: Research Findings

From the table above, there existed a positive relationship between agency costs and long term debt (r = 0.3704), although technically a positive correlation, the relationship between the variables is weak.

2.5 Interpretation of the Findings

It is evident from the examination of the results that capital structure has a substantial correlation between agency costs and annual long-term debt. This indicates that the more long-term debt is used in the operational process; activities will lead to an improvement in a company's operating activities. Some researchers previously stated that there is no correlation that exists and the

movement in one variable does not cause the other to respond, but this study shows that with other factors combined, capital structure affects the agency problem. The results of the research by Zheng (2013) found out that there was no significant influence between the capital structure and agency costs which means that the use of long-term debt does not influence agency costs. However, the results of the research are in agreement with the findings of the research by Ellul (2005) and Lin(2006) who found out that there existed positive effects between capital structure and agency costs.

Usage of long-term debt will put pressure to the management team of various companies to manage the funds appropriately as the operations of the companies is tied down for the payment of lenders or investors in the future. This means that with an increase in the operational activities of the company, the cost of operation will also increase. The use of debt offers a sense of united synergy in that it will make the managers of various companies manage the funds effectively for the fund being not the companies own free cash inflow.

4. Summary, conclusion and recommendations
4.1. Introduction
This chapter presents the summary, conclusions and recommendations derived from the findings of the study. The chapter presents a brief summary of the study, conclusions, and recommendations.

4.2 Summary
The objective of the study was to investigate the relationship between capital structure and agency cost of the top corporate banks in Ethiopia. In answering this question, the study applied historical data to get the efficiency ratio and long term debt ratio. The historical data of all these ratios were obtained from the banks' annual financial report The key findings revealed that there was positive correlation between capital structure and agency costs.

4.3 Conclusion
This study selected 6 top performing corporate banks in Ethiopia during the five-year period from 2018 to 2022. It studied the relationship between the capital structure and the agency cost. The long-term debt to equity ratio is used to determine capital structure, while the efficiency ratio is used to calculate agency cost, which is computed by dividing yearly overhead expenses by the revenue ratio. The hypothesis is utilized to create single regression model which is then used to conduct empirical assessment. The finding indicates that:
- The long-term debt to equity ratio has a large and favorable effect on the agency cost, as assessed by the efficiency ratio.

- An increase in the company's debt in order to support or expand its activities will result in generation of load of operations in any firm. Coupled with the company's increasing operations, there is a requirement for monitoring to ensure that a rise in the expenditures incurred for the increased operational activities is allocated properly.
- Debt financing increases monitoring external parties reducing free cash flow.

4.4 Recommendations for Policy

The result of this study indicates that there is a positive relationship between capital structure and agency costs in the selected banks. This implies that the way a company finances its operations and investments can impact the costs associated with agency problems, which arises due to conflicts of interest between shareholders and management.

To address this issue, it is recommended to implement incentive packages for the management team. By providing incentives, such as performance-based bonuses or stock options, the management team is encouraged to work harder and align their interests with those of the shareholders. This can help mitigate agency costs by motivating the management team to act in the best interest of the company and its stakeholders. Furthermore, the study suggests that increasing the use of debt in the capital structure can provide an additional incentive for the management team to work hard. When a company has more debt, the management team has a greater obligation to meet the expectations of investors and debtors. This can create a sense of responsibility and drive the management team to work diligently to fulfill their obligations.

In addition to incentive packages and increased debt, the study recommends the creation of synergy within the organization. By fostering a sense of belongingness and inclusion, the management team is more likely to feel a strong connection to the company and its goals. This can enhance their commitment and motivation to work hard, as they perceive themselves as integral parts of the organization. Overall, the study suggests that a combination of

- Incentive packages, increased debt, and the creation of synergy can help address agency costs in the selected banks.
- By aligning the interests of the management team with those of the shareholders and creating a positive work environment, the company can strive towards improved performance and reduced agency costs.

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Assessment of Credit Risk Management Practices in Nib International Bank: Case Study in Wolkite Town Branches

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Abstract

The objective of this study is to examine the practice of credit risk management at Nib International Bank. To address this objective, the study targeted 15 employees of the Bank who are currently working at three branches in Wolkite town. The primary data were collected through questionnaire. The collected data were analyzed using the descriptive analysis method. The findings showed that there is a well-designed credit risk strategy and policy that indicates and recognizes areas of credit engagement and the risks inherent in these engagements. The findings also indicated that respondent employees believed there is a good level of credit appraisal and granting process at the Bank that checks borrower's history, financial condition, and collateral requirements before granting the loan. Furthermore, the study showed that NIB has an appropriate internal risk scoring system, and a good risk control and monitoring system; it also employs risk based scientific pricing and has an independent risk management function. But results also indicated that there is a room for improvement about credit portfolio concentration limits and offering customer's sufficient training on loan usage. In line with the findings of the study, it was suggested to the Bank to enhance its credit portfolio concentration limit and improve training to customers on loan usage.

1. Introduction

1.1Background of the Study

Banks are one of the most important financial intermediaries whose primary function, as well as their reason of existence, is to mobilize funds and pass them over or lend to those who need to finance businesses or projects. In other words, banks act as a bridge between those sections of society who save and those who seek to invest but do not have the financial means to do Getaneh,Halephom and Meron , (2014)

Because of their intermediary function, banks also serve as a vehicle for the economic and social development of a country. This is particularly true in the less developed countries like Ethiopia where capital markets are either under developed or virtually non-existent to meet the credit needs of society, (ibid).

Banks are exposed to different types of risks, which affect their performance and activity since the primary goal of the banking management is to maximize the shareholders' wealth. So, in achieving this goal, banks' managers and loan related staffs should assess the cash flows and assumed risks as a result of directing its financial resources in different areas of utilization (Daniel ,2019).

Credit risk is one of the most significant risks that banks face, considering that granting credit is one of the main sources of income in commercial banks. Therefore, the management of the risk related to that credit affects the profitability of the bank (Li and Zou, 2014).

In Ethiopia, the banking sector has evolved a lot since Bank of Abyssinia was first established based on the agreement between Ethiopian government and National Bank of Egypt in 1905. During the finale decade of the last century, a notable structural change in the financial sector has laid the ground for the establishment of several private commercial banks. According to NBE, in 2022 there were 29 commercial banks in Ethiopia. The National Bank of Ethiopia (NBE) believes such growth should be matched to strong risk management practices. This study, therefore, attempted to assess the actual credit risk management practice of Nib International Bank.

1.2. Background of the Organization

Nib International Bank (NIB) was established on 26 May, 1999 under license no. LBB/007/99 by the Commercial Code of Ethiopia and the Proclamation for Licensing and Supervision of Banking Business Proclamation no. 84/1994 with the paid-up capital of birr 27.6 million and authorized capital of Birr 150 million by 717 Shareholders. The Bank commenced its operation on 28 October, 1999 with 27 employees. It joined the banking industry as the sixth private bank licensed in the country.

Other than rendering fulfilled domestic and international banking services, the Bank implemented Mobile and Internet Banking through which it issues NIB cards. The Bank has placed its ATM's at various locations throughout the Country to provide its diversified productsin convenient ways to esteemed customers. Moreover, to enhance the application of modern banking technologies and provide competitive service via a wide range of card banking services, the Bank has established a strategic partnership with MasterCard, VISA and Union Pay branded cards which is a breakthrough to provide international payment service.

To introduce products, other than the previous innovative products and services, Nib Mar Saving, NIB Social Saving, NIB Donation Saving, and NIB Entrepreneur's Saving were developed. In addition, the Bank is working with Tele Birr and E-birr (Product name – NIB E- birr) to be a better competitor in this digital world of banking. (https://www.nibbankssc.com)

1.3. Statement of the Problem

It is believed that generally banks face credit, market, liquidity, operational, compliance (legal) regulatory and reputation risks among which credit risk is known to have the adverse impact on profitability and growth. Hence, the success of most commercial banks lies on the achievements in credit management justifying risk to the acceptable level (Hagos, 2010).

Credit risk arises from the bank's dealing with or lending to corporate, individuals and other banks or financial institutions. High credit risk reduces earnings and capital, increases administration cost of the bank, and induces liquidity problems affecting cash flow. That is why it is essential that management pays much of its attention on managing the loans. The organization's ability to effectively monitor and manage its credit risk can mean the difference between success and failure. Effective credit risk management attracts more attention than today before. Interest income and interest expense are the main determining factors for the profitability of private banks in Ethiopia (Yigremachew, 2008).

In Ethiopia, to the knowledge of the researcher, several researches were conducted in the area of credit risk management. The studies are more focused on credit risk management and their impact on profitability. However, most of the literature with regard to the topic made in Ethiopian context focused on part of credit management aspects such as performance, profitability, and credit

exposures instead of assessing the credit risk management. Thus, the researcher tries to fill the gap and contribute to the literature by addressing the problems of credit risk management of Nib International Bank. Moreover, previous researches were conducted at country level and they are more focused on urban areas. Consequently, the researcher tried fill the gap by assessing the effect of credit risk management practice in Wolkite town.

In light to this, the study attempts to address the problem and find answers to the following research question:

⇨ What are the existing credit guidelines and procedures at Nib International Bank?

⇨ What aspects are considered in the Bank's client appraisal and credit granting process?

⇨ What mechanisms are used to measure and monitor credit at Nib International Bank?

⇨ What methods are employed to control and mitigate credit risk at Nib International Bank?

1.4   Research Objectives

1.4.1. *General objective*

The general objective of the study is to assess the credit management practice in Nib International Bank.

1.4.2. *Specific objectives*

In line with the general objective of the study, the following specific objectives are identified:

➢ To examine credit guidelines and procedures in Nib International Bank;

➢ To assess the client appraisal and credit granting process at NIB;
➢ To assess the mechanisms are used to measure and monitor credit at Nib International Bank; and
➢ To assess the effectiveness of the preventive techniques at NIB.

1.5. Significance of the study

In light of the essence of the objectives it sets out to achieve, the study is a vital input for the improvement of the process of credit risk management. It also enables the Bank to review its credit management practices.

Furthermore, the study can serve:
• To acquire a degree in accounting and finance;
• A reference material for any interested reader on the subject;
• To show the strong and weak points in credit risk management of Nib International Bank;
• The result of the study will be expected to give certain knowledge on how to manage credit for the manager of the bank as well as for the customers; and

- It will also provide solution that enables the Bank to improve service of credit provision and efficient payback on due date.

1.6 Scope of the study

The study will be conducted on Nib International Bank of wolkite town. The study focuses on assessment of credit management practice.

2. Research Design
2.1 Research Methodology
This research used descriptive research design. Descriptive research was employed as a main research method to describe credit risk management practice at the Bank. As described by C.R. Kothari (2004), descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present.

2 .2 Source of Data
In this study, primary data was collected through a structured questionnaire.

2.3. Method of Data Collection
To collect the required data from respondents, structured questionnaire was employed. The primary data was collected from all key risk management workers and other professional workers using close ended questionnaire.

2.4 Population Size and Sampling Technique
The study population was drawn from Nib International Bank professionals and clerical employees who are working at the selected three branches in Wolkite town. There are 15 professional employees working throughout the 3 branches of the Bank.
In order to select relevant data from the respondents, censes method was used for all professional staff members of the Bank. According to C.R. Kothari (2004), censes method is a complete enumeration of all items in the population. It can be presumed that in such an inquiry, when all items are covered, no element of chance is left and highest accuracy is obtained. This method is selected by the researcher because, it was enabling the researcher to get accurate data from small population.

2.5 Method of Data Analysis
As the research methodology is qualitative and quantitative in nature, descriptive elaborations and discussions are employed to analyze the data. The information obtained from the different

sources is presented more in descriptive method.

3. Data Presentation and Analysis

The general objective of this study was to assess the credit risk management practice at Nib International Bank, Wolkite branch. To attain the objective of the study, data from primary source was collected through questionnaires distributed to employees of the Bank working in the Wolkite branches. In this chapter data presentation, interpretation and discussion are presented.

3.1Analysis and interpretation of questionnaire result in table form

In this section of the study, the data gathered from primary sources are analyzed and interpreted. A total of 15 questionnaires were distributed to the employees of the Bank who are related with the problem of the study area.

Table 3.1 Demographic information or summary of the number and percentage of respondents by age, sex, educational qualification, and work experience.
Source: own survey

Item		Respondent	
		Numbers	Percentage (%)
sex	Male	8	53.3%
	Female	7	46.7%
	Total	15	100%
Age	25 to 30	8	53.3%
	31to 35	4	26.7%
	36 to 40	3	20%
	Above 40	-	-
	Total	15	100%
Education qualification	TVET certificate	-	-
	Diploma	-	-
	Degree	15	100%
	Master	-	-
	Total	15	100%
Work experience	*Below 5 year*	*11*	*73.3%*
	6 to 10	*4*	*26.7%*
	11 to 20	-	-
	Above 20	-	-
	Total	*15*	*100%*

The above table (table 3.1) shows demographic information of respondents by age, sex and educational qualification. We can see from the table that 53.3% of the respondents are male and

46.7% are female. This shows that most of the employees of the Bank are male. Moreover, out of the total number of respondents, 53.3% belong to age group of 25 to 30 years, while 26.7% are in the age range of 31 to 35 years; the remaining 20 % are in the age range of 36 to 40 years. This shows that most of the Bank's employees are found in the adult age. This implies that most of employees of the Bank are fresh. Then the researcher had seen the educational qualification. As we know education is the best instrument for the development of the country.

The credit activities are facilitated easily if the people involved are educated. And according to the sample respondents, 100% of the respondents are degree holders. Thus the researcher can conclude that all employees are literate but it is not enough. Finally, the researcher looked at the experience of each respondent in the Bank under their current job. 73.3% of the respondents' working experience is less than five years, and 26.7% have experience between 6 to 10years. From this the researcher can conclude that most of the employees of the Bank are not new for the Bank's service to some extent and know about the study area. This is good for researcher in order to get full information about the problem under study.

TABLE 3.2: *employee's opinions towards credit policies and guidelines at the bank*

Question	Measurement	Strongly agree	Agree	neutral	Disagree	Strongly disagree
The bank has well-designed credit risk strategy and policy.	Freq.	5	4	2	4	-
	%	33.3%	26.7%	13.3%	26.7%	-
The existing credit policy of the Bank explicitly indicates general areas of credit in which the Bank is prepared to engage.	Freq.	2	7	6	-	-
	%	13.3%	46.7%	40%	-	-
The existing credit policy of the Bank incorporates sound and prudent creditportfolio concentration limits.	Freq.	2	2	11	-	-
	%	13.3%	13.3%	73.4%	-	-
The credit policy of the Bank clearly defins appropriate levels of delegation of approval, and provision or write- off authorities.	Freq.	3	9	3	-	-
	%	20%	60%	20%	-	-
The Bank has credit risk policy that clearly sets out how bad credits are to be managed.	Freq.	9	6	-	-	-
	%	60%	40%	-	-	-

Source: own survey

As presented in Table 3.2, employees were first asked to indicate their feelings towards the presence of well-designed credit risk strategy and policy at the Bank. Around 60.3% respondents agreed and around 13.3% and 26.7% of respondents were neutral and disagree, respectively. This shows that there is a little gap needed to be improved in credit risk strategy and policy of the Bank.

Item 2 in Table 3.2 inquired about the opinion of the respondents regarding the presence of credit policy that indicates areas of engagement and the ability of the credit strategy to incorporate risksinherent in activities on which the Bank engages. 60% of the respondents agreed. This result indicates that respondents believe that the credit policy and strategy at NIB indicates and recognizes areas of credit in which the bank engage in and the risks associated with the activities it engages in. According to Table 3.2 item 3, 73.4% of the respondents were

neutral with regard to the presence of credit policy that incorporates sound and prudent credit portfolio concentration limit.This implies that respondents do not have any knowledge about this policy.

In item 4 respondents were asked whether the Bank's credit policy and procedures clearly define appropriate levels of delegation with regard to approval and provision of credit. 80% of the respondents agreed. This implies that respondents believe that the existing credit policy of the Bank clearly states delegation of loan approval. This helps to distinguish who is responsible to carry out credit related tasks.

Furthermore, as shown in Table 3.2, item 5, all respondents agreed with the statement 'the Bank has credit risk policy that clearly sets out how bad credits are to be managed'. This implies that when the Bank encounters bad loans, its credit policy has set out a way to deal with bad loans. In general, from this and the results presented in Table 4.2 above, that more of the results are above averageit, it can be implied that the existing credit policy of the Bank is good.

TABLE 3.3: Employees' opinions towards credit appraisal &granting process at the Bank

Question	Measurement	Strongly agree	Agree	neutral	Disagree	Strongly disagree
The Bank conducts comprehensive credit worthiness analysis properlybefore granting loans.	Freq.	11	4	-	-	-
	%	73.3%	26.7%	-	-	-
The Bank checks the borrower's history and financial ability to meet obligation before granting loans.	Freq.	9	4	-	2	-
	%	60%	26.7%	-	13.3%	-
The Bank has a clearly established process for approving a new credit as	Freq.	8	5	2	-	-
	%	53.4%	33.3%	13.3%	-	-
well as amendments, renewal and re-financing of existing credits.						
Adequacy, marketability and enforceability of collateral requirementis properly evaluated and measured by professional personnel or expertise.	Freq.	4	7	2	2	-
	%	26.7%	46.7%	13.3%	13.3%	-
The Bank's credit granting and approval process establishes accountability ofthe decision makers.	Freq.	7	6	-	-	2
	%	46.6%	40%	-	-	13.3%

Source: own survey

Table 3.3 presents results of respondents' opinion regarding the credit appraisal and granting process of the Bank. In this regard, the first item that sought respondents' opinion was whether the Bank conducts comprehensive credit worthiness analysis properly before granting loan. All respondents agreed with the statement.

Item 2 in Table 3.3 inquired the opinion of the respondents if the Bank checks the borrower's history and financial ability before granting loans. 86.7% of the respondents agreed so.

According to Table 3.3, 86.7% of the respondents agreed with regard to the presence of clear established process for amendment, renewal and re-financing of existing credits. This finding shows that respondents' opinion is relatively favorable regarding the item.

According to the last item of Table 3.3, 86.6% of the respondents agreed with regard to the presence of credit granting and approval process that establishes accountability of the decision makers.

Table 3.4: Employees' opinions towards the credit monitoring practice at the Bank

Question	Measurement	Strongly agree	Agree	neutral	Disagree	Strongly disagree
The Bank has a well-structured documentation tracking system for credit and collateral files.	Freq.	7	6	2	-	-
	%	46.6%	40%	13.3%	-	-
The Bank strictly monitors if loanterms and conditions are being met.	Freq.	3	11	1	-	-
	%	20%	73.4%	6.6%	-	-
The Bank monitors the business of clients after granting credits on regular interval basis.	Freq.	4	2	9	-	-
	%	26.6%	13.3%	60%	-	-
The Bank regularly assesses value and existence of collateral coverage.	Freq.	3	12	0	-	-
	%	20%	80%	0%	-	-
The Bank sends timely notices notifying customers their obligations.	Freq.	2	11	2	-	-
	%	13.3%	73.4%	13.3%	-	-

Source: own survey

As presented in Table 3.4, the first item inquired respondents' opinion about the presence of a well-structured documentation tracking system for credit and collateral files at the bank. 86.6% of the respondents agreed with the statement. Similarly, 93.4% of the respondents showed their agreement to the second item.

In contrast, Table 3.4 shows respondents do not agree that the bank regularly monitors the business of clients after granting credits. This was reflected with the 60% neutral response. This result shows that the Bank's effort to assess the business activities of clients after granting the loan is below average.

According to table 3.4 above, the last two items show the bank regularly asses value and existence of collateral coverage and that the bank sends timely notices notifying customers of their obligations. This result shows that the banks effort to assess the collateral situation during loan term and providing prior notices for customers is good.

Table 3.5: Employees' opinions towards the credit risk mitigation strategies and tools

Question	Measurement	Strongly agree	Agree	neutral	Disagree	Strongly disagree
The Bank employs risk based scientific pricing.	Freq.	4	9	2	-	-
	%	26.7%	60%	13.3%	-	-
The Bank has appropriate internal riskscoring system that distinguishes high and low risk areas.	Freq.	7	4	2	2	-
	%	46.7%	26.7%	13.3%	13.3%	-
Proper credit limit is established by the Bank for particular economic sectors, geographic region-specific products, and a group of associated borrowers.	Freq.	7	4	4	-	-
	%	46.6%	26.7%	26.7%	-	-
The Bank offers training to employeeson credit risk management.	Freq.	4	11	-	-	-
	%	26.7%	73.3%	-	-	-
The Bank offers customers sufficient training on loans usage.	Freq.	2	7	6	-	-
	%	13.3%	46.7%	40%	-	-

Source: own survey

Table 3.5 shows opinions of respondents about the credit risk mitigation strategies and tools employed at the Bank. As presented above, the first item enquired employees if they believe the Bank employs risk based scientific pricing method. 86.7% of the respondents agreed with this statement. This indicates that the Bank is good in pricing technique, which in turn helps mitigate risk faced by the Bank.

The second item asked employees' opinion on appropriate internal risk scoring system at the bank that distinguishes high and low risk area. More than half of the respondents agreed and

around 26% of them did not agree. This shows that the Bank is good but not enough on internal scoring system.

The 3 item asked on Table 3.5 was about the opinion of employees on the establishment of proper credit limit by the Bank based on economic sector, geographical region and borrowers. The response of employees shows that the Bank is good on this regard, and it is a helpfull technique to reduce risks related with credit.

Finally, the last two questions are related to training on credit risk management offered by the Bank to employees and customers. This result indicates that employees believe there are sufficient trainings provided to employees on credit risk management. On the customer side 54% of respondents agreed but 40% of respondents them were neutral This indicates that the Bank does not offer sufficient training to customers on loan usage.

4. Summary, Conclusions and Recommendations
4.1.Summary of Major Findings

This study was conducted with the main objective of assessing the credit risk management practice of Nib International Bank. This study has assessed existing credit policies and guidelines, client appraisal and credit granting process, credit risk control and monitoring practice and the methods employed to control and mitigate credit risk at Bank. The study used descriptive research design and the study was carried out through collecting data by questionnaires from the employees at Wolkite branches. The following is the summary of the major findings of the study. The results revealed that:

✓ the majority of the Bank's staff fall between 25 – 35 years of age, implying that the Bank's human resource is more of young aged;

✓ the Bank is in good position in terms of the necessary educated manpower and experienced staffs as all staff have at least BA degree;

- ✓ the majority of the respondents agreed that the Bank has a well- designed credit risk strategy and policy;

- ✓ 60% of the respondents agreed that the Bank's policy explicitly indicates the general area of credit in which the Bank is prepared to engage, and 40% of the respondents were neutral;

- ✓ 80% of the respondents agreed on the appropriate level of delegation for approval and provision or write off authority;

- ✓ all respondents agreed that the Bank has a credit risk policy that clearly sets out how bad credits are to be managed;

- ✓ respondent employees agreed that the Bank conducts comprehensive credit worthiness analysis properly before granting loans;

- ✓ the Bank properly assesses borrower's history and financial ability before granting loans;

- ✓ more than half of the respondents agreed on the process of approving a new credit and amendment, renewal and re-financing of existing credit;

- ✓ respondent employees agreed with regard to the availability of credit granting and approval process that establishes accountability of the decision makers;

- ✓ the Bank has a well-structured documentation tracing system for credit and collateral files;
- ✓ 60% of respondents gave neutral opinion that the Bank monitors the business of clients after granting credits on regular interval basis;

- ✓ all respondents agreed that the Bank regularly assesses value and existence of collateral coverage;

- ✓ 86.7% of the respondents believe the Bank sends timely notice notifying customers their obligation;

- ✓ 73.4% of the respondent employees believed that the Bank uses appropriate internal risk scoring system, and that 86.7% of the Bank employs risk based scientific pricing; and

- ✓ 100% of the respondents agreed that the Bank gives trainings to employees on credit risk management, and 60% of them agreed on the provision of advice for customers on loans usage.

4.2. CONCLUSION

It is argued in the literature that appropriate credit risk environment mainly depends on a development of a comprehensive credit risk strategies and policies that can address the identification of existing and potential credit risk, the activities the bank engages in and credit portfolio concentration limits (Basel, 2008). The findings in the study revealed that that the

existing credit policy of banks possess the valuable ingredients needed to sustain a healthy credit management. Results showed that there is a well-designed credit risk strategy and policy that indicates and recognizes areas of credit engagement and the risks inherent in these engagements. It is stated that banks should follow a thorough credit evaluation process to assess whether clients are credit worthy or not before granting loans. To properly evaluate loan requests, banks should be able to determine the repayment ability of the potential borrower. This requires assessing the business and the financial position of the potential customer and the overall economic conditions (Kakuru, 2003). The results of the study showed that the Bank considers important aspects like borrowers' history, financial condition, and collateral.

Another aspect of a sound credit risk management process is a sound monitoring practice intended to ensure credit is orderly and fully repaid. This involves monitoring the portfolio performance, conducting site visits, regular contact with clients, and reviewing clients' files and documents. In this aspect, findings in the study showed that there is strong credit risk control and monitoring about monitoring activities; regular inspection of the business of clients; assessing the value and existence of collateral coverage; and communicating with customers to be able to notify them of their obligations.

Credit risk management also involves building a capacity that can mitigate and transfer the risk to reduce losses. To achieve this risk management objective, banks use tools and strategies through which credit risk is mitigated (Raghavan, 2003). With this regard, the findings in the study revealed that Nib International Bank uses an appropriate internal risk scoring system, employs risk-based scientific pricing, and has an independent risk management function.

4.3.RECOMMENDATIONS

The study recommends the following points based on the findings:

➢ One of the important methods to reduce credit risk is the credit portfolio concentration limit. In this regard, the study shows that the Bank has lack of credit portfolio concentration limit. The Bank must make corrective action on the credit portfolio concentration limit.
➢ Once a credit is disbursed, the existence of a well-developed constant monitoring process is

imperative and forms a substantial part of the monitoring function in a bank. One method of carrying out this monitoring process is by inspecting the business of clients on a regular interval basis after granting credits. The findings of the study showed that there is room for improvement in this regard at NIB. Therefore, this study suggests that the Bank undertake regular inspections that can enable it to compare the actual performance of the borrowers. This can be achieved by timely analysis of the financial accounts of loan customers and comparing it to the projections accepted at the time of appraisal of credit facilities. This helps the Bank to timely identify accounts showing symptoms of strain and put them under constant monitoring.

➢ To increase the high quality of credit service, all customers should get sufficient training on loan usage. The training should be given continuously - every six months and every year- to refresh what they know and through group discussion; they may share their ideas and finally come to some solution for the appropriate use of loan. The study shows that the Bank gives training to customers on loan usage but it is not enough; it must make some improvement.

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Contribution and Challenge of Photography Tourism in Ethiopia
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1. Introduction
1.1. Background of the study

Tourism and photography are intertwined with each other for a considerable span of time. The tourist has realized both photography and tourism are complementary to each other, and there is a long history over the years backing up such a relationship. It was this instinctive passion that has driven the tourist down the ages from ancient times to capture the image of the places with all its beauty and magic that he had travelled. Drawing, sketching and painting used to be the medium of expressing his appreciation and passion for preserving the images of nature, until a serious thought was given to invent a machine which could capture permanent images of the beauteous nature enabling him to preserve those for a long time.

Photography tourism is a type of travel that involves visiting places for the purpose of taking photographs. The history of photography tourism can be traced back to the early 19th century when photography was first invented. At that time, people started traveling to different parts of the world to capture images of exotic landscapes and cultures.

In the mid-19th century, photography became more accessible to the general public, and more people started taking up photography as a hobby. This led to an increase in the number of people traveling for photography purposes. During the 20th century, advances in technology made photography even more accessible and affordable. This led to a boom in tourism as people traveled to different parts of the world to capture images of famous landmarks, natural wonders, and cultural events. Where there are photos, there are cameras. In 1839, Louis Jacques Daguerre created the daguerreotype, which was a type of photographic process that made travelling and taking images a more feasible method. That invention allowed early travel photographers to bring their travel photography equipment with them but had the downside of long exposure times and a lack of negatives, which made it less attractive to commercial travel photographers. After all, no negatives meant they couldn't reproduce prints for commercial distribution.

Then, the real breakthrough happened in 1888 when someone named George Eastman invented the very first point-and-shoot camera. Photography enthusiasts are familiar with him, but to those who may not know, George Eastman founded Kodak and wanted to bring photography to the world and make a profit. Selling and developing films was a big money-maker for Kodak. One of the pioneers of travel photography was John Thompson, a Scottish

photographer who was one of the first to travel to the Far East. His images of the people, landscapes and historic sites captivated people upon his return home. It was also his images which were the first instance of social documentary photography which would later form what we regard as photojournalism.

Today, photography tourism is a popular form of travel that attracts millions of people every year. With social media platforms like Instagram and Facebook, sharing photos has become easier than ever before, making it possible for people to share their travel experiences with others around the world.

Photography and tourism are inseparable. Tourism without photos of the tour destinations taken is a half completed activity. Photography in tourism appeals to every tourist. There is no fun in a visit to a place without keeping a record of all the wonderful things you had been through while on a tour. No other form of record is as pleasing as the one that has a visual desirability, and photography fits the description exactly as does a ball into a socket.

Nature reveals herself in many forms and beauties across the globe forcing us step outdoors to enjoy and appreciate the variety. Our Ethiopia has mountains, land scape, waterfalls and endemic animals all over our country blue sky. A breath-taking beauty epitomized. tourists cannot take back home the black lion or the Blue Nile falls, but they can certainly carry home the brilliant photography of these wonderful creations of nature. It greatly helps in reliving the memories of their amazing trip.

The most important component of photographic tourism revolves around the human element that functions behind the camera. The photographer himself is a key component. The photographers need to have the right kind of 'eye' or in other words a perceptive vision that enables them to view the subject and whatever stands beyond. The image is a just an outline of the object as focused through the length abiding by the laws of physics. This is the mathematical aspect of photography. It is factual and straight. Beyond this there lies the aesthetic aspect of photography where the tourist photographer needs his subtle artistic sense to feel the pulse of his subject.

The second most important component of photographic tourism is the subject who stands as the cynosure of discussion inviting a flow opinions when exposed to the public, be it through internet social networking, gallery exhibition or photographic albums. The sequence of organizing the snap shots is equally important as they exhibit briefly your entire tour itinerary. It makes your photography meaningful placed against the backdrop of the visits to different places. The weather and climatic factors are not to be overlooked as they are very crucial

components, which can enhance the quality of the picture or can spoil it.

1.2 Statement of the problem

Ethiopia is endowed with numerous sites of tourist attractions ranging from physical to cultural environment that are potentially important for the country's tourism development. It has a unique feature of land in terms of natural, cultural, historical, and religious tourism assets and unique biodiversity. It has a big potential for tourism. However, despite this a much higher potential tourism resource, but characterized by low, severe unemployment, and absolute poverty, to eradicate or at least to reduce these problems, there arise a need for diversifying the economy from agricultural sector to the modern sector of industry and service.

The two opposite sides of Ethiopia, in one hand, a land of beauty with high potentiality and on the other hand, a country of poor and undeveloped have been experienced as a large gap due to various reasons. There is a lack of infrastructure and services to support photographers and tourists through their lenses. Additionally, there is lack of awareness and promotion of Ethiopia as a photography tourism destination, which limits its visibility and appeal potential visitors.

The main reason for the researcher to undertake this research is to enhance the role of photography in tourism. And the research questions would be the main focuses of this study. Therefore, this study was conducted to fill this research gap.

1.3 Objective of the study
1.3.1 General objective
The general objective of this research is to assess the challenge and contribution of photography tourism in Ethiopia

1.3.2 Specific objectives
1. To identify the contribution of photography tourism in Ethiopia;
2. To assess the current status of photography tourism in Ethiopia; and
3. To identify the challenges of photography tourism in Ethiopia.

1.4 Research Question
1. What is the contribution of photography tourism?
2. What is the current status of photography tourism in Ethiopia?
3. What are the challenges of photography tourism?

1.5 Significance of the study

The study will help provide information about photography tourism in Ethiopia. It will also help identify challenges and contributions of photography tourism. It also will give suggestion and advice for government and stakeholders which work in photography tourism. On other hand it will help the student or researcher to have experience in conducting this particular research.

1.6 Scope of the Study

The study will cover the following areas: overview of photography tourism, overview of Ethiopians tourism industry, photography destinations in Ethiopia, photography services in Ethiopia, the contribution of photography for promotion of Ethiopian destination, and image building of the country.

1.7 Limitation of the Study

There is lack of previous research on photography tourism in Ethiopia, a limitation of written documents in photography tourism in Ethiopia. There is no private or governmental organization that will address related issues and questions, there is also lack of availability and translation for foreign research materials.

2. Research Design and Methodology

2.1 Research Design

The research methodology applied for this research was descriptive. Descriptive research is defined as a research method that describes the characteristics of the phenomena that is being study. The methodology of the paper focused on the "what" of the research subject rather than other research questions. This research data collection will be qualitative. This will use individual interview, observation and questioners.

2.2 Sampling and Population

In order to examine and have a better understanding about photography tourism in Ethiopia, it is essential to take all stakeholders in to consideration. Some of the role-players which are directly and indirectly linked to this type of tourism activities, include museum, convention center, exhibition hall, transport providers as well as government bodies such as Ministry of Tourism, Ethiopian Tourism Guides Professional Association, Addis Ababa Photographers' Association and others participants in the photography industry.

The sampling technique which was implemented in this study is purposive sampling, a technique which is based on the intention of purpose of the study. Only particular elements to identify the opportunity, challenge and current status of photography tourism in Ethiopia in

depth are selected from the population, which suits the best for the purpose of the study. This study selected out some professional individuals who are tourism photographers, street photographers, tour guides, tour operators, managers from magazines, tourism professionals and others.

2.3 Source of Data

Data is one of the most important and vital aspect of any research studies. Researchers conducted in different fields of study can be different in methodology, but every research is based on the data which is interpreted to get information. Data can be defined as qualitative and quantitative value of a variable. So this study included both qualitative and quantitative, which explain attribute and variables which cannot be explained in numerical and non-numerical forms.

2.4 Data Collection Method

Two data collection methods were used in this study: primary and secondary data collection methods. Primary data collection is the original or first-hand data collected specially for the purpose in mind. Secondary data is data that has been already collected by and readily available from other. These secondary data may be obtained from sources including books, journals, magazines, articles, newspaper as well as electronic source or internet.

2.5 Method of Data Analysis

The prominent data analysis technique used are both qualitative and quantitative data analysis. As it is mentioned, this research used both primary and secondary collection technique to feed the thesis with adequate information. Qualitative and qualitative data analysis is simply the process of examining qualitative data, which is data obtained by interviews, observations and open end questions of questionnaires.

3. Data Presentation, Analysis and Interpretation

This chapter deals with the analysis and interpretation of the related information that was collected from questionnaire and interview with the purpose of assessing the contribution of photography tourism for the industry. The primary data gathering mechanisms that have been implemented to have a genuine first hand data were questionnaires, interview and personal observation. In this part of the study, data obtained by different primary data gathering mechanisms are indicated, properly analyzed and interpreted from various point of views. What is gathered in the data gathering process is people's opinion, who is experts of the tourism industry and the photography sector.

Both qualitative and quantitative data analysis techniques were implemented to analyze the data

obtained through questionnaires and interview. The data obtained through close ended questions of the questionnaire were analyzed through quantitative data analysis technique, specifically percentage. On the other hand, for the analysis of the data obtained through open ended questions of the questionnaire and structured interview, qualitative data analysis techniques specifically narration was used. Both the questioner and interview were interpreted in this chapter together; most of the questions have the same point.

3.2   Analysis of Respondents' Profile

The student researcher distributed a total number of 50 questionnaires to the selected respondents and 36 questionnaires were properly completed by the respondents. The interview questions were also responded by some chosen professionals from the 36 respondent. The analysis and interpretation part contain both questionaiere and the interview questions since it has the same concept.

Table 3.1 Demographic characteristics of Respondents Gender, Age and Educational Background

No	Items	Alternative	Respondents	
			Frequency	Percentage
1	Gender	Male	21	58.4%
		Female	15	41.6%
		Total	36	100%
2	Age	18-24	17	47.4%
		25-34	14	38.8%
		35-44	4	11.1%
		45-64	1	2.7%
		Total	36	100%
3	Educational level	12 completed	4	11.1%
		diploma	12	33.3%
		Degree	18	50%
		Masters and above	2	5.6%
		Total	36	100%

Source: own data, 2023

The above table shows that out of 36 respondents, 21 (58.4%) were found to be male and 15 (41.6%) were female. This shows that males take larger proportion of respondents. There is a limited number of professionals in the sector; so, the participation of women professionals in the study is fewer than that of men. The tourism photography sector is in the early stage of developing and the chance that is given for women and men has slight difference even if women

may have high success possibility in the industry.

As illustrated in the above table 17 (47.4%) 0f the respondents were between 18 -24, 14 (38.8%) of the respondents lay in 25-34, 4 (11.1%) of the respondents fall under 35-44 and 1 (2.7%) of the respondents are in the age 45-64 of the respondents. Since the photography industry started recently there is almost no experience in the professionals, in this research the majority of the respondents (86.5%) are less than age of 34 and it shows most of the professionals doesn't spent their time in the industry and have less experience that the industry needed.

 While we came to the educational background of the respondents 4(11.1%) of the respondents have completed grade 12, 12(33.3%) of the respondents holds diploma, 18(50%) of the respondents have first degree and the rest 2 (5.6%) of the respondents have masters and above, this indicates that degree holders are the major population of the study.

To have professional product from photography tourism one photographer should have Strong visual skills, Creative skills, Eye for detail, Strong socializing skills, Advanced Photoshop skills, Ability to be on themselves, Willingness to travel, Good imaginative skills. In our country most of the photographer work by passion which is not supported by education and this research shows most of the professionals have degree and less educational background which it would not help in the industry.

3.3 Opportunities of Photography Tourism in Ethiopia

Analysis of opportunities of photography tourism in Ethiopia
Table 3.2.1 Opportunities of growth of the tourism sector

No	Item	Frequency	Number of respondents	Percentage (%)
1	Photography tourism has opportunity that helps the growth of the tourism in Ethiopia.	Strongly agree	22	61.2%
		Agree	14	38.8%
		Neutral	-	-
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table illustrated that 22(61.2%) of the respondents strongly agree that the photography tourism has opportunity the help the growth of tourism in Ethiopia, and 14(38.8%) of the respondents also agree it have an opportunity on the tourism sector.

All of the respondent agree on the that photography tourism have a positive impacts and have a

potential to help to growth of the tourism activity in Ethiopia with having positive influence in the industry like image building, promoting the country, having new face for the country, generating income and others. According to most of the respondent in the research even if it does not get the chance to be a tool independently if helps most of tourism activity in promotion and image building of the county for the domestic and international tourist attraction and tourism growth.

Table 3.2.2 Opportunities of attracting tourists and growth of photography tourism

No	Item	Frequency	Number of respondents	Percentage (%)
2	There are opportunities that photography plays an important role in attracting the photography tourists as well as growth of the photography tourism.	Strongly agree	21	58.2%
		Agree	12	33.4%
		Neutral	3	8.4%
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table illustrated that 21(58.2%) of the respondents strongly agree that photography play important role for the attraction of tourists and growth of photography tourism, 12(33.4%) of the respondents agree and 3(8.4%) of the respondents neutral for the photography plays an important role for attraction of tourists and growth of photography tourism.

According to the majority of the respondents agreed on the opportunities for the attraction of photography tourists that photography plays the important role in the industry. The photographs in the industry represent how the country represents themselves. The nature, the culture, the history and the rest of the resource we photograph and try to share with the coming tourists tell about the resource we have and the way we feel about it. Theses have positive influence for person who saw the photography, even if the interpretation of the visitor affects the respond for most of the time it bring curiosity in the mind of the visitor and create demand for the experience. In that way the number and the activity of the tourist make a difference.

Table 3.2.3 Opportunities of having diverse culture and history

No	Item	Frequency	Number of respondents	Percentage (%)
3	Richness in many culture and long history can opportunities of photography industry in attracting photography tourists via reflecting them on photographs.	Strongly agree	16	44.4%
		Agree	15	41.6%
		Neutral	5	14%
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table illustrated that 16(44.4%) of the respondents strongly agree that the richness in many culture and long history could be opportunity, 15(41.6%) of the respondents agree and 5(14%) of the respondents neutral for the photography have opportunity by have diverse culture and history in Ethiopia in the photography industry.

When photographer Matt Granger visited the southern part of Ethiopia for 13 days adventure photography in 2017 he describe Ethiopia as "a stunning combination of nature, landscape, and wildlife and perhaps above all a diversity of ethnic group and unmatched anywhere else have ever visited and amazing people photography opportunity." Having alternative site for photography helps the both the photographers and the tourism industry, photographers choose to have a different point of view for their lenses and every photographer have their own image they create a picture in their mind before they take it and having Varity photographic resource helps their product to have different color and message in one place. For the country side as a tourism product for the photography tourist in different parts of the country makes positive impact to be one of the chosen destination site for photography.

Table 3.2.4 Opportunities of development of number of destination

No	Item	Frequency	Number of respondents	Percentage (%)
4	The rise of number of destination and tourist sites has been contribution a lot for growth of photography tourism.	Strongly agree	15	41.6%
		Agree	15	41.6%
		Neutral	6	16.8%
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table depicts that 15(41.6%) of the respondent strongly agree that the rise of the number of destination and tourist sites have contribution for the growth of the photography tourism, 15(41.6%) of the respondents agree, 6(16.8%) of the respondents neutral that the rise of destination and tourist sites have contribution a lot of the growth of photography tourism activity in Ethiopia.

Currently the developments of tourist site and destinations have a bright future. Most of the government project are really impressive and have international standard in different parts of the country, this help to have accommodation, different resource, transportation facilities, infrastructure which make their journey easy and effective.

Table 3.2.5 Opportunities of tourist attraction and heritage sites

No	Item	Frequency	Number of respondents	Percentage (%)
5	The tourist attraction and heritage sites of the country have a potential to attract photographers.	Strongly agree	21	58.3%
		Agree	12	33.4%
		Neutral	3	8.3%
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table shows that 21(58.3%) of the respondents strongly agree that the tourist attraction and heritage sites of the country have a potential to attract photographers, 12(33.4%) of the respondents agree, 3(8.3%) of the respondent neutral for the tourist attraction and heritage sites of Ethiopia potential attraction of tourists.

According to the tour operator who responds to the research most of the photographers come to the destinations after doing their researches about the place that they plan to photograph. And one for the research site they focus as heritage sites. Since we have some international recognized and registered heritage sites it surely attracts international photographers to the destinations. For example in 2014 the famous safari photographer Piper Mackay visit Ethiopia for 4 days and he spent 3 day in Labella, and the way he describe Ethiopia and the photography he posted truly inspire peoples to travel and see the places themselves.

Table 3.2.6 Opportunities of functionality and attractiveness photography

No	Item	Frequency	Number of respondents	Percentage (%)
6	Having functional and attractive photography industry in the country can bring many opportunities for tourism entrepreneurs.	Strongly agree	17	47.2%
		Agree	14	38.9%
		Neutral	5	13.9%
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table depicts that 17(47.2%) of having functional and attractive photography industry in the country can bring many opportunity for tourism entrepreneurs, 14(38.9%) of the respondents agree and 5(13.9 %%) of the respondents natural for the opportunities for tourism entrepreneurs.

According to the photographer who respond to this questioner, the type and classification of the photographs which the shown in chapter two of the research. The photographs that can be used in tourism industry are classified and specific. Especially the differentiation of phone photography and digital camera photography has different impact in the photography tourism industry. Because most people's consider phone photographs as a tourism products. Even if it have its own positive impact in the industry, as the professionals suggested it should not be used as a product. The tourism photograph should follow the standard to have the qualification of a photograph that can be compete to the others and have an impact of the viewers.

Table 3.2.7 Opportunities for creating solid image

No	Item	Frequency	Number of respondents	Percentage (%)
7	One of the major positive impacts of photography tourism is the ability to create and bring solid image of unseen Ethiopian features.	Strongly agree	12	33.4%
		Agree	18	50%
		Neutral	6	16.6%
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table express that 12(33.4%) of the respondents strongly agree that one of the positive impact of photography tourism is creating and bring solid image of Ethiopia that haven't been seen, 18(50%) of the respondents agree, 6(16.6%) neutral responds.

Even if there are amazing photographs that have unique and different features to shows the beauty of Ethiopia in the world there are still unseen place in our country that could be resource for the photography industry. The nature, the landscape, the historical sites and the diverse ethnic group and tribes have its own color and features that can be seen through the lenses of photographers' camera.

Table 3.2.8 Opportunities of visitor popularity and attraction

No	Item	Frequency	Number of respondents	Percentage (%)
8	Destinations has experience a high rise in visitor popularity and get turns in to attraction because of the photography.	Strongly agree	11	30.5%
		Agree	16	44.5%
		Neutral	8	22.3%
		Disagree	1	2.7%
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table shows that of the 11(30.5%) respondents strongly agree that the destinations has experience a high rise in visitor popularity and get turns in to attraction because of the photography, 16(44.5%) of the respondents agree, 8(22.3%) of the respondents neutral and 1(2.7%) of the respondents disagree. The current trend of the tourists activity is sharing what they experiences look like. This is why the respondents justify; many of them believe the popularity of the photograph influence peoples to visit the destinations. In June, 2023 Lionel Messi visit china and when he was in the stadium more than 10,000 photos where posted in the internet within an hour as BBC reported, then for several days that news and photographs stays in the internet with the name of china.

Table 3.2.9 Opportunities of encourage documentation

No	Item	Frequency	Number of respondents	Percentage (%)
9	Photography tourism makes a contribution to encourage some historical and cultural documentation for the next generation.	Strongly agree	12	33.4%
		Agree	21	58.4%
		Neutral	3	8.2%
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table illustrate that 12(33.4%) of the respondents strongly agree that the photography tourism make contribution to encourage some historical and cultural documentation for the next

generation, 21(58.4%) of the respondents agree, 3(8.2%) of the respondents neutral for the question. Most of the respondent believes photography is a tool record history and culture without distortion. Photographs have high evidential capacity since it record the present as its want to. Even if there are many ways of recording history and culture method photography is easy, cheap and evidential.

Table 3.2.10 Opportunities of photography in tour and travel activity

No	Item	Frequency	Number of respondents	Percentage (%)
10	Tour and travel operators and event organizers in the country has begun to give emphasis for photography tourism.	Strongly agree	13	36.1%
		Agree	11	30.5%
		Neutral	7	19.6%
		Disagree	5	13.8%
		Strongly disagree	-	-
		Total	36	100%

Source: own source, 2023

The above table shows that 13(36.1%) of the respondents strongly agree that the tour and travel operation in the country has begun to give emphasis for photography tourism, 11(30.5%) of the respondents agree, 7(19.6%) of the respondent neutral and 4(13.8%) disagree for the tour and travel event organization emphasis.

The result in the research show that majority of the respondents agreed that tour and travel agencies have significant impact as they provide essential service and amenities that make the experience enjoyable and memorable. The expertise and guides, transportation, accommodation equipment rental and local photography experience have its own contribution for the industry.

Table 3.11 Opportunities of international status and recognition

No	Item	Frequency	Number of respondents	Percentage (%)
11	The international status and recognition of Ethiopia can contribute a lot to promote and brand Ethiopia as a preferable destination for photography tourism.	Strongly agree	16	44.6%
		Agree	9	36%
		Neutral	9	36%
		Disagree	1	2.7%
		Strongly disagree	1	2.7%
		Total	36	100%

Source: own data, 2023

The above table depicts that 16(44.6%) of, 9(36%) of the international status and recognition of Ethiopia can contribute a lot to promote and brand Ethiopia as a preferable destination for photography tourism respondents agree, 9(36%) of the respondents natural, 1(2.7%) disagree

and also 1(2.7%) disagree. The international status and recognition of Ethiopia for promoting a destination can have a significant impact on the tourism photography and the industry in increased tourist arrivals, improving reputation, competitive advantage, cultural exchange and sustainable development among the other part of the world.

Table 3.12 Opportunities of expansion of tourism and hospitality education

No	Item	Frequency	Number of respondents	Percentage (%)
12	The expansion of tourism and hospitality education in the country contributes its part to the growth of photography tourism.	Strongly agree	13	36.1%
		Agree	14	38.1%
		Neutral	7	19.4%
		Disagree	1	2.7%
		Strongly disagree	1	2.7%
		Total	36	100%

Source: own data, 2023

The above table shows that 13(36.1%) of the respondents strongly agree that the expansion of tourism and hospitality education in the country contributes its part to the growth of photography tourism, 14(38.1%) of the respondents agree, 7(19.4%) of the respondent neutral, 1(2.7%) of the respondents disagree and also 1(2.7%) of respondents strongly disagree.

Some of the respondents agree that the education system give slightly show the advantages of the photographs and some of the respondent did not agree to the concepts, even if there are some ways of education for photography it is not even the main concern in most of the education actives. Since it one of the tourism tool that can be sold as a product and make money out of it, it should get more attention and be a part of the education system and tourism professional should have to get aware of it and use is as a sector of tourism.

3.4 Challenges of photography tourism in Ethiopia

Table 3.2.13 Challenges of Photography Tourism promotional value

No	Item	Frequency	Number of respondents	Percentage (%)
1	One of the major challenges that the photography tourism facing is lack of sustainable peace and security in the country.	Strongly agree	15	41.7%
		Agree	17	47.2%
		Neutral	1	2.7%
		Disagree	3	8.4%
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table depicts that 15(41.7%) of respondents strongly agree on the challenges that the photography tourism facing is lack of sustainable peace and security in the country, 17(47.2%) of the respondents agree, 1(2.7%) of the respondents natural, 1(2.7%) disagree and also 1(2.7%) disagree on the contribution of photography tourism promote the industry.

According to the respondent most of them believe one of the main challenges that photography tourism face is the lack of sustainable peace and security. If one country does not have a stable political situation and stable economy tourists are not willing to take the risk to visit. Because tourism is one of the prestigious Activities it is not necessity.

Table 3.2.14 Challenges of lack of awareness and finance

No	Item	Frequency	Number of respondents	Percentage (%)
2	One of the major challenges that photography tourism faces lack of awareness and finance.	Strongly agree	15	41.7%
		Agree	20	55.5%
		Neutral	1	2.7%
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table illustrated that 15(41.7%) of the respondents strongly agree that one of the major challenges that photography tourism faces lack of awareness and finance, 20(55.5%) of the respondents agree and 1(2.7%) of the respondents, neutral for the lack of awareness and finance.

According to the respondent of this research the main challenge of the photography tourism especially for the photographers is lack of awareness among the society. The old and tradition thought of photography really is still in the thought of the society that photographs used for NGOs for charity work or as a tourism photographer Mr. Hen ok describe in the research it, in some part of our country there are societies believe that the camera take blood and energy of the human being. Even in the city most peoples are not willing to take a picture in the street and related to tourism activities. We can tell there is some flexible society and the current trends are hoped giving but we still need to work on most of the society and the photography awareness and understanding.

Table 3.2.15 Challenges of lack knowledge and understanding for promoting tourism

No	Item	Frequency	Number of respondents	Percentage (%)
3	Lack of knowledge and understanding on the benefit on promoting tourism is among the challenges that face photography induced tourism.	Strongly agree	17	47.3%
		Agree	18	50%
		Neutral	1	2.7%
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table shows that 17(47.3%) of the respondents strongly agree that the lack of knowledge and understanding on the benefit on promoting tourism is among the challenges that face photography induced tourism, 18(50%) of the respondents agree and 1(2.7%) neutral for lack of knowledge and understanding for promoting tourism.

Most of the respondents believe some of peoples in and out of the industry did not understand the contribution and photography to the tourism industry and most of them does not have the understanding of photography, its value and how other country get beneficial out of and this include the tourism professionals too.

Table 3.2.16 Challenges of copy right

No	Item	Frequency	Number of respondents	Percentage (%)
4	Copy right is the challenge that affect the photography tourism.	Strongly agree	11	30.5%
		Agree	11	30.5%
		Neutral	10	27.7%
		Disagree	3	8.6%
		Strongly disagree	1	2.7%
		Total	36	100%

Source: own data, 2023

The above table depicts that 11(30.5%) of the copy right is the challenge that affect the photography tourism strongly agree, 11(30.5%) of the respondents agree, 10(27.7%) of the respondents neutral, 3(8.6%) of the respondent disagree, 1(2.7%) of the respondent disagree there is a challenge of copy right.

The respondent mention one of the challenge they face in the industry is ownership right. There is a law that supports the photographers to have their photo ownership currently but it does not give enough protection. Currently photographers use their own ways to show there works like Instagram, printers, Facebook, telegram and some other specific websites and it make easy to

track the owner of the photographer but there are still come plagiarism in the industry and use their works officially without the photographer permission and beneficial way for the photographer and this affect both the photographer and the industry.

Table 3.2.17 Challenges of Photography quality and competitiveness

No	Item	Frequency	Number of respondents	Percentage (%)
5	Photography with low quality is become challenging the promotional value of photography and competitiveness toward tourism.	Strongly agree	10	27.8%
		Agree	18	50%
		Neutral	8	22.2%
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table express that 10(27.8) of the respondents strongly agree that photography with low quality is become challenging the promotional value of photography and competitiveness toward tourism, 18(50%) of the respondents agree, 8(22.2%) neutral for the photography quality.

As the respondent clearly tells one of the challenges in the industry is the quality of the photographs. The photographs which took by the professional have the standard and quality for the industry ask and the other unqualified photographs could not be competing with the others. And this leads to loss lots of thousands for money per year in the promotional and international photography computation. Because some of that won the international competitions are Ethiopian feature and image but which is take by foreign photographers.in the previous time Selamta magazine which delivered by Ethiopian airlines use to have very important role in the industry, the photographs, the destinations, the quality of the photographs and the appearance was really helpful. That led the tourists to see our destinations through camera lenses,

Table 3.2.18 Challenges of correlation of professionals

No	Item	Frequency	Number of respondents	Percentage (%)
6	The absence of correlation between photography and tourism professionals causes a problem for the development of tourism in Ethiopia.	Strongly agree	16	44.4%
		Agree	14	38.9%
		Neutral	6	16.7%
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table present that 16(44.4%) of the respondents strongly agree that the absence of

correlation between photography and tourism professionals causes a problem for the development of tourism in Ethiopia, 14(38.9%) of the respondents agree, 6(16.7%) of the respondents neutral for correlation of professionals.

According to the respondents tourism sector one of the service sectors which need correlation of different industry to facilitate the service that should be provide. Among the photography sector even the minister of tourism does not give emphasize for it. According to mister of Representative Yesfalgn Habte photography is considered as one of marketing tool. In most of the country photography is a sub sector for tourism that have a strong potential to influence the tourism sector and related to many industries like modeling, entertainment and others besides marketing.

Table 3.2.19 Challenges of consideration of business

No	Item	Frequency	Number of respondents	Percentage (%)
7	One of the challenges for the growth of photography tourism is not considering it as a business in the industry.	Strongly agree	14	38.8%
		Agree	15	41.7%
		Neutral	7	19.5%
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table illustrated that 14(38.8%) of the respondents strongly agree that one of the challenges for the growth of photography tourism is not considering it as a business in the industry, 15(41.7%) of the respondents agree and 7(19.5%) of the respondents, neutral for the challenge of consideration of business sector.

According to IBIS World the global photography industry has revenue around 43.54 billion US dollar in 2023 at the compound annual growth rate 4.4%. The photography industry is a huge business sector that a country can make many out of it. In our current situation a standard photographer get sold with 1000- 10,000 and there are real demand with potential. When photographers participates international competition or have a standard photograph they can sell I piece of photograph up to 300,000 Ethiopian birr.

Table 3.2.20 Challenges of lack of infrastructure

No	Item	Frequency	Number of respondents	Percentage (%)
8	Inadequacy of basic and tourism infrastructures is hindering the growth of photography tourism.	Strongly agree	10	27.8%
		Agree	17	47.2%
		Neutral	6	16.7%
		Disagree	3	8.3%
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table shows that 10(27.8%) of the respondents strongly agree that the inadequacy of basic and tourism infrastructures is hindering the growth of photography tourism, 17(47.2%) of the respondents agree, 6(16.7%) neutral and 3(8.3%) of the respondents disagree of the lack of infrastructure.

According to the respondent lack of infrastructure can be a significant challenge for the sector as it can limit the access to location and make it difficult for tour operators to provide a high quality experience for their customers.

Table 3.2.21 Challenges of Photography Tourism is expensiveness

No	Item	Frequency	Number of respondents	Percentage (%)
9	The expensiveness of the services by photography tourism can negatively affect the photography tourism.	Strongly agree	14	38.8%
		Agree	11	30.6%
		Neutral	8	22.3%
		Disagree	3	8.3%
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table illustrated that 14(38.8%) of the respondents strongly agree that the expensiveness of the services by photography tourism can negatively affect the photography tourism, 11(30.6%) of the respondents agree and 8(22.3%) of the respondents neutral and 3(8.3%) disagree for the challenge of consideration of business sector.

As the respondent shows the other challenge for the photography tourism is the cost of the travelling to a certain destination. Some popular photography locations may be located in the remote area or require expensive requirement, which can make it difficult for tourist to afford the trip. The accommodation and transportation can be high in certain destination, special if

they are popular tourist spot.

Table 3.2.22 Challenges of professional work force and its management

No	Item	Frequency	Number of respondents	Percentage (%)
10	Lack of professional workforce and inappropriate human resource management in photography tourism suppliers in putting its negative impact on photography tourism.	Strongly agree	10	27.8%
		Agree	18	50%
		Neutral	5	13.8%
		Disagree	1	2.9%
		Strongly disagree	2	5.5%
		Total	36	100%

Source: own data, 2023

The above table shows that 10(27.8%) of the respondents strongly agree that lack of professional workforce and inappropriate human resource management in photography tourism suppliers in putting its negative impact on photography tourism, 17(47.2%) of the respondents agree, 6(16.7%) neutral and 3(8.3%) of the respondents disagree of the lack of work force.

According to the respondent the other challenge that most of them agree is lack of work force, skilled man power or professionals in the industry. There are a specific people who can be mentioned in the industry for photography of tourism. One of the professionals which interview for this research is Mr. Antonio Fironta mentioned there are very limitations of skill and experienced force for the industry, this happen because of several reasons but it is truly affecting the industry.

3.5 Future Aspect of photography tourism in Ethiopia

Table 3.2.23 Future Aspect of technological advancement

No	Item	Frequency	Number of respondents	Percentage (%)
1	Technological advancement in the tourism and hospitality sector can be future prospect for the growth of photography tourism in Ethiopia.	Strongly agree	21	58.5%
		Agree	12	33.3%
		Neutral	2	5.5%
		Disagree	1	2.7%
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table express that 21(58.5%) of the respondents strongly agree that technological advancement in the tourism and hospitality sector can be future prospect for the growth of photography tourism in Ethiopia, 12(33.3%) of the respondents agree, 2(5.5%) neutral and 1(2.7%) disagree on the technological advancement in tourism and hospitality sector.

According to the research respondents the current advancement of technology helped the products and the photographer to do standard working in the industry. Specially the advancing of digital camera, editing applications, photograph methods and marketing of their product are changing and growing so fast and the advancement helps to do their work easily and differently.

Table 3.2.24 Future Aspect of Photography global growth

No	Item	Frequency	Number of respondents	Percentage (%)
2	The continual global photography growth can be also positive future prospect for Ethiopian photography tourism.	Strongly agree	15	41.6%
		Agree	20	55.7%
		Neutral	1	2.7%
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table illustrated that 15(41.6%) of the respondents strongly agree that the continual global photography growth can be also positive future prospect for Ethiopian photography tourism, 20(55.7%) of the respondents agree and 1(2.7%) of the respondents, neutral for the growth of global photography.

Most of the professionals respondent in the research believe that the current global photography growth have positive impact for our country photographic development. The experience sharing, introduction of new technology, photographic computation, photo festivals and exhibition introduce new trends and develop the past experiences in advance way. As the global photographers figure Ethiopia and the potential that the country have it will be one of the good destination as a photographic sites. Currently NOMAD PHOTO EXPEDITION is work of Ethiopia tribes and labella on January 2024 project which only got left 4 spots to travel. This kind of tour helps the domestic photographer and promotion of the county as a photographic site in the worlds.

Table 3.2.25 Future Aspect of Photography technological outcome

No	Item	Frequency	Number of respondents	Percentage (%)
3	The trends of using technological outcome and awareness in the photography tourism sector believed to enhance in the future.	Strongly agree	21	58.3%
		Agree	12	33.3%
		Neutral	3	8.4%
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table depicts that 21(58.3%) of the respondent strongly agree to trends of using technological outcome and awareness in the photography tourism sector believed to enhance in the future, 12(33.3%) of the respondents agree and 3(8.4%) of the respondents neutral for the technological outcomes.

Most of the respondent believes understanding photographic trendy technological outcome and being updated to the industry growth help the photographs trending and addressing the photographs and its message to the viewer. Currently the globalization bring peoples together to set some standard together and following that helps to cop up with their interest and address the demand they have.

Table 3.2.26 Future Aspect of Positive impact of professionals

No	Item	Frequency	Number of respondents	Percentage (%)
4	The involvement of passionate and professionals in the photography tourism sector will have positive impact on the tourism activity.	Strongly agree	25	69.4%
		Agree	11	30.6%
		Neutral	-	-
		Disagree	-	-
		Strongly disagree	-	-
		Total	36	100%

Source: own data, 2023

The above table shows that 25(69.4%) of the respondents strongly agree that the involvement of passionate and professionals in the photography tourism sector will have positive impact on the tourism activity, 11(30.6%) of the respondents agree for the positive impact of the professionals.

As this research seen during the data collection, most the currently tourism photographers work on it without formal education and some years of traditional experience.

4. Summery, Conclusion and Recommendation

From the analysis and interpretation made in the previous chapter the following summary, conclusions and recommendations are draw up.

4.1 Summary

This study is titled as, opportunities and challenge of photography tourism in Ethiopia. For the issues to be addressed properly about the opportunities and challenges of photography tourism in Ethiopia, this particular research is organized with 4 chapters, each of which contributes its part for the complete meaning of the issues to be addressed.

The proposal of the study prepared in advance to guide the whole research process from the beginning to the end. In the proposal background of the study was written to give some brief highlights to a reader from general tourism up to its type tourism aspect with potential business potential activity and further photography tourism is discussed to create some sort of interest in the reader about the issues to cover. The statement of the problem gives brief of the country photography tourism sector opportunities and challenges of photography tourism in Ethiopia. Some of the opportunities mentioned are the rises of new destinations, richness of Ethiopian cultural, natural resources and heritage sites, expansion of education on tourism and hospitality, historical and cultural documentation, comparative technological advancement, promotion and digital marketing. The challenges mentioned include, lack of awareness, absence of national convention bureau, inadequacy of tourism infrastructure, technological un advancement in the tourism and hospitality sector, copy right, quality of photographs, lack of professional workforce, lack of economy, lack of attention from the government and tour and travel agencies. As a significant of the study, this particular study as important as the industry itself to clearly examine and perceive the present the opportunities and challenges based on the finding to be able to forward problem solving recommendations for the country to be beneficiary at the rate which can suit its present worldwide status.

In the review of related literature the meanings of each elements of photography sector which are landscape, nature, wild life and culture were clearly discussed. The briefly indicated opportunities and challenges of photography tourism in Ethiopia at the statement of the problem, is deeply and explained at this stage.

The research design and methodology used in the research is descriptive and both qualitative and quantitative data gathering mechanism were implemented. The sampling technique used was purposive sampling. As a main data gathering instrument, a questioner, which has close

ended and open ended question items, has been served to 36 respondents. 26 items had been with five point Likert scales, from 1-strongly disagree agrees have been utilized to identify respondents' agreement/ disagreement with each of the 26 items. The data gathered by questionnaires and those that have quantitative nature have been analyzed by descriptive statistics, after presentation table. And those that have qualitative nature have been presented and analyzed by narration.

Generally the respondents are diversified in gender, age and education background. Based on the finding, regarding to gender 15 of the respondents is Female and 21 Male, due to age 47.7% Majorities of the respondents found between 18 – 24and regarding the educational background majority of the respondents have a degree and diploma respectively.

According to finding of the research that concerning the value of photography tourism which are promotional contribution and its opportunities and challenges toward promoting Ethiopian tourism activities and diverse resource and product of the country the study result show that the promotional value and building the country image and products of photography tourism do not used efficiently by cultural tourism sector and the photography has not access its effectuation in playing role to address different photographic destination to its audients and buyers of the products. Generally the tourism sector and the photography industry do not actively collaborate for the development of the tourism in the country.

4.2 Conclusion

Photography tourism is a rapidly emerging and beneficiary sector of the tourism industry, through it is comparatively new, its instant growth and development showed us how nations form the developed up to the developing has been giving emphasis and priority to be preferable and identified photography destination and to explore its immense economics potential.

Since photography travelers are most organized and time taking, their spending power is estimated at about twice the leisure travelers, this provides that photography tourism has an immense economic potential for once country's economic development through hard currency generation. Photography is also expected by many to be the face of the industry subset by analyzing its fast growth trend. By analyzing its opportunities and challenges of photography tourism it is possible to enjoy its benefit to the fullest through enhancing and maximizing the opportunities, tackling and resolving the challenges and exploring and working on the prospects.

In this particular study about the opportunities and challenges of photography tourism, there are

a number of findings which are obtained by analyzing and interpreting both the primary and secondary data.

- The absence of awareness that photography is one of the most important element for tourism to inspire wanderlust, promote tourism, preserve memory, provide artistic expression, raises awareness about destination, generate income and others . In general photography tourism in Ethiopia helps to promote culture exchange, preserve memories, raising awareness about social issues, and inspire peoples to explore new destinations.
- The absence of nation convention bureau is the major drawback which pulls the countries photography tourism activity. According to the obtained primary and secondary data, the major problem is the reason for the country not to be at that much advantageous its international status and recognition as the one of the richest country in culture, nature and landscape that could be destination for photographic site.
- Lack of professional workforce and inappropriate human resource management in the photography tourism industry. Most of the photographers started with passion and continue work on it through experience, they doesn't develop it through education. In order to fit the current global trend of photography and promote their work they should cop up with the technological activities and working environment so they should develop their passion and experience supported by formal education.
- Inadequacy of tourism infrastructures in the country causes photography customers to experience a very rough and uncomfortable stay in the destination and the country in comparison to the other country destination and photographic sites.
- There is a very huge promotional and advertisement gap to brand the country's photography products in the international market. These problems highly observed especially at the government level, that it is not investing and putting its effort enough to support the promotional and advertisement activities about the photography tourism of Ethiopia particularly putting our photographic product in the international market.

4.3 RECOMMENDATION

- The first thing that should have to get priority is considering photography tourism as one of the major activity in the industry.
- Creating national bureau that can support and give infancies for the industry so than can be one of the sector that tourism products can be seen and sell in the eyes of the international and national market
- Use it as a general method of promotion and advertise of the county products
- Considering the field as a part of the tourism industry activity which can be a product in the tourism that the demand of the tourist can be considered in the tourism selling and buying transaction

- Creating awareness about photography among the tourism professionals and integrate the two industries
- Considering the view of photography sites while developing destinations is prioritize sustainable and responsible tourism sector
- Considering the in tour packages for tourists, tour operators should also take it as one of the business activity
- Technological advancement and professional education in the photography industry which helps to upgrade to get with world working environment and compute in the international market
- Consider it in the educational curriculum of the tourism industry students even if it could not be a course by itself it is better to educated tourism and hospitality students get familiar with the concept and introduced it as a sub sector of tourism industry.
- General infrastructural development which support the transportation to destinations and travelling around the country.

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Assessing the Accessibility of Addis Ababa Museum for Persons With Disabilities

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Abstract

Tourism has been paying more attentions to the needs and requests of tourists with disabilities; recognizing that those people have the same needs and desires for tourism as others. Accessible tourism in Africa, likewise in Ethiopia, is a growing industry that aims to provide travel opportunities to people with disabilities or special needs. Cognizant of the situation and the constrains that persons with disability face, the focus of this study is to make an assessment to see if the Addis Ababa Museum meets the requirements expected from such sections of the population. The researcher mainly used qualitative and quantitative data with various data collection instruments like questionnaire, observation and structured and unstructured interviews. Addis Ababa Museum is under the condition where the problem of accessibility is a must to solve. The study revealed that some of the problems are inaccessible premises, entrances, floors, doors, emergency and security systems, toilets, elevators, stairs, information desk and staff awareness. There are also problems specific to the Addis Ababa Museum. In addition to this, there are specific problems related to the museum. Even if the problem is identified, there is limited chance to make modification because of two reasons. 1. The building itself is historical and considered as heritage by itself; modification has become difficult in such buildings. For instance, building ramps could be one of the modifications needed; however, it changes the appearance and history of the building. 2. The objects which are displayed are not easy to move, so if any recommendations are given, it would be for the new building which is going to be built in the near future.

1. Introduction
1.1. Background of the Study
According to United Nation World Tourism Organization (UNWTO), tourism is a diverse industry, which is a central economic drive for socio economic development in a number of areas and destinations throughout the world. Tourism is a whole exertion of transportation, airlines, travels and tours agents, hotels industry, ferry companies , information technologies industry and host community of tourism destination.

All tourists want unique experiences tailored to their needs. The UNWTO Global Code of Ethics for Tourism, the global framework for the responsible and sustainable development of the sector, underlines in its Article 7 that all persons should be able to exercise their right to enjoy tourism without hindrance. Among the more than one billion international tourists that travel each year, a high percentage consists of families with young children and/or other special needs. For these millions of people to be able to participate in tourism on equal terms, it is crucial that a destination develop universal accessibility measures (UNWTO, 2016).

Accessibility is recognized as one of the important aspects of the process of working for equalization for disabled person in the United Nation Convention on the Right of with Disabilities. Accessibility within the context of the United Nation is not only an inherent right of persons with disabilities, but a means of ensuring that persons with disabilities are able to exercise all right and fundamental freedoms and are empowered to participate fully in society on equal terms with all others (Department of Economic and Social Affairs, 2013).

One of the horn African countries known for its rich history, diverse culture heritage, stunning natural beauty is our country Ethiopia. Ethiopia has a lot of offer to tourists who are interested in exploring its history, culture and landscape. According to the World Bank, Ethiopia has one of the lowest rates of disability inclusion in Africa; this is due to various factors such as poverty, luck of infrastructure, and limited access to the education and healthcare. In recent years, there have been efforts by the Ethiopian government and non-government organizations (NGO) to promote accessible tourism in the country. For example, in 2015, the Ethiopian tourism organization launched a project aimed at improving accessibility for people with disability at tourist sites across the country. The project involved training tour guides on how to cater to the needs of disabled tourist and providing accessible facilities such as ramps and wheelchair-friendly paths (AI).

1.2 Statement of the Problem

Tourism destinations are increasingly globalized and challenging markets (Garcia-Caro, de Waal and Buhalis, 2012). It follows that tourism has been paying more attentions to the needs and requests of tourists with disabilities, recognizing that those people have the same needs and desires for tourism as others.

According to world report on disability (2011), almost everyone has a chance to be temporarily or permanently impaired at some point in life, and those who survive to old age will experience increasing difficulties in functioning.

Even though, tourism is one of the fastest growing industrie and a phenomenon that promotes integrity, coexistence and solidarity; it has failed to accommodate peoples with special access demand. Today the majority of hotels, transportation facilities, and tourist sites are not physically accessible for many people with disabilities and mobility problems. In addition, accurate information about the access characteristics of destinations and venues is lacking. In general, it is also rare for personnel at tourist sites to be trained in how to "meet and greet" people with a disability (ENAT, 2007).

Disability is part of human beings and is integral to the human experience. It is caused by many factors, including malnutrition and disease, environmental hazard, traffic and industrial accident, and civil conflict and war, and the number of people and age. An estimated 1.3 billion people or 16% of the world population experience a significant disability today. Due to the way our surroundings, transport systems, and services are designed, people with disabilities and people experiencing problems regarding mobility or access to information are often unable to enjoy the same freedom to travel as other peoples (UNWTO, 2013).

The provision of safe, convenient and economical transport and other tourism-related infrastructure is a key factor for the success of tourism. Infrastructure that does not cater adequately for the needs of people with disabilities, including infants and elderly, excludes many destinations from this promising market (UNESCAP, Bali 2011).

Scholarly articles reviewed accessible tourism to people with disabilities in Africa is totally lacking. Disabled people in Africa have been facing a lot of barriers regarding leisure and tourist opportunity. Those challenges are negative attitude from the society and service providers, lack of accessible accommodation, limited facilities at the cultural attraction areas, lack of trained personnel to communicate with disabled people, lack of clear and up to date

information, ignorance of service providers, inaccessible transport systems, and lack of appropriate activity for disabled people (Nasra Kara, 2021) .

Ethiopia is one of the sub-Saharan developing countries in the world. Based on the world report on disability jointly issued by the World Bank and world health organization, there are an estimated 15 million children, adults and elderly persons with disability in Ethiopia, representing 17.6% of the population. A vast majority people with disabilities live in rural areas where access to the basic service is limited. In Ethiopia, 95% of all persons with disabilities are estimated to live in poverty (Ministry of Labor and Social Affairs, 2010).

The problem is that many museums lack accessibility for individuals with disabilities, limiting their ability to fully engage and participate in the museum experience. This lack of accessibility creates barriers and excludes a significant portion of the population from enjoying and learning from museum.

Having indicating the situation and constraints that persons with disability face, the focus of this study is to conduct accessibility assessment of Addis Ababa Museum for persons with disabilities.

2. Research Design and Methodology
2.1 Research Design
This study followed investigation research method for the sake of identifying the accessibility of the Addis Ababa Museum for persons with disability. The researcher mainly used qualitative and quantitative research data. The research also used various data collection instruments like questionnaire, structured or semi-structured interview, and observation.

2.2 Population and Sampling Techniques
It is difficult to include all the visitors, stakeholders and professionals in the research. As a result, convenience sampling of non-probability sampling technique was applied for this study. The researcher met and selected the potential respondents who were willing to participate in the research because they happened to be in the right place at the right time. A sample size of 200 was used for this research project. Hence, the research took sample representatives from the Museum, the concerned employees of the Museum, the Culture and Tourism Bureau of Addis Ababa City Administration, education institutions, experts and visitors. The purpose of this sampling technique was in order to include the representatives of a various stakeholders of the study area as well as to make manageable population size.

2.3 Types of Data to be Collected

Both primary and secondary data were applied in the study. The primary data were collected through survey of sample respondents of the museum visitors, culture and tourism bureau of Addis Ababa city administration, the museum managers and visitors using interview and questionnaire. Secondary data which were essential for the study were collected from literatures in the area, articles and previously studied materials.

2.4 Method of Data Collection

Primarily, questionnaire and interviews were used to collect primary data. Questionnaire became the dominant tool to collect first hand data from selected respondent. Close supervision was made while filling the questionnaires rather than distributing them to avoid misunderstanding or lack of attention in filling the questionnaire by respondents. In addition to that, information was collected by direct observation and through additional discussion. Most of the questions were designed to be close ended and open ended. In addition structured and unstructured interviews (and discussions) with most of the respondents were made so as to gather additional information.

2.5 Data Analysis Method

The primary data that was collected from the questionnaire, interview and observation was analyzed in table and pie chart. This is followed by descriptive analysis and interpretation with various literatures and researcher's view in order to address the research questions. The document analysis of this research included books, articles, published and unpublished sources as reports and stakeholders institutions.

3. Data Presentation, Analysis and Interpretation
3.1. Demographic characteristics of the respondents
Table 3.2.1 Gender

	Frequency	Percent
Male	102	56.67
Female	78	43.33
Total	180	100

Own survey, 2023

The frequency statistics which has been used to analyze the demographic characteristics of respondents revealed that the majority respondents are males which represent 56.67%; the remaining 13(43.3%) are females. This shows that both male and female respondents are involved in the study area.

Table 3.2.2 Age of the respondent

Variables	frequency	percent
15-25	96	53.33
26-35	48	26.67
36-45	24	13.33
45 and above	12	6.67
Total	180	100

Own survey, 2023

Table 3.2.2 illustrates that the respondents are from all age groups. The respondents between the age 15-25 are 53.3% while those grouped under 26-35 are 26.67%; those between 36-45 are 13.33; and those who are 45 and above are 6.67%. As the researcher understood from the table above, majority of the respondents are between the ages of 15-25.

Table 3.2.3

Variables	frequency	percent
Single	102	56.67
Married	72	40
Divorce	6	3.33
Total	180	100

Own survey, 2023

The marital status of the respondents that accounts for 40% were married while 56.67% and 3.33 % accounted for single and divorced, respectively. The majority of the respondents are single 56% followed by married 40%.

Table 3.3.4

Variables	Frequency	Percent
Primary school	-	-
Diploma	66	36.67
Degree	102	56.67
Masters	12	6.67
PHD and above	-	-
Total	180	100

Own survey, 2023

Table 3.4 shows the educational levels of the respondents of Addis Ababa Museum visitors. 36.67% are diploma graduates, while 56.67% respondents are degree holders, and 6.67% respondents have masters and above. So, the majority of respondents have degrees and that the researcher used more literate people to get fact information for the study.

3.3 Research questions

Table 3.3.1

Variables	Frequency			percentage		
	yes	no	total	yes	no	total
Do you know about accessible tourism?	96	84	180	53.33	46.66	100
Do you think that Addis Ababa Museum considers the disabled person?	12	168	180	6.67	93.33	100
Do think that Addis Ababa Museum is built inclusively for disabled person?	6	174	180	3.33	96.67	100
Do you think the facility of Addis Ababa Museum is accessible to visually impaired persons?	30	150	180	16.67	83.33	100
Do you think the facility of Addis Ababa Museum is accessible to hearing impaired persons?	48	132	180	26.67	73.33	100
Do you think the facility of Addis Ababa Museum is accessible to persons using mobility aids such as wheelchairs, crutches or white canes?	6	174	180	3.33	96.77	100
Is there any guideline that the people with disability use in the Addis Ababa Museum?	42	138	180	23.33	76.67	100
Do you think there is a guideline that Addis Ababa museum uses to make the Museum accessible to people with disability?	36	144	180	20	80	100
Do you think a disabled person can enjoy in Addis Ababa Museum without any accessible problem?	18	162	180	30	70	100

Own source, 2023

From the above table, we can interpret that 53.33% of the respondents have known about accessible tourism; the remaining 46.66% do not know about accessible tourism. 6.67% of the respondents think that Addis Ababa Museum considers the disabled persons, but the majority 93.33% do not think the same way. 3.33% of the respondents think that the Museum is built inclusively for disabled persons; however, the rest 96.67% do not think the same way. 16.67% of the respondents think the facility of the Museum is accessible to visually impaired persons, while 83.33% d not thinking so. 26.67% of the respondents think the facility of the Museum is accessible to hearing impaired persons; however, 73.33% do not think likewise. 3.33% of the respondents think that the facility of the Museum is accessible to persons using mobility aids such as wheelchairs, crutches or white canes; however, 96.77% think the opposite. 23.33% of the respondents agree with the idea of the presence of guideline that the people with disability use in the Museum, where as 76.67% of them disagree with it. 20% of the respondents think there is a guideline the Museum uses to make it accessible to people with disability; on the contrary, 80% of the respondents do not think the same way. 30% of the respondents think that

a disabled person can enjoy visiting the Museum without any accessibility challenge, while the remaining 70% do not think likewise.

3.4 Research survey questioner

Table 3.4.1

Variables	Experience level	Frequency	percentage
1. How was your experience in Addis Ababa Museum?	Very good	78	43.33
	Good	96	53.33
	Neutral	6	3.34
	Bad	-	-
	Very bad	-	-
	total	180	100
	Mean		

Own survey, 2023

In the above table, we can see that the experience of the selected population in the Museum is 53.33% and 43.33 very good and good experiences, respectively, while 3.34% remain neutral. Therefore, we can conclude that most of the people who visited the museum have enjoyable and amazing time with memorable experience.
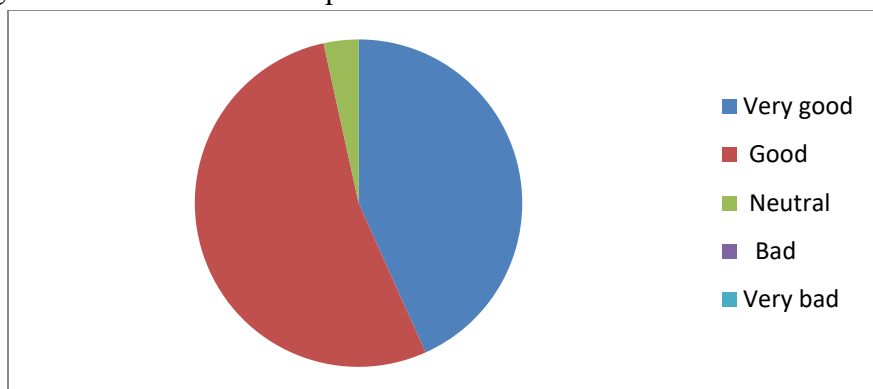
Fig 3.4.1

3.5 Research survey questioner

Assessment tool for accessibility of Addis Ababa Museum to persons with disability

Table 3.5.1

Variables	Agreement level	Frequency	Percent
	Strongly disagree	-	-
Addis Ababa museum is not accessible to persons with disability.	disagree	-	-
	neutral	6	3.33%
	agree	84	46.67%
	Strongly agree	90	50%
	total	180	100%

Own survey, 2023

According to Table 3.5.1, 46.67% agreed and 50% strongly agreed, while 3.33% remained neutral; none of the respondents are in the position if disagreeing with the idea. Therefore, the result shows that Addis Abeba Museum is not accessible to persons with disability.

Table 3.5.2

Variables	Agreement level	frequency	percent
The government gives little attention to accessible tourism in the Addis Ababa Museum	Strongly disagree	18	10%
	disagree	18	10%
	neutral	36	20%
	agree	84	46.67%
	Strongly agree	24	13.33%
	total	180	

Own survey, 2023

Based up on the table, 10% of the respondents strongly disagreed, 10% of them disagreed, while 20% were neutral. On the other hand, 46.67% of them agreed and 13.33% strongly agreed. Generally, from the respondents, 60% agreed and 20% of them disagreed showing the majority of the respondents agree. Therefore, the result shows that the government gives some attention to accessible tourism in the Addis Ababa Museum.

Table 3.5.3

Variables	Agreement level	frequency	percent
Addis Ababa Museum is not inclusive for people with disability.	Strongly disagree	6	3.33%
	disagree	6	3.33%
	neutral	24	13.33%
	agree	84	46.67%
	Strongly agree	60	33.34%
	total	180	100%

Own survey, 2023

Based up on the table, 3.33% of the respondents strongly disagreed and 3.33% of them disagreed, while 13.33% were neutral. On the contrary, 46.67% agreed and 33.34% strongly agreed. Generally, from the respondents 80.01% agreed implying that Addis Ababa Museum is not inclusive for people with disability.

Table 3.5.4

Variables	Agreement level	frequency	percent
There is a little number of trained staff in Addis Ababa Museum for the persons with disability.	Strongly disagree	24	13.34%
	disagree	6	3.33%
	neutral	24	13.33%
	agree	72	40%
	Strongly agree	54	30%
	total	180	100%

Own survey, 2023

Table 3.5.4 shows that 13.34% of the respondents strongly disagreed and 3.33% of them disagreed, while 13.33% were neutral. However, 40% of the respondents agreed and 30% strongly agreed. Generally, from the respondents, 70% agreed while 16.67% of them disagreed suggesting so majority that there is little number of trained staff or employees in the Addis Ababa Museum for persons with disability.

Table 3.5.5

Variables	Agreement level	frequency	percent
Addis Ababa museum is less friendly for the persons with disability.	Strongly disagree	6	3.33%
	disagree	6	3.33%
	neutral	42	23.33%
	agree	78	43.34%
	Strongly agree	48	26.67%
	total	180	100%

Own survey, 2023

According to the above table, 3.33% of the respondents strongly disagreed and 3.33% of them disagreed, while 23.33% were neutral. On the other hand, 43.34% agreed and 26.67% strongly agreed. Generally, from the respondents the majority, 70.01% agreed and 6.66% of them disagreed implying that Addis Ababa Museum is less friendly for persons with disability.

3.6 Assessment of the environmental barriers that hinder persons with disability from active participation and full recreation in Addis Ababa Museum

Table 3.6.1

Variables	Agreement level	frequency	percent
Addis Ababa Museum is built not considering accessible tourism for persons with disability.	Strongly disagree	-	
	disagree	6	3.33%
	neutral	12	6.67%
	agree	78	43.33%
	Strongly agree	84	46.67%
	total	180	100%

Own survey, 2023

Based up on the table, only 3.33% of the respondents disagreed and only 6.67% were neutral; however, 43.33%) of them and 46.67% agreed and strongly agreed, respectively. Actually, from the respondents 70% agreed and only 10% disagreed indicating that Addis Abeba Museum is built not considering accessible tourism for persons with disability.

Table 3.6.2

Variables	Agreement level	frequency	percent
Person with disability who live in Addis Ababa do not have accessibility to enjoy the Museum	Strongly disagree	-	-
	disagree	6	3.33%
	neutral	24	13.33%
	agree	78	43.33%
	Strongly agree	72	40%
	total	180	100%

Own survey, 2023

The table above shows that 3.33% of the respondents disagreed and 13.33% were neutral. On the other hand, 43.33% agreed and 40% strongly agreed. Therefore, the result shows that persons with disability who live in Addis Ababa do not have accessibility to enjoy in the Addis Ababa museum.

Table 3.6.3

Variables	Agreement level	frequency	percent
	Strongly disagree	-	-
Addis Ababa museum is not environmental barrier free tourism destination for persons with disability	disagree	12	6.67%
	neutral	18	10%
	agree	108	60%
	Strongly agree	42	23%
	total	180	100%

Own survey, 2023

The table above shows that 6.67% of the respondents disagreed and 10% were neutral. On the other hand, 60% agreed and 23% strongly agreed. Therefore, the result shows that Addis Ababa museum is not environmental barrier free tourism destination for the person with disability.

Table 3.6.4

Variables	Agreement level	frequency	percent
There is a little work that has to be done on Addis Ababa museum to make it more accessible to persons with disability	Strongly disagree	6	3.33&
	disagree	12	6.67%
	neutral	24	13.33%
	agree	66	36.67%
	Strongly agree	72	40%
	total	180	100%

Own survey, 2023

The table shows that 3.33% and 6.67% of the respondents strongly disagreed and agreed, respectively while 13.33% remained neutral. On the other hand, 36.67% agreed and 40% strongly agreed with the statement. Therefore, the result shows that there is a work work that has to be done to make the Addis Ababa Museum more accessible to the person with disability.

Table 3.6.5

Variables	Agreement level	frequency	percent
Addis Ababa museum is not comfortable to entertain persons with disability	Strongly disagree	12	6.33%
	disagree	6	3.33%
	neutral	60	33.33%
	agree	72	40%
	Strongly agree	60	33.33%
	total	180	100%

Own survey, 2023

Table 3.6.7

Variables	Agreement level	frequency	percent
The Addis Ababa Museum cannot involve disabled persons actively and easily.	Strongly disagree	-	
	disagree	12	6.67%
	neutral	18	10%
	agree	66	36.67%
	Strongly agree	84	46.67%
	total	180	100%

Own survey, 2023

The table above depicts that 6.67% of the respondents disagreed and 10% were neutral. On the other hand, 36.67 agreed and 46.67% strongly agreed. Therefore, the result shows that the Addis Ababa Museum cannot involve disabled persons actively and easily.

Table 3.6.8

Variables	Agreement level	frequency	percent
There is no sign language interpreter in Addis Ababa Museum	Strongly disagree	6	3.33%
	disagree	6	3.33%
	neutral	30	16.67%
	agree	66	36.67%
	Strongly agree	72	40%
	total	180	100%

Own survey, 2023

Table 3.6.8 shows that 3.33% respondents each strongly disagreed and disagreed, while 16.67% were neutral. On the contrary, 36.67% agreed and 40% strongly agreed. Therefore, we can safely conclude that there is no sign language interpreter in Addis Ababa Museum.

Table 3.6.9

Variables	Agreement level	frequency	percent
There is no Braille labels in Addis Ababa Museum for blind or low visually impaired people	Strongly disagree	-	
	disagree	6	3.33%
	neutral	6	3.33%
	agree	66	36.67%
	Strongly agree	102	56.67%
	total	180	100%

Own survey, 2023

The above table shows that 3.33% respondents disagreed and the same number were neutral. However, 36.67% agreed and 56.67% strongly agreed. Therefore, the result shows that there is no Braille labels in Addis Ababa Museum for the blind or people who are low visually impaired.

Table 3.6.10

Variables	Agreement level	frequency	percent
There is no audio guides in Addis Ababa Museum	Strongly disagree	6	3.33%
	disagree	6	3.33%
	neutral	18	10%
	agree	84	46.67%
	Strongly agree	66	36.7%
	total	180	100%

Own survey, 2023

Table 3.6.8 shows that 3.33% respondents each strongly disagreed and disagreed, while 10% were neutral. On the contrary, 46.67% agreed and 37.7% strongly agreed. Therefore, we can safely conclude that there is no audio guides in Addis Ababa museum.

Table 3.6.11

Variables	Agreement level	frequency	percent
The rest rooms are not easily accessible for persons with disability in Addis Ababa Museum	Strongly disagree	-	-
	disagree	12	6.67%
	neutral	12	6.67%
	agree	66	36.7%
	Strongly agree	90	50%
	total	180	100%

Own survey, 2023

The table above depicts that 6.67% of the respondents disagreed and 6.6% were neutral. On the other hand, 36.7 agreed and 50% strongly agreed. Therefore, the result shows that the rest rooms are not easily accessible for persons with disability in Addis Ababa Museum.

Table 3.6.12

Variables	Agreement level	frequency	percent
The entrance of Addis Ababa Museum is not accessible for persons with disability.	Strongly Disagree	12	6.67%
	Disagree	6	3.33%
	Neutral	12	6.67%
	Agree	60	33.33%
	Strongly Agree	90	50%
	Total	180	100%

Own survey, 2023

The table shows that 6.67% and 3.33% of the respondents strongly disagreed and agreed, respectively while 6.67% remained neutral. On the other hand, 33.33% agreed and 50% strongly agreed with the statement. Therefore, the result shows that the entrance of Addis Ababa Museum is not accessible for persons with disability.

Table 3.6.13

Variables	Agreement level	frequency	percent
The stairs (ramp, and ramp parking) are not easy to use for disabled persons.	Strongly Disagree	-	-
	Disagree	-	-
	Neutral	24	13.33%
	Agree	42	23.33%
	Strongly Agree	114	63.34%
	Total	180	100%

Own survey, 2023

The above table depicts that except for the 16.67% respondents who claimed to be neutral, 23.33% agreed and 63.34% strongly agreed. Therefore, the result shows that the stairs (ramp, and ramp Parking) are not easy to use for disabled person.

Table 3.6.14

Variables	Agreement level	frequency	percent
The paths of the Addis Ababa Museum are not easy to use for persons with disability.	Strongly disagree	-	-
	disagree	-	-
	neutral	30	16.67%
	agree	42	23.33%
	Strongly agree	108	60%
	total	180	100%

Own survey, 2023

The above table depicts that except for the 13.33% respondents who claimed to be neutral, 23.33% agreed and 63.34% strongly agreed. Therefore, the result shows that the paths of the Addis Ababa Museum are not easy to use for the persons with disability.

Table 3.6.15

Variables	Agreement level	frequency	percent
	Strongly disagree	-	-
The public area of Addis Ababa Auseum is not accessible for the persons with disability.	disagree	-	-
	neutral	30	16.67%
	agree	114	63.33%
	Strongly agree	36	20%
	total	180	100%

Own survey, 2023

The above table depicts that except for the 16.67% respondents who claimed to be neutral, 63.33% agreed and 20% strongly agreed. Therefore, the result shows that the public area of Addis Ababa Museum is not accessible for persons with disability.

Table 3.6.16

Variables	Agreement level	frequency	percent
Addis Ababa Museum's interior as well as exterior facilities are not accessible to the visually impaired	Strongly disagree	6	3.33%
	disagree	18	10%
	neutral	24	13.33%
	agree	78	43.33%
	Strongly agree	54	30%
	total	180	100%

Own survey, 2023

According to Table 3.6.16, 3.33% of the respondents strongly disagreed, and 10% of them disagreed, while 13.33% were neutral. On the contrary, 43.33% agreed and 30% strongly agreed. Therefore, the result shows that Addis Ababa Museum's interior as well as exterior facilities are not accessible to the visually impaired.

Table 3.6.17

Variables	Agreement level	frequency	percent
Addis Ababa Museum's exterior as well as interior facilities are not accessible to hearing impaired people.	Strongly disagree	-	-
	disagree	12	6.67%
	neutral	54	30%
	agree	48	26.67%
	Strongly agree	66	36.67%
	total	180	100%

Own survey, 2023

According to the above table, 6.67% respondents disagreed while 30% of them remained neutral. On the other hand, 26.67% agreed and 36.67% strongly agreed. Generally, from the respondents, the majority 63.34% have agreed Therefore, it is possible to say that Addis Ababa Museum's exterior as well as interior facilities are not accessible to hearing impaired people.

Table 3.6.18

Variables	Agreement level	frequency	percent
Addis Ababa Museum's interior as well as exterior facilities are not accessible to persons using mobility aids such as wheelchairs, crutches or white canes	Strongly disagree	-	-
	disagree	12	6.67%
	neutral	-	-
	agree	96	53.33%
	Strongly agree	72	40%
	total	180	100%

Own survey, 2023

The above table depicts that except for the disagreement of 6.67%, of the respondents 53.33% and 40% agreed and strongly agreed, respectively. Therefore, it is safe to conclude that Addis Ababa Museum's interior as well as exterior facilities are not accessible to persons using mobility aids such as wheelchairs, crutches or white canes.

3.7 Assessing the guide lines for the persons with disability in accessible tourism in Addis Ababa Museum

Table 3.7.1

Variables	Agreement level	frequency	percent
Addis Ababa Museum does not have its own guide-line towards accessibility for the persons with disability.	Strongly disagree	6	3.33%
	disagree	12	6.67%
	neutral	30	16.67%
	agree	78	43.33%
	Strongly agree	54	30%
	total	180	100%

Own survey, 2023

According to the above table, 3.33%, 6.67% respondents strongly disagreed and disagreed, respectively, while 16.67% remained neutral. On the other hand, 43.33% agreed and 30% strongly agreed. Therefore, with 73% agreement, we can claim that Addis Ababa Museum does not have its own guide- line towards accessibility for the persons with disability.

Table 3.7.2

Variables	Agreement level	frequency	percent
Addis Abeba museum in not a applying guide line to accessible/ inclusive tourism foe person with disability.	Strongly disagree	-	-
	disagree	-	-
	neutral	48	26.67
	agree	48	26.67
	Strongly agree	84	46.67%
	total	180	100%

Own survey, 2023

Table 3.7.2 depicts that except for the 26.67% who showed neutral stance, 26.67% and 46.67% of them agreed and strongly agreed with the statement. Therefore, the result shows that Addis Ababa Museum is not applying guide line to accessible/ inclusive tourism for persons with disability.

3.5 Accessibility of Addis Ababa Museum for visitors with disability

This assessment is for the accessibility of buildings and other places of public accommodation to persons with disabilities (people with mobility, visual and hearing impairments). The aim of the assessment is to assess whether the place and its interior as well as exterior facilities are accessible to visually impaired and hearing-impaired persons and persons using mobility aids such as wheelchairs, crutches or white canes. For better constructions of data, the researcher

has interviewed the Museum's director and officials about the accessibility of Addis Ababa Museum.

3.5.1 Main Gate

There are 3 main gates of the Museum. The first one is found opposite to the main road which is connected with asphalt road. It has one entrance for people, while the other one which is found at the back of the Museum is used for both people and vehicles. It seems they have problems of accessibility for persons with disabilities. The main gate has 1.50m width, 17cm height and 21 stairs to inter to the Museum. We can say that these gates are inaccessible for persons with disability and for older people and pregnant women. The other main gate is flat with stone pavement. It is preferable for persons with disability than the other two. There is a total of inconsideration to the target group of this study, such as absence of signpost at the outer compound of the National Museum and poor promotion at the outer gate. For better demonstration the following picture would help.

Entry

There are 3 steps at the entrance of the building. There is no alternative accessible entrance or ramp to the building. The front doorway is wide enough for a wheelchair if they approach by carriage or for crutch users. As it can be observed from the picture, the entry of the museum is a bit difficult for persons with disability, specifically for crutch and wheelchair users. This can be proven by the following statement from the Museum director and education officer: " As we know the museum is historical and it is a heritage by itself; it is an old building, so they did not consider the accessibility of all people in the construction because, in the first place, this was a house.'' From the statement, we can understand that the inconsideration of the building for persons with disabilities is because the awareness was not created at the time of establishment back then. For better demonstration the above picture would help.

Interiors

There is no information desk; however, there a flier about the museum is given out. There is no written information about where places are located. The building is G+2 and the stairs are accessed by steps with no proper handrails. Unfortunately, the building has no lift at all.

From the above pictures, we can see that the interior   stair is not accessible and hard to walk because of long steps and inaccessible encounter which blocks communication for wheelchair and crunch users.

Corridors and Surroundings

The corridor which is found next to the stairs has 140cm width, and on the other side has 206 free spaces along the displayed objects. There is a protruding rob installed in between 30-40cm from the ground which hinders visitor from entering which detected by a person who uses a cane. There is no adequate lighting, especially in the ground. The floors throughout the building, including the steps, are non-slippery and covered with a permanent carpet; moreover, the steps have highlighting and contraction which shows the existence of steps.

Door

Visitors find only two main doors which are used for exit and entrance to the building. Additionally, there are around 6 doors which help enter the Museum. Visitors are not expected to open or close the door; as a result of it, it is always open and there is no door. It is possible to pass using mechanical or electronic wheelchairs. Generally, the door is accessible and free of barriers for the targeted group. However, it is impossible for wheelchair users and severe impairment of crutch users to reach at the door because of the steps which are found in front of the door; otherwise, they can be lifted by human beings.

Public Rest Rooms

There are public restrooms outside the building/museum for each sex and which are not fully accessible and not identified by sign.

Museums and Galleries

There are guides who are in charge of explaining what exists in the Museum as much as possible verbally for persons with visual impairment and physically disabled since objects in the museum are not allowed to touch by hand. However, there is no education officer who is trained in sign language to communicate with persons who have hearing impairment. The space in-between the displayed heritages is wide enough to maneuver a wheelchair and many visitors at once. Descriptions and instructions of displays provided are not provided in Braille or symbol. If visitors with disability come with assistance or helpers, they are expected to pay the entrance fee for them too. There is no single camera that controls the activity of the victors as well as the staffs.

Furthermore, the manager, Miss Abebayehu, stated that "This museum is not accessible for the non-disabled persons because, for example, the stairs are wide and sleeper. Moreover, some of the facilities are not accessible and comfortable for elders and pregnant women. Since Addis Ababa Museum is administered by the Addis Ababa Tourism, and Culture Office every single activity done by the government might have a plan in the future, but for the time being this Museum is not fully accessible".

According to the interview with the Addis Ababa Culture, Tourism and Art Office, officials are aware that the Addis Ababa Museum is not an inclusive museum and the accessibility problem in the Museum is well known; therefore, they are working in the limitation. They long term plan is to build a new museum which represents Addis Ababa's history and culture. The new museum building is in the planning stage.

4.Summary, Conclusion and Recommendation
4.1. Summary

This research titled 'Assessing the Accessibility of Addis Ababa Museum for Persons with Disabilities' as a general objective. The specific objectives of the study remained to assess whether the Museum is accessible for the person with disability, to identify the environmental barriers that prevents persons with disability from the active participation and full recreation in the Museum, and to assess the Museum's guidelines for the persons with disability in accessible tourism.

The data presented in the survey covers various aspects of the Museum, including the visitor's demographics, the contribution of the Museum, and interviewing with the managers and government officials. The majority of respondents was male, between the ages of 15 and 25, and held a degree; also, most of the respondents were single.

The survey revealed that the majority of respondents agreed that Addis Ababa Museum is not accessible for persons with disability; it is not inclusive; and it is not recommended for persons with disability. The Museum's mangers and guides also agreed that the Museum is not accessible for the persons with disability. The resent building of Addis Ababa Museum is historical by itself; therefore, the government officials who are responsible for this museum gave some future plans of the museum; for example, believing the inaccessibility of the Museum, a new building which represents Addis Ababa would be built.

4.2 Conclusion

Addis Ababa is the capital city of Ethiopia and Africa. This city accounts for more than 100 years. Even if it is good to have a museum, it is hardly to say it represent Addis Ababa well enough. In addition to inaccessibility, the collections are old and they are not in good shape. Addis Ababa is home for different nations and nationalities. This city is a colorful city with different languages, religions, cultures and the like. Therefore, for the representation of Addis Ababa in a museum it must include all that looks like Addis Ababa.

Addis Ababa Museum is under the condition where the problem of accessibility is mandatory to solve. Some of the problems are inaccessibility in premises, entrance, floors, door, emergency and security system, toilets, elevators, stairs, information desk and staff awareness. There are problems specific to the Museum of Addis Ababa: Even if they are aware that the Museum is inaccessible for persons with disabilities, they have limited chance to make modification to the environment as a result of two reasons:

1. The building is historical and considered as heritage by itself. Modification has become difficult in such buildings. For instance, building ramp could be one of the modifications needed; however, it changes the appearance and history of the building.

 2. The objects which are displayed are not easy to move and apply the modification. So, if any recommendations are given, it would be for the new building which is going to be built in the near future in front of the present location of the National Museum.

4.3 Recommendation

Prioritizing inclusivity and accessibility in Addis Ababa Museum are not optional work; it is the best way to serve the visitors and create an engaging space for all. This recommendation offers tips and suggestions for how to make the museum accessible. The accessibility of museums matters more than any of tourist attraction areas. The reason is that museums have thousands of visitors from all over the world. This flow of visitors has many segments from which people with impairment are one of the segments. Whether the head of Addis Ababa Museum, Addis Ababa Culture and Tourism Office builds a new museum or reconstructs the

present building, the following recommendations are given based on the accessibility audit and responses from key informants.

❖ It would be better if museum buildings have horizontal landscape rather than vertical floors; yet if it is G + building it should have an elevator. Removing architectural barriers is another effective way to support and accommodate your visitors as they arrive at the museum. The Museum should strive to remove barriers to give all guests equal access and make engaging with the exhibits easier. Accessible museums give people with disabilities equal access to collections, enhance visitors' experiences and enable more people to explore and appreciate the displays. Furthermore, the museum can improve profits by being more accommodating to individuals with disabilities. By making adjustments to museum features and design, they can support guests' needs and enhance their time spent at the facility. Putting thought and care into which accessibility upgrades will improve the visitors' safety and enjoyment will help make their visits more comfortable.

Expand your reach: Accommodating more visitors can expand and diversify community, creating an inviting environment for your visitors and staff.

Boost your reputation: Making improvements beyond what the <u>Americans with Disabilities Act</u> (ADA) mandates for museums is considerate and beneficial for your guests and staff members. The visitors will appreciate your museum's inclusive design and attention to detail. Meeting more accessibility needs will improve visitor outlook and impressions of your museum.

❖ Ramps, floors, stairs, entry doors, routes of entrances, restrooms, and displays should be built according to the building directives.

Ramps and elevators are a must for Addis Abeba Museum that span multiple levels and floors. These adaptions can make it easier for those who use assistive walking and mobility devices to explore your space. Reliable elevators support people with limited mobility while also offering a convenient way for all your visitors to move around and experience everything the museum has to offer.

Large Spaces
When looking for ways to accommodate the visitors with mobility limitations, consider incorporating large spaces where you can. Open areas throughout the museum provide individuals who use wheelchairs or other mobility devices the room they need to navigate comfortably without interference. Everything from the accessible parking spaces to the museum walkways should offer ample space for those with limited mobility.

Courtesy Wheelchairs
Another way to make Addis Ababa Museum more inclusive for visitors with reduced mobility is by providing courtesy wheelchairs. Whether you invest in motorized or manual options, your facility can create a more welcoming environment for wheelchair users by providing them free of charge. It is most helpful to store them near your museum entrance, where guests can see them.

❖ Preparing model objects that could replace the original material in order to satisfy the requirement of visitors with visual impairment.

Tactile Guide Paths
They can support those with limited sight by incorporating specialized paving that provides physical indications and warnings.
The museum can use various tactile paving patterns to communicate with individuals with limited vision. Consider some of the following guiding and attention-grabbing designs:

- **Blisters:** These round, tightly spaced bumps indicate pedestrian crossings.
- **Offset blisters:** Paving with slightly more spread-out bumps indicates the edge of a platform surface.
- **Hazard:** This pattern features closely-spaced lines that communicate danger nearby.
- **Directional:** Directional paving uses raised lines or other textures to help guide those with limited vision.

These textures allow visitors with limited vision to understand their surroundings better and stay safer while at your museum.

Braille Plaques
Make it easier for your visitors with limited vision to access your museum information by incorporating braille plaques and signage.

Audio Guides
They can allow the visitors to experience the art and beauty of your exhibits, no matter their visual capabilities, with specialized audio guides. Audio guides are a popular feature for many visitors. For those living with blindness, listening to these recordings is a great way to learn about the exhibits and gain valuable insights into the museum.

Tactile Exhibits
The museum can also support and accommodate the visitors with limited vision by providing interactive tactile exhibits. Your museum can invest in exhibit replicas that allow people to touch and hold the materials. By making the museum operation more interactive, guests with

visual disabilities can feel their way through your pieces and engage with your exhibits on a deeper level.

❖ Training on sign language both in Amharic and English, also the museum can improve the museum inclusivity by adding features that uplift visitors who are deaf and hard of hearing. Even if there is a virtual technology which is used in the museum, it is not enough so that, here are a few ways to boost your guests' experiences:

Text Descriptions of Exhibits
Incorporating text descriptions to accompany your exhibits in Addis Abeba Museum can be highly beneficial for individuals with challenges related to hearing. Visitors can read their way through your displays and learn the same materials your audio guides provide — offering information about your exhibits through different mediums can help you broaden your audience.

Subtitled Videos
Along with text descriptions, consider incorporating video content into the Addis Abeba Museum exhibits. These visuals should include subtitles so that visitors who are deaf and hard of hearing can follow along.

Captions on video content allow visitors with limited hearing to stay engaged and concentrate on the information. Ensure the subtitles use an easy-to-read font and high-contrast colors that make them stand out from the screen's imagery.
Subtitled videos are beneficial for individuals who process information better when they've read it as well. They are also suitable for high-traffic areas in your museum that can become noisy when things get busy.
❖ Training for staff members on disability awareness and accommodations. Trained human power is a mandatory requirement for the tourism business
❖ Free entrance fee for a person who came as assistance.
❖ There must be security camera for the museum. Improving your museum's accessibility will also enhance its overall safety and protecting the tourism resource in the museum. When a business provides accommodations for people with disabilities, it allows them to navigate the exhibitions more comfortably and easily.
❖ Experience sharing with other national and international museums to ensure accessibility.
❖ All the activities need adequate budget as if they are additional tasks for the museum.
❖ Consulting concerned bodies like, disability associations and architects.

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