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ADDIS ABABA UNIVERSITY COLLEGE OF BUSINESS & ECONOMICS



THE IMPACT OF WORK ENVIRONMENT ON EMPLOYEES' PERFORMANCE: THE CASE OF PUBLIC SECTORS IN ADDIS ABABA

By: Mekdelawit Temesgen (GSE/9925/10)

**A Thesis Submitted to Addis Ababa University, College of
Business and Economics, Department of MBA as Partial
Fulfillment for Master's Degree of Business Administration**

Advisor: Dr. Mohammed Seid

Addis Ababa, Ethiopia

June, 2020

The Impact of Work Environment on Employees' Performance: The case of Public Sectors in Addis Ababa

**A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDY OF
ADDIS ABABA UNIVERSITY, IN PARTIAL FULFILLMENT OF THE
REQUIREMENT FOR THE MASTERS DEGREE OF BUSINESS
ADMINISTRATION, IN MANAGEMENT.**

**THE IMPACT OF WORK ENVIRONMENT ON EMPLOYEES'
PERFORMANCE: THE CASE OF PUBLIC SECTORS IN ADDIS ABABA**

By: Mekdelawit Temesgen

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Addis Ababa University, June, 2020

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STATEMENT OF DECLARATION

I, **Mekdelawit Temesgen**, declare that the thesis entitled “**The Impact of Work Environment on Employees’ Performance: The Case of Public Sectors in Addis Ababa**” is my original work. I have carried out this study independently with the guidance and support of my thesis advisor, **Mohammed Seid (PhD)**. All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or full to any other higher learning institution for the purpose of earning any degree.

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STATEMENT OF CERTIFICATION

This is to certify that **Mekdelawit Temesgen** has carried out her research work entitled “**The Impact of Work Environment on Employees’ Performance: The Case of Public Sectors in Addis Ababa**” for the partial fulfillment of Masters of Business Administration (MBA) at Addis Ababa University, College of Business and Economics. This study is original and is not submitted for any degree in this university or any other universities and is suitable for submission of Masters of Business Administration.

This thesis has been submitted for examination with my approval as a supervisor.

Advisor Name: Mohammed Seid (PhD)

Signature: _____

Date: _____

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ABSTRACT

Different factors affect work performance, and one set of factors could be the physical work environment. As a result, this study is undertaken to examine the impact of physical work environment on job performance in public sectors of Addis Ababa, Ethiopia. It is essential to make sure that human assets, the most important asset of organizations, are happy and satisfied with their work environment. Therefore, for organizations to be successful, for employees to give their best for the job and to assure that customers are satisfied with the services they are provided with, one of the important measures is to make the service providers (the public servants) happy and satisfied with their work environment.

For the purpose of this study descriptive research design was implemented and simple random sampling technique was used to select respondents. Data was gathered from 118 randomly selected public servants in five randomly selected sub-cities. Structured questionnaires were used to gather these data through a cross-sectional survey. Then the collected data was analyzed using SPSS software (Statistical Package for Social Science).

The study findings revealed that, sectors' physical working environment has an impact on employees and their work performances as far as respondents are concerned. Based on the findings, recommendations are provided for management to create good physical work environment, where employees would feel motivated to want to stay and perform as expected and beyond.

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ACRONYMS AND ABBREVIATIONS

AA: - Addis Ababa

AAU: - Addis Ababa University

COVID 19:- Corona Virus Disease 2019

FDRE: - Federal Democracy Republic of Ethiopia

Fig.:- Figure

Freq.:- Frequency

HR: - Human Resources

HRM: - Human Resources Management

JP: - Job Performance

MBA: - Masters of Business Administration

PWE: - Physical Work Environment

SPSS: - Statistical Package for Social Science

WE: - Work Environment

%:- Percentage

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CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

People's demand is constantly changing; employees of many firms are having one demand after the other. And in this time of high competition among organizations where human assets are the most important assets for the organizations, it is essential to make sure that they are happy and satisfied with the work environment they are exposed to. A study by Christabella P. Bushiri, (2014:59) have shown that work environment plays a vital role in motivating employees to perform their assigned job. Since, in today's competitive organizational environment, salary and other benefits are not sufficient in encouraging the workplace performance.

Employees play a big role in contributing to the success or failure of an organization. As a result, it is important to make sure the work place environment is suitable for employees to want to stay in the office and work comfortably. In addition, most of employees' time is spent in the work place meaning that their work environment is crucial and does matter.

Creating a work environment in which employees are productive is essential to increase profits for organizations. There are two major areas of focus: personal motivation and the infrastructure of the work environment which have influence on employees' performance (Christabella P. Bushiri, 2014:58). In most of the available literatures, work environment was listed in different ways with connection to employees' job satisfaction, job performance, and employees' motivation. Many researchers claim that work environment does have an influence on employees. Studies conducted by (Nita Sukdeo, 2017:1119; George Kafui Agbozo, Isaac Sakyi Owusu, Mabel A. Hoedoafia &Yaw Boateng Atakorah, 2017:12), found out that work environment have a significant impact on employee satisfaction and motivation. Then they emphasized the need for management to improve the work environment of employees.

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Although various studies have proven that the inconvenience of work environment employees' job performance, majority of these studies focused on work environment factors like the social and professional surroundings, relationship among employees, organizational culture, the characteristics of the job itself, and very few studies have been made on the physical work environments. Those that focused on the physical work environment were done in other parts of the world, not in Ethiopia. So, the intention of the paper is to focus on examining the effect of the physical office environment (in-door work environment) on public sector employees (public servants) of Addis Ababa. Therefore, with a focus on the influence of physical work environment like the air quality (pollution, freshness), temperature (high, low), sound (noise), space (arrangement of work station, ergonomics), light and color (sunlight, incandescent, windows and views) on employees and their job performance, this paper intended to study the impact of the physical office environment on the performance of public sector employees in Addis Ababa.

Furthermore, this study attempts to make contribution by providing remedial measures, ensuring employees' convenience, wellbeing, safety and health to be considered by employing sectors. And it shall be for the better management of employee performance of the public sectors in Addis Ababa.

1.2. STATEMENT OF THE PROBLEM

Various factors have an impact on employees duties, which in turn affect their overall performance and productivity (Nita Sukdeo, 2017:1112). Environmental factor is among the many problems that hinder employees' work performance. The problem identified to undergo this study is the physical work environment within the public sectors of Addis Ababa. Even if human beings are similar across the globe, and we could adapt the studies made in other parts of the world, this study intended to focus on a developing country like Ethiopia.

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When the work place environment of most organizations is not safe and healthy for people, it could possibly lead to absenteeism, lateness, unsettled attention and other various reactions that reflect on their job performance. Most work surroundings in our country are not employee-friendly and suitable with respect to the psychological, physical and social effect it has on their motivation, satisfaction and performance level.

“Employees’ workplace environment is a key determinant of the quality of their work that impacts their desire to learn skills and be motivated to perform. And much of employees’ time is spent in the office but many of them no longer feel that their workplace is a second home forcing them to accommodate with the uncomfortable environment, which shows off on their performance” (Khaled Al-Omari & Haneen Okasheh, 2017:15544). It is stated by K. Chandrasekar, (2011) that “uncomfortable and poor work environments include poorly designed workstations, unsuitable furniture, lack of ventilation, inappropriate lighting, excessive noise, insufficient safety measures in emergencies and lack of protective equipment. People working in such environment are prone to occupational disease and its impacts on performance.”

The necessity to identify the factors that affect employee performance has been escalated due to increased competition between firms and their need to respond effectively to rapidly changing operational conditions, as well as to personnel requirements (Anastasios D. Diamantidis & Prodromos Chatzoglou, 2018:171). Human resources are a unique and most valuable source of competitive advantage, that organizations must ensure the most effective and efficient utilization of these resources (Fadare Olawale, Somuyiwa Adebambo & Ayantoyinbo Boye , 2015:230), as human effort in organization is indispensable (Chika Ebenezer Duru & Dominic Shimawua, 2017:23). And without dedicated, knowledgeable and motivated employees, the best plans will never be successful (Hagere Yilma, 2014:65&66), since the success or failure of an organization is closely related to the effort and motivation of its employees (Joseph Benjamin, 2017:10). This is especially true in a service oriented sector like the public sector where customer (public) satisfaction

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is continuously expected to be met, and unless employees are satisfied it is hard to keep customers who are served by those employees to be satisfied.

Most researches done regarding organizations and employee performance for the better productivity of employees were made with a concentration of the profitability of the organizations, the service quality, customer attraction without sufficient concern on employees. Furthermore, most of the studies made on workplace environment and employee performance were conducted on profit oriented organizations (mostly private organizations) than on government controlled public sectors. So, this study purposely focused on the effect of the physical work environment on the public sectors of Addis Ababa.

As a result, the study has tried to emphasize that more attention should be given to this influencing factor so as to make sure employees do their job in a secure, safe, healthy and comfortable space. Mainly, this paper had examined the effect of the physical work environment on the workers' job performance based on employees' perception on their work environment and how it affects their performance. Therefore, recommendations for better physical environment, employee management and directions for further research were indicated.

1.3. BASIC RESEARCH QUESTIONS

Based on the data collected and analyzed, this research is expected to answer the following basic research questions:

- How does physical work environment affect the performance of public sector employees in Addis Ababa?
- Which physical work environment factors have the most effect on the employees' performance?

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1.4. OBJECTIVES OF THE STUDY

The research analyzed data to determine the effect of work environment on the performance of public sector employees in Addis Ababa according to how employees of the sectors perceive their environment and its effect. This was done to create suitable strategies that could involve removing constraints that prevents employees from contributing to organizational objectives.

1.4.1. GENERAL OBJECTIVE OF THE STUDY

The general objective of the study is to determine the impact of physical office environment on the performance of public sector employees in Addis Ababa.

1.4.2. SPECIFIC OBJECTIVE OF THE STUDY

- to determine if the physical work environment factors: noise, temperature, air (ventilation), light and color, and space have effect on the employees' performance
- to determine which physical work environment factors have the most effect on the employees' performance

1.5. SIGNIFICANCE OF THE STUDY

This research will benefit the government, public and private sectors because it focused on giving sectors an in depth understanding on employees' perception about their physical environment and how much it requires attention of the management. Understanding this effect helps emphasize on a better management of employees' wellbeing, health and safety which has to be assured before they are expected to be productive with their work. It is believed that through this study the employer will get to know how work environment impacts the employees' level of motivation and performance.

In order to boost the morale of employees and make them more efficient, there should be a good working condition (Christabella P. Bushiri, 2014:60). Therefore,

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this paper highly anticipated that the results of the study are important for several reasons and has the following significance.

- This paper tries to analyze the impact of work environment on employees' performance at public sectors
- It is expected to provide knowledge and remedial measures to improve the working environment of employees for better performance in public institutions.
- It can provide knowledge and measures to other sectors in Ethiopia in order to improve the working conditions of employees and to consider office design as an important factor in increasing employees' performance.
- It can provide information to the policy makers, so that they can use it as input in their human resource policy development and rearrangement.
- It can also serve as a reference material for future researches in this area.
- And while dealing with the primary concern of this research, employees of such sectors would highly likely have one less thing to worry about at work.

1.6. SCOPE AND LIMITATION OF THE STUDY

1.6.1. SCOPE OF THE STUDY

The scope of this study does not exceed beyond the public sector employees of the capital city of Ethiopia; Addis Ababa. This research has involved going to offices of public sectors for the analysis of the employees' perception and satisfaction level regarding the physical work environment, how this factor affects them and their work performance.

Out of the targeted ten sub-cities in Addis Ababa, five sub-cities (Bole, Arada, Yeka, Gulele and Kolfe) are randomly selected. This selection of sub-cities and the public sectors within those sub-cities was done randomly. Although one public

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sector differs from the other making it hard to generalize on the quality level of the work environment and the effects, the intention of this study is to learn the perception of employees on their work environment and its impact on their performance. The participants of this study are top, middle and low level employees with different work responsibility, job position, accountability, decision making and leadership within these public sectors.

Most researches and articles have pointed out that work environment; Physical, psychological and social work environment do affect employees' work performance in different ways. And this study will specifically investigate the effect that one of this work environment; the physical work environment has on the performance of employees of the public sectors in Addis Ababa.

1.6.2. LIMITATION OF THE STUDY

There has not been such a serious limitation on the process of doing this study, except for the following:

- Resource constraint like time, financial problems, unavailability of secondary data sources and relevant documents based in Ethiopian public sectors context. Hence the topic is not well considered in our country. But this study had tried to compensate the shortage of data source, by going through other countries' and other sectors' related documents, and by asking comprehensive and detailed question for respondents.
- Data collection process due to the outbreak of the Corona Virus (COVID 19) pandemic was a little difficult. Going to offices and gathering data was a challenge as most employees of public sectors were instructed to not attend the office and to work from home. Therefore, data collection took more time (more than a month). In addition, going to those public sectors

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and making personal observation was a challenge due to this pandemic and the instructions that followed.

- The different branches of sectors were located in different area of the city and this was very difficult to travel to each and every place and collect data. So, the study had seen another mechanism to reach the targeted respondents by recruiting data collectors to finalize the paper with in deadline.
- In addition, most of the employees of the sectors that I went to for data collection through questionnaire survey were not willing to give response to the questions provided. And the reason they gave was that they would be giving company information to an outsider. Even with the letter from the department of MBA and an explanation that neither the sector nor the employee's name would be Indicated, and also stating that it is confidential, they still were not willing to co-operate.
- It was a little difficult to get data (like an HR report indicating the number of employees) from higher officials of the sectors as a secondary data source. And it was challenging to get allowance of the access to limited information and getting an honest response for questionnaire. Another limitation of this research is that it focused only on few specific public sectors (i.e. Heterogeneous sample). And the result is thus not to be generalized to other sectors/organizations.
- The other limitation, preventing generalization and leading to difficulty of a sound judgment, is the fact that this study is based only on a descriptive statistical analysis leading to gaps that future researchers should consider regression analysis in addition to the descriptive analysis.

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1.7. DEFINITION OF TERMS

The following are some terms/concepts used in the research repeatedly. The definitions are given for a better understanding throughout the research document:

- ✓ **Work environment:** is an atmosphere where employees perform activities every day (Wilda al Aluf, Sudarsih, Didik Pudjo Musmedi & Supriyadi, 2017: 340); anything that exists around the employee.

- ✓ **Physical work environment:** is the working environment that deals with the physical or tangibles at the setting where job is performed. It includes machinery, office layout, temperature, ventilation, lighting, noise level and space (George Kafui Agbozo et.al, 2017:13).

- ✓ **Performance:** is often defined simply in output terms; the achievement of quantified objectives. But it is a matter not only of what people achieve but how they achieve it. *The Oxford English Dictionary* confirms this by including the phrase 'carrying out' in its definition of performance: 'The accomplishment, execution, carrying out, working out of anything ordered or undertaken' (Michael Armstrong, 2006: 497).
 - ✚ Performance according to this study shall be understood as the outcome/output achieved based on a set standard or expectation drawn by the sector/the supervisor and the employees themselves.

- ✓ **Motivation:** is a reason to do something and is concerned with the factors that influence people to behave in certain ways (Michael Armstrong, 2006:252). It is a feeling of enthusiasm, interest or commitment that makes somebody want to do something (Microsoft Encarta Dictionary, 2009).

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- ✓ **Public sector:** Different countries have different views about what makes a sector public. According to World Bank (2012:2) the public sector is a sector that comprises upstream core ministries and central agencies, downstream bodies including sector ministries and agencies (service providers under the policy direction of government). Downstream, the public sector delivers outputs that directly matters to citizens and firms. It provides services such as education, health, housing, transport, electricity or security.

1.8. ORGANIZATION OF THE THESIS

The thesis report comprises five chapters, which include the following:

- **Chapter One: Introduction**

This chapter contains background of the study, statement of the problem, basic research questions, and objectives of the study (general objective and specific objectives), definition of terms, and significance of the study, scope and limitation of the study.

- **Chapter Two: Literature Review**

This chapter deals with the literature (theoretical and conceptual frameworks, findings of previous studies related to this topic) relevant to the study.

- **Chapter Three: Research Methodology**

Under this chapter, the paper describes the type and design of the research; the study area; the research population; sampling design; the sources of the data collected; the data collection tools/instruments employed; the procedures of data collection; and the methods of data analysis used.

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- **Chapter Four: Results and Discussion**

This chapter summarizes the results/findings of the study after processing and analyzing the data based on the survey made, and interprets and/or discusses the findings.

- **Chapter Five: Summary, Conclusions and Recommendations**

This chapter comprises the summary of findings drawn from the results discussed under chapter four, conclusions drawn from the summary of findings, as well as hint for future research and recommendations.

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CHAPTER TWO: REVIEW OF RELATED LITERATURE

This literature review attempts to discuss the various literatures related to work environment which has impact on employee performance. It presents the opinions, principles, theories, findings and recommendations of related researches of different people, obtained and to be used in the study. It gives a theoretical, empirical and conceptual framework of the topic, presents general facts of previous findings and indicates the gap that it intends to fill concerning this concept.

2.1. INTRODUCTION

According to Fadare Olawale, et.al, (2015:230) competition has become a way of life for most organizations. To survive and be successful in such competitive environment and to remain competitive; it is important to ensure the most effective and efficient utilization of human resources. As human resources are unique and valuable sources of competitive advantage.

“Work environment plays a vital role in motivating employees to perform their assigned job. Since money is not a sufficient motivator in encouraging the workplace performance. The ability to attract, keep and motivate high-performance is becoming increasingly important these days. And an attractive and comfortable work environment provides a condition for employees to perform their job effectively” (Christabella P. Bushiri, 2014:16&59). Even though the work environment does not carry out the production process within a company, it has a direct influence on the employees who carry out the production process (Wilda al Aluf et. al, 2017:337&340).

In addition, as indicated by Abdul Rahman Ahmad Badayai (2012:487), recent studies on physical workplace environment reveal the uncongenial physical work environments do decrease the quality of a job. The misfit of physical work environment affects the motivation, the satisfaction, social relation, performance and health of the employees.

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2.2. THEORETICAL FRAMEWORK

Theoretical framework attempts to give explanation of the variables as considered in the conceptual framework below. The relationship of the dependent variable with the independent variables is defined in a way that the set of factors impact an employee, which in turn determines the final outcome in terms of increased or decreased performance of that individual.

2.2.1. EMPLOYEE WORK PERFORMANCE

Performance is an output/outcome achieved through the act of doing something according to a set expectation, objective and standard. And according to Michael Armstrong,(2006:498), performance is about upholding the values of the organization. This is an aspect of behavior but it focuses on what people do to realize core values such as concern for quality, people, equal opportunity and operating ethically. It means converting espoused values into values in use: ensuring that the rhetoric becomes reality. And high performance results from appropriate behavior and the effective use of the required knowledge, skills and competencies.

It is a known fact that organizations need highly performing individuals in order to meet their goals and to achieve competitive advantage. Performance can also be a source of satisfaction for individual employees when they accomplish their tasks and as a personal achievement.

According to Human Resource Module of Addis Ababa University (n.d:190&191), performance is the degree of accomplishment of the tasks that make-up an individual's job. And it is a result of three elements:

- **Effort:** Refers to the amount of energy (physical and/or mental) used by an individual in performing a task.
- **Abilities:** Personal characteristics used in performing the task (skills, knowledge, behavior, attitude, etc.)

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- **Role perception:** refer to the direction(s) in which individuals believe they should channel their efforts on their jobs i.e. their own way of understanding their job.

And if a person is weak in either of these elements, performance is likely to be very low. Beyond these factors, other environmental factors may have an indirect impact on performance level. Thus, management should provide employees with adequate working conditions and a supportive environment to eliminate or minimize performance obstacles.

Measuring performance is relatively easy for those who are responsible for achieving quantified targets, like sales. It is more difficult in the case of knowledge workers. But this difficulty is overcome when a distinction is made between **outputs** (quantifiable) and **outcomes** (visible effect- not necessarily quantifiable). It is necessary to measure performance by reference to what outcomes have been attained in comparison with what outcomes were expected (Michael Armstrong, 2006:506).

Although there are wide variety of measures of work performance, according to David Hakala (2008), performance measurement uses indicators of performance like quantity, quality, timeliness (how fast work is performed), cost-effectiveness, absenteeism/tardiness, creativity, adherence to policy, gossip and other personal habits (can detract from job performance and interfere with the performance of others), and personal appearance/grooming.

Some of the means indicated by David Hakala (2008) in which performance is assessed from the aforementioned indicators are manager appraisal, self-appraisal, peer appraisal, team appraisal, assessment center, 360-degree or "full-circle" appraisal and MBO (management by objectives). And these various assessment methods can be used in combinations.

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To summarize, David Hakala, (2008) and Michael Armstrong, (2006) stated the following indicators for measuring employee performance in discipline of human resource management, and they include:

- **Quality** that can be measured by percentage of work output;
- **Customer satisfaction** that can be measured by the number of royal customers and customer feedback;
- **Timeliness** measured in terms of how fast work is performed by the employee when given a certain task;
- **Absenteeism/tardiness** observed when employees absent themselves from work;
- **Achievement of objectives** measured when an employee has surpassed his/her set targets, he/she is then considered to have performed well to achieve objectives.

2.2.2. MOTIVATION AND MOTIVATION THEORIES

➤ MOTIVATION

Motive is a reason for doing something. It is concerned with the factors that influence people to behave in certain ways. People are motivated when they expect that their action is likely to lead to the attainment of a goal and a reward (that satisfies their needs). Giving close attention to how individuals can best be motivated is essential, to ensure that individuals deliver (Michael Armstrong, 2006:251-254).

➤ MOTIVATION THEORY

“Motivation theory examines the process of motivation. It explains why people at work behave the way they do in terms of their efforts and the directions they are taking. It describes what organizations can do to encourage people to apply their efforts and abilities. It is also concerned with job satisfaction- the factors that create it and its impact on performance” (Michael Armstrong, 2006:251).

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Michael Armstrong, (2006); Stephen P. Robbins and Timothy A. Judge, (2013) have discussed in detail about employee motivation theories:

- **Instrumentality theory:** states that rewards or punishments serve as the means of ensuring that people behave or act in desired ways. It is the belief that if we do one thing it will lead to another. In its crudest form, this theory states that people only work for money. It assumes that a person will be motivated to work if rewards and penalties are tied directly to his/her performance.

- **Expectancy Theory:** originally contained in the valency-instrumentality-expectancy (VIE) theory which was formulated by Victor Vroom in 1964; valency stands for value, instrumentality is the belief that if we do one thing it will lead to another, and expectancy is the probability that action or effort will lead to an outcome. This theory argues that the strength of our tendency to act a certain way depends on the strength of our expectation of a given outcome and its attractiveness. In more practical terms, employees will be motivated to exert a high level of effort when they believe it will lead to a good performance appraisal; that a good appraisal will lead to organizational rewards such as bonuses, salary increases, or promotions; and that the rewards will satisfy the employees' personal goals.

- **Goal-setting Theory:** is a theory that states that specific and difficult goals, with feedback, lead to higher performance; motivation and performance will improve if people have difficult but agreed goals and receive feedback. This theory plays a key part in the performance management process which was evolved from the largely discredited management-by-objectives approach.

- **Equity Theory:** is a theory that says that individuals compare their job inputs and outcomes with those of others. It is concerned with the perceptions people have about how they are being treated compared with others. To be dealt with equitably is to be treated fairly in comparison with another group of

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people (a reference group) or a relevant other person. People are better motivated if treated equitably.

- **Process (cognitive) theory:** focuses on the psychological processes or forces which affect motivation, also focuses on **basic needs**. It is also known as Cognitive Theory due to its concern with **people's perception of their work environment** and the ways in which they interpret and understand it.

 - **Content (needs) theory:** It states that motivation is essentially about taking action to satisfy needs, and identifies the main needs that influence behavior. An unsatisfied need creates tension and a state of disequilibrium. Not all needs are equally important for a person at any one time-some may provide a much more powerful drive towards a goal than others, depending on the individual's background and present situation.
- i. McClelland's theory of needs:** developed by David McClelland and his associates, looks at three needs:
- **Need for achievement**
 - **Need for power**
 - **Need for affiliation** (the desire for friendly and close interpersonal relationships)
- ii. Maslow's Hierarchy of Needs Theory:** Abraham Maslow hypothesized that within every human being there exists a hierarchy of five needs; physiological, safety, social, esteem, and self-fulfillment. This theory states that when a lower need is satisfied, the next highest becomes dominant and the individual's attention is turned to satisfying this higher need; a higher need only emerges when a lower need is satisfied. So if one wants to motivate someone, according to Maslow, one must understand what level of the hierarchy that person is currently on and focus on satisfying needs at or above that level.

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iii. Herzberg's two factors model: also called '*motivation-hygiene theory*'

indicates that two groups of factors affects job satisfaction:

- those **intrinsic** to the job such as achievement, recognition, the work itself, responsibility, autonomy, scope to use and develop skills and abilities, interesting and challenging work and opportunities for advancement seem related to the job satisfaction
- those **extrinsic** to the job such as working conditions and pay, rewards (raise, praise or promotion) and punishments (disciplinary action, withholding pay, or criticism).

From the above theories, the most relevant theories for this topic of study were found to be:

- ✚ **Process (cognitive) theory-** as it focused on people's **perception about their environment** and the way in which they interpret and understand it.
- ✚ **Content (needs) theory-** since it states that motivation is about taking action to satisfy needs and identifying the main needs that influence behavior. An unsatisfied need creates tension.
- ✚ **Maslow's Hierarchy of Needs Theory-** as it hypothesized that within every human being there exists a hierarchy of five needs; physiological, safety, social, esteem, and self-fulfillment. And that when a lower need is satisfied, the next highest becomes dominant and the individual's attention is turned to satisfying this higher need.

As can be understood from the above theories and from this study, that people's demand is constantly changing. Employees of many firms are having one demand after the other. Therefore the theories indicate that management should understand what level of need the employees are at, satisfy those needs and create an environment that they perceive to be good to make sure they are motivated, which could lead for a better performance. And this study intends to focus on a developing country like Ethiopia in order to make emphasis that needs should

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gain attention and physical work environment could be one of those needs that need to be met to have motivated and better performing employees.

2.2.3. WORK ENVIRONMENT

Work environment satisfaction is of major importance for organizations, as it affects productivity and hence organizational performance (Bart Budie, Rianne Appel-Meulenbroek, Astrid Kemperman & Minou Weijs-Perree, 2019:47). It can be anything that exists around the employees and can affect how they perform their duties (Khaled Al-Omari & Haneen Okasheh, 2017:15545). According to Abdul Rahman Ahmad Badayai (2012: 486), early researchers have classified factors of the workplace environment that can affect job performances into five, namely: sound, temperature, air, light and color, and space.

Work environment is a very broad category that involves the physical geographical location, immediate surroundings of the workplace, relationship with co-workers and supervisors, organizational culture, opportunity for personal development etc. (Chika Ebenezer Duru & Dominic Shimawua, 2017:26).

Work environment have numerous properties that may influence physical and mental wellbeing. A quality work spot is fundamental to keep workers on their various tasks and work effectively (George Kafui Agbozo et.al, 2017:13). A suitable work environment provides a sense of security and allows employees to work optimally so that time is used effectively Wilda al Aluf et.al, (2017:337&340). Similarly, Christabella P. Bushiri (2014:16) stated that an attractive and comfortable work environment provides a condition for employees to perform effectively, making best use of their knowledge, skills, competences and resources.

A negative effect on job environment leads both directly and indirectly to lower employee performance (Anastasios D. Diamantidis & Prodromos Chatzoglou, 2018:188). An unfavorable psycho-social environment, in addition to increasing the risk of mental and physical illness, it also results absenteeism (or sickness

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absence). However, more costly than absenteeism is presenteeism, where a person is present at work even when disabled by a mental or physical illness (Christian Addai Manu, 2015:32).

In general, there are different types of work environment based on the different types of work places like field work, factory, office, ware house, research facilities, laboratories and so on. Furthermore, different people have different attitudes and reactions towards their work environment. For instance, some employees choose to work in an open-plan office (an interactive work environment) while others prefer to work in a separate and quiet office (a less distracting and a more private work environment); some prefer a warm temperature in an office while others get uncomfortable with such temperature and the like.

According to Chika Ebenezer Duru and Dominic Shimawua, (2017:26&33) work environment are grouped into two; the internal environment and the external environment (the external environmental factors play a great role in affecting job performance). On the other hand, based on George Kafui Agbozo et.al, (2017:13) it can be grouped into three distinct but intertwined forms. These are physical work environment, psychological work environment and social work environment.

2.2.4. PHYSICAL WORK ENVIRONMENT

This is the work environment that deals with the tangibles at the setting where job is performed. It includes machinery, office layout, temperature, ventilation, lighting, noise level and space (George Kafui Agbozo et.al, 2017:13), similarly, Khaled Al-Omari and Haneen Okasheh, (2017:15544) listed these to be the major work environment conditions that have negative impact on job performance and that it should gain more attention.

Physical factors in the workplace such as poor layout or overcrowding can lead to common types of accident such as tripping or striking against objects. An

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employee could be affected depending on the task they are given and also the environment of the place they are working (Christabella P. Bushiri, 2014:27). For instance, the work place environment in a majority of industry is unsafe and unhealthy (K. Chandrasekar, 2011). Workplace environment with noisy (unfamiliar sound), too low or high temperature, stuffy office, lack of natural light or even cramped working space might have effect (Abdul Rahman Ahmad Badayai, 2012:487&488). Employees' and their performance is affected by these inconveniences as can be seen further in the findings of this study, indicating the importance of physical work environment factors .

Physical work environment must be able to influence employees to stay in the office, work comfortably and perform their job. Then employees will improve their performance if the problems identified are tackled by the management (Christabella P. Bushiri, (2014:57&60). But according to Abdul Rahman Ahmad Badayai, (2012:487), when the work environment is worse, due to poor physical stimuli, employees will experience more distress, which eventually will affect their job performance.

If office is neat, noiseless, properly arranged well lighted and ventilated, employees will feel a sense of belonging and this will enhance their morale and performance, make them work efficiently and effectively, inspires workers to spend more time in their various offices, absenteeism, lateness to work and other negative attitude will be drastically reduced, also increase individual output therefore leading to growth of the organization (Chika Ebenezer Duru & Dominic Shimawua, 2017:37). Employees would have their problems dealt with leaving them with one less thing to worry about at work so that it becomes possible to draw their attention towards a better performance.

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2.2.5. PHYSICAL WORK ENVIRONMENT (PWE) FACTORS THAT AFFECT EMPLOYEES PERFORMANCE

Even though the influence of physical factors depends on each individual's nature; personality, physical appearance, heat/ cold tolerance level, choice of color, preference of amount of light and so on, many documents have indicated how the physical work environment factors affect employees and their performance.

Employees' performance is influenced by a lot of aspects such as motivation, work environment and leadership in the agency (Khaled Al-Omari & Haneen Okasheh, 2017:15544). Incentives, rewards, leadership, the work itself and other motivation factors could influence employees' motivation and job performance.

In general, it is the quality of the employee's workplace environment that most impacts on their level of motivation and subsequent performance (K. Chandrasekar, 2011). And due to non-availability of good work environment, the performance of employees is in a declining state. Most departmental managers pay no attention and those acts of negligence by the managers have gone a long way to reduce workers performance or morale (Chika Ebenezer Duru & Dominic Shimawua, 2017:25).

A strong interaction is found between job performance and PWE. It is generally understood that the physical design of offices and the environmental conditions at work places are important factors in organizational performance (Khaled Al-Omari & Haneen Okasheh, 2017:15545). "Individuals operating in surroundings insecure and harmful to their health; like poor air circulation, poor personal protective equipment, inappropriate furniture, inadequate security measures, unnecessary noise, unfitting lighting and poorly designed workplaces, are susceptible to job related ailment and it influences." (Christian Addai Manu, 2015:5).

Classified into five different factors, namely: sound (noise, music), temperature (heat, cold), air (pollution, freshness), light and color (sunlight, incandescent, fluorescent, windows, views), and space (density, arrangement of work stations)

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are categorized to be the physical stimuli at a workplace environment by Abdul Rahman Ahmad Badayai, (2010:487).

i. AIR FACTOR

Being one of the PWE factors for employees' performance, air (ventilation) can play a significant role in affecting employees in their work place. According to Abdul Rahman Ahmad Badayai, (2010:491), the air in the work place especially its ingredients can play a significant function in relation to the work behavior, specifically job performance.

Our oxygen carrying capacity of the blood will be restricted as we are being continuously exposed to carbon monoxide and some other air pollutants. Individual performance may be affected even by moderate exposure to the carbon monoxide (Abdul Rahman Ahmad Badayai, 2010:491). Sectors should promote healthier life for employees by reducing air pollution and providing proper ventilation.

ii. TEMPERATURE FACTOR

Temperature plays significant role in workplace environment, depending on how the human body tries to maintain an ideal temperature. The influence of temperature on job performance might not be understood by studying the temperature of the air alone, as temperature is multifaceted having complex effects (Abdul Rahman Ahmad Badayai, 2010:490&491).

As one of the PWE factors, K. Chandrasekar (2011) stated that temperatures, when high, it can have a direct impact on health and lead to heat stress and heat exhaustion. On the other hand, according to Khaled Al-Omari & Haneen Okasheh, (2017:15546&15547) good room temperature increases productivity and reduces stress in workers as it plays notable role in workplace environment.

Temperature, just as the other physical environmental factors, depends on individuals' nature, heat/cold tolerance level and type of clothing that person

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prefers, yet it can still have a big impact on the activities, the alertness and dizziness of the employees during work.

iii. SOUND (NOISE) FACTOR

Whether noise gives a high impact on individual job performance or not is still contradictory, as different individual perceive noise differently; due to personality differences and other factors. Sound regarded as noise or desirable depends on the individual and also employee's situation, as not all noise at a workplace can be regarded as unpleasant or desirable (Abdul Rahman Ahmad Badayai, 2010:489&490).

However, Christian Addai Manu (2015:13) claims that noise is one of the leading causes of employees' distraction, leading to reduced productivity, serious inaccuracies, and increased job-related stress. Also Khaled Al-Omari and Haneen Okasheh, (2017:15546&15547) indicated that noise (unwanted sound), is the most common complaint in workplace and it is strongly agreed that the influence of noise affects their job performance.

Exposure to noise was observed to have harmful effects not only on the hearing, which later could impair the job performance, but also on the endocrine glands, indicating that a physiological stress response was involved (Abdul Rahman Ahmad Badayai, 2010:487).

iv. LIGHT AND COLOR FACTOR

Sources of light according to Abdul Rahman Ahmad Badayai, (2010:487&492), are sunlight, florescent and incandescent, and workplace without proper and sufficient light might alter the main course of the job efficiency and quality. According to K. Chandrasekar, (2011), a dreary office lacking light and color can cause depression and a lack of motivation. And such lack of motivation could lead to a decline in performance.

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It was pointed out in an article by Khaled Al-Omari and Haneen Okasheh, (2017:15546), that daylight is considered to be the number one wanted natural feature in the workplace.

On the other hand, color has been suggested to increase productivity and performance, reduce accidents, and raise employee morale by simply providing a more pleasant working environment in addition to its other purposes as an aid in safety practices through color coding. For example, fire equipment is red, danger areas is yellow, and first aid station is green (Abdul Rahman Ahmad Badayai, 2010:492).

It is Important to brighten up the space with a soothing paint job, green plants, good view to look out the window, sufficient window size, and tasteful artwork (K. Chandrasekar, 2011). However, color highly depends on individuals' choice. As indicated by Bakker, Van der Voordt, Vink, De Boon, and Bazley (2015), that personality could affect color preferences, which might be relevant regarding interior design.

The amount of light could depend on the kind of task being performed, the kind of place they are being performed at (in-door or out-door), and the time (day or night). Yet, Adequate lighting, either natural or artificial should be available in the office.

v. SPACE FACTOR

Employee performances are much importantly affected by spatial arrangements. In fact, there are mix findings; in which for instance, some employees totally react negatively towards the open-plan office, while others reacted positively due to the fact that they came from cramped former offices or because they prefer social communication (Abdul Rahman Ahmad Badayai, 2010:493).

Khaled Al-Omari and Haneen Okasheh, (2017:15546) have indicated that a workstation too crowded and restricted, will lead to stress, pressure and other

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psychological effects. An individual employee may feel unstable and have lack of freedom and motivation, possibly leading to a very stressful environment, which decreases the quality of the job performance. And according to K. Chandrasekar, (2011) office space is one of the leading physical aspects that influence the employee's performance at the workplace. And a poor arrangement of office space, wastes time and energy by failing to provide the means for effective work habits.

Therefore, employers should make available adjustable and flexible furniture to all workers in order to make them more comfortable. This in the long run keeps the employees healthy (Christabella P. Bushiri, 2014:60) both physically and mentally. As stated by K. Chandrasekar, (2011), workspace should look attractive; new furniture, photos, posters, mirrors, flowers, statues, rugs, artwork, crystals, etc.

Based on the findings by Khaled Al-Omari and Haneen Okasheh, (2017:15548), it was concluded that, the highest ratio affecting employees' performance comes from the discomfort of used furniture and imply a highly negative impact on employees.

For this study, work space could mean the arrangement of elements in the office; the space components like office furniture (including shelves, drawers, chairs, tables and PC arrangement), the comfort of the furniture, the general office space and the overall environmental factors with respect to how it fits the people who use them (ergonomics), the availability of sufficient space, to avoid overcrowding which leads to inadequate ventilation, the availability of storage space and so on.

2.3. EMPIRICAL FRAMEWORK

In most of the available literatures, work environment (WE) was listed in different ways with connection to employees' job satisfaction, job performance, and employees' motivation. And many researchers claim that work environment does have an influence on employees and that it plays an important role in an organization. A related study by Aynalem Dagne (2018:10) stated that the work

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place environment impacts employee confidence, efficiency and commitment both positively and negatively. In addition, a study conducted by (Nita Sukdeo, 2017:1119; George Kafui Agbozo et.al, 2017:12) found out that working environment have a significant impact on employee satisfaction and that there is a strong correlation between employee satisfaction and productivity on organizational performance and stated that the working environment is one of the most crucial factors that management need to improve to boost productivity.

As several empirical studies have shown, there is a significant relationship between work environment and employees' work productivity. Christian Addai Manu, (2015:57-70) found that physical, psychological, social and administrative work environment were statistically significant to the productivity of the employees that were studied.

More specifically, the study by Christabella P. Bushiri (2014:10) indicates that the success of any organization largely depends on the motivation of its employees. Also as stated by Christian Addai Manu, (2015:2) comfortable office design motivates the employees and increases their performance to a large extent.

Even though there are limited number of studies done in Ethiopia regarding work environment factors and their influence on employees, most of studies related to this title were from outside this country. In most recent studies conducted in our country Ethiopia; Aynalem Dagne (2018) studied on the effect of working environment on employees' commitment; and Simegn Zena (2019) studied on the factors affecting employees' job performance. But both these studies were made on employees of Banks of Ethiopia (Development Bank of Ethiopia and Commercial Bank of Ethiopia respectively).

And this study specifically focused on PWE factors with in the public sectors of Ethiopia, Addis Ababa region and examined the effect of these PWE on job performance of the public servants working there. The study was mainly based on

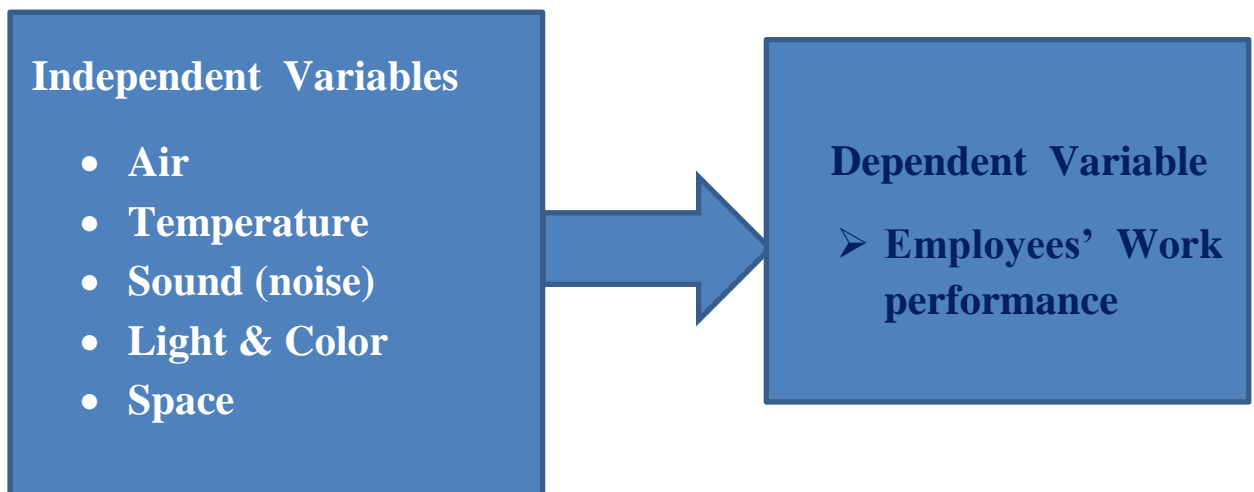
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employees' perspective regarding their work environment and the effect it has on their performance.

2.4. CONCEPTUAL FRAMEWORK

From the theories above and based on the literature review a conceptual framework has been developed. The conceptual framework model of the Independent (physical work environment) and dependent variables (employee work performance) can be demonstrated in Figure 2-1 below.

Figure 2-1: Conceptual framework model of the Independent (physical working environment) and dependent variables (employee work performance)



Source: researcher's own construction

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CHAPTER THREE: RESEARCH METHODOLOGY

3.1. INTRODUCTION

This chapter describes the research methodology employed to achieve the objectives of the study. It deals with how the study was carried out stating the steps applied to answer the research questions, the research approach, research design, population and participants, the methods and procedures of data collection, sampling techniques and procedures, techniques for data analysis and finally reliability, validity and ethical consideration.

3.2. RESEARCH APPROACH

In this study, quantitative research approach was used in order to analyze the gathered descriptive data based on a questionnaire survey as a primary source of data. To answer the research questions regarding how the physical work environment factors influences employee performance and which physical factors had the most effect, a quantitative research approach was found best. According to John W. Creswell (2014), quantitative research approach is considered to be very efficient for questions answered in number.

3.3. RESEARCH DESIGN

According to Kothari C.R. (2004:31) a research design is a conceptual structure within which research is conducted; it constitutes the blue print for the collection, measurement and analysis of data. And for this study, the methodology and procedure for data collection and analysis was based on a quantitative approach through the survey of mainly a structured questionnaire.

The main aims of this study, as mentioned in chapter one, was to examine the impact of physical office environment factors on the performance of employees' in public sectors of Addis Ababa. To achieve this objective, and in order to describe the physical factors that affect employees' performance, a descriptive statistics has been applied.

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3.3.1. QUANTITATIVE METHODOLOGY

A quantitative study is where researchers typically want to identify whether or not a statistical relationship exists between variables and how strong or prevalent such a relationship is, and then conduct statistical analyses to identify any potential relationships between the dependent and independent variables of the study (Andrew S. Denney & Richard Tewksbury, 2012).

To connect the dependent and independent variables of the study, such an approach was applied because this study is descriptive and causal type of research analysis. Thus, this study applied quantitative approach which appeared to be appropriate to find out the effect of the PWE factors on job performance.

3.4. SELECTION OF THE STUDY AREA

The study area of this research is the public sectors in Addis Ababa. It aims to target the employees working in these public sectors; top, middle and low level employees with different work responsibility, job position, accountability, decision making and leadership. Yet this study area did not include the janitors and security guards of the sectors due to the fact that these two are usually outsourced by the sectors that they don't directly face the effect of the indoor physical office environment for they might not be required to spend the whole day within the indoor spaces of the sectors.

3.5. TARGET POPULATION

The target population of this study were public servants working for the A.A City Government; the employees of public sectors in Addis Ababa. These target population were found in the sub-cities administration offices of A.A and the woreda administrations within the sub-cities. These sub-cities are a total of 10 in number (i.e. Addis Ketema, Akaky Kaliti, Arada, Bole, Gulele, Kirkos, Kolfe Keranio, Lideta, Nifas Silk-Lafto and Yeka), consisting of different sectors like Education Office, Micro and Small-scale Enterprise Office, Trade and Industry Office, Land Administration Office and Capacity Building Offices. Accordingly, five sub-cities

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(namely Arada, Bole, Yeka, Gulele and Kolfe) were selected at random. And sub-city level civil servants (respondents) were randomly chosen.

3.6. DATA COLLECTION TECHNIQUES AND SOURCES

For the purpose of this quantitative research, the required data has been gathered using primary sources; mainly questionnaire survey. Questionnaire was used in order to obtain adequate and reliable primary information from employees of public sectors (public servants) in Addis Ababa; like the Sub-cities. In addition, relevant sources like articles, journals, previous research papers, textbooks, websites, and other written records were reviewed for the purpose of this study.

In general, this survey was conducted on participants selected through the use of simple random sampling technique.

3.6.1. PRIMARY DATA

Primary data collection method has been applied for this study, so as to be able to get a fresh and original idea, to examine the impact of the physical office environment of the public sectors on employees' performance. Questionnaires were the major tools used as a primary source of information for this study.

i. THE QUESTIONNAIRE SURVEY

Questionnaire was prepared to collect the primary data from respondents (employees) who were willing to complete what they have been requested to fill. This questionnaire was adopted from different sources which were thought to be appropriate for the study. A trial of 15 sample questionnaires were distributed at first and commented on, then after incorporating constructive comments; the revised questionnaire was distributed to all the randomly selected respondents.

The questionnaires were translated to and conducted in Amharic, and then the results during the analysis were presented in English (the collected data were translated back to English). The survey included three major parts. The first part

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focused on gathering the demographic information on the respondents. The second part of the survey asked about the physical working conditions (the physical environment of the work space) and how employees' attitude is towards their indoor office space in relation to their work performance. And it has been measured on a five-point Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree". And finally, in the last part, both employees and employers (Human Resources, Supervisors and Managers) were asked to rate their performance and their workers' job performance on a five-point Likert scale. This last part of the questionnaire included a set of questions regarding the employees' level of performance from their own evaluation and from their supervisors, human resource managers and leaders evaluation.

This survey has been personally administered and also with the help of data collectors that were given adequate briefings. Respondents were assured of the confidentiality of their responses; any other person in their organization didn't see the completed questionnaires.

The questionnaires included a letter that explained the purpose of the survey and guaranteed confidentiality. And a well-designed questionnaire was distributed to 200 randomly selected employees at randomly selected public sectors. And it took an average of 10-to-15 minutes to complete the questionnaire for each respondent. This was done after getting permission from the targeted public sectors (randomly selected sub-cities) in Addis Ababa. After permission granted, the questionnaires were distributed to the respondents. The survey pack included a copy of the cover letter, and the questionnaire. Collection of responded questionnaire was started after a week from date of administration and continued for more than a month.

3.7. SAMPLING TECHNIQUES AND PROCEDURES

As it is impossible to collect data from, or test/ examine every element, due to limitation in terms of time, cost and other reasons, sampling would make a research feasible. The size of the sample is largely determined by what could be

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achieved with the resources available during the limited duration of the study. With a goal of obtaining a sample that is representative of the larger population, this survey was conducted on subjects selected from workers of public sectors in Addis Ababa.

A selection of participants through simple random sampling technique was made to guarantee each employee equal probability of being chosen from the target population. On the other hand, the questionnaire survey was also made on respondents chosen purposively from human resource officers, head of departments or supervisors of the public sectors. Such a survey was carried out based on the respondents' knowledge in the area of this study aiming to know the answer to the research questions.

3.7.1. SAMPLE SIZE

Sample refers to a smaller, manageable version of a larger group. It is a subset containing the characteristics of a large population. A sample should represent the population as a whole and not reflect any bias toward a specific attribute (<http://www.investopedia.com>, 2019: online). Ideally, all researchers want to study the entire population. However, usually it is impossible or unfeasible to do so; therefore a researcher must settle for a sample. Similarly in the case of this study, since this research could not incorporate all employees working in the public sectors of Addis Ababa, due to time constraint, physical impossibility and many other limitations, this study had to settle for a sample.

Therefore, a formula set by Cochran was used to determine the sample size. Considering the level of acceptable margins of error at 7% (i.e. a confidence level of 93%), the sample size was calculated as follows:

Since the total population for this study, that is the number of employees of the public sectors in A.A (sub-cities and the wereda administrations included) is more than 10,000, and according to the formula of Cochran, for $N > 10,000$:

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$$\text{Sample size } n = \frac{z^2 pq}{d^2}$$

Where

N = population size

n = desired sample size

z = the value of the standard variant at a given confidence level (93%) and to be worked out based on a table and Normal Curve; (Z statistic = 1.81)

p = estimated characteristics of study population proportion (0.5)

q = 1- P

d = level of statistical significance set /margin of error (0.07)

To get sample size n, $n = \frac{z^2 pq}{d^2}$ where, z=1.81, p=0.5, q=1- 0.5, d=0.07

$$\text{Therefore, } n = \frac{(1.81)^2 (0.5) (0.5)}{(0.07)^2} = \frac{0.819}{0.0049} = 167.14$$

And in making this selection, **simple random sampling method** was used to conduct the questionnaire survey. And a total sample size of 168 employees has been drawn as calculated above. And in order to compensate for non-responses additional 32 employees were included in the survey making it a total of 200 questionnaires distributed.

All the data for this study were gathered during April up to mid-May, 2020 and the overall response rate was 70.24%. The questionnaire was distributed to 168 participants who had been involved to fill out questionnaires for the purpose of getting information for the study. Among these, 118 responses were collected and used for analysis after cleaning the data for missing values.

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3.8. METHOD OF DATA PROCESSING AND ANALYSIS

The data which was obtained from the sample sectors with questionnaire was analyzed according to the objective of the study through SPSS software version 25 which was used to determine the proportion of respondents choosing the various responses. This was done for each group of items relating to the research questions. SPSS was used to analyze and present the data obtained from primary sources. Specifically, descriptive statistics was employed in this study which helped to examine the general level of job performance with respect to the physical work environment (PWE) factors. Then based on the findings relevant conclusions and recommendations are made.

The analyses of the data collected from the different sources were organized into their representative categories so as to come up with logical results. And an effort was made to carefully understand and interpret the quantitative data. The information that has been collected through primary sources was analyzed within the framework of the study objectives. In deciding how the results were going to be analyzed depended on the research approach; whether it was qualitative, quantitative or a mixture of the two. The analysis method was chosen based on the nature of the research. And for this study, the research approach used was quantitative method. As a result, after the collection of the research data, analysis and interpretation were carried out using **descriptive** type of analysis. A description of the research findings were found to be the best examination of the actual conditions in order to give a better report about the study Area.

3.9. RELIABILITY OF INSTRUMENTS

Reliability coefficient of 0.70 or higher is considered “acceptable” in most social research situation. According to Kothari (2004), a measuring instrument is reliable if it provides consistent results. Cronbach’s alpha is a coefficient of reliability, commonly used as a measure of the internal consistency or reliability of a test score for a sample of examinees.

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As a result, the reliability of the instrument for this study was checked by using SPSS version 25 applying Cronbach's alpha test, and the result of this reliability test was found to be 0.782. According to Zikmund, Babin and Griffin (2010) scales with coefficient alpha between 0.8 and 0.95 are considered to have very good quality, scales with coefficient alpha between 0.7 and 0.8 are considered to have good reliability, and coefficient alpha between 0.6 and 0.7 indicates fair reliability. Therefore, the Cronbach's coefficient alpha indicates that the instrument for this study has good reliability.

All 54 items measured to test reliability showed that there was internal consistency. This suggested that the internal reliability in this study was acceptable and signified to be good ("acceptable"), as indicated in Table 3-1 below.

Table 3-1: Reliability Analysis of Variables

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.782	0.800	54

Source: Own Sample Survey (2020)

3.10. VALIDITY OF THE INSTRUMENTS

Before data collection was made, the questionnaire was developed based on the literature review and by addressing the basic research questions. Then the data collection tools were tested via pre-test and applying the research advisor's comments and suggestions to validate the study. Before distributing the finalized ones, sample questionnaires were administered for 15 respondents and adjustments were made to the questionnaire items based on the comments of the respondents. Several measures were employed to ensure that the results are free from material errors during the design of the questionnaire. Such measures are clarity of

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instructions, clarity of the questions, the layout of the questionnaire and other comments. All measures used to construct the instruments used in this study with slight modification, have shown acceptable level of construct and content validity in previous studies. The questionnaires are adapted from journal of Khaled Al-Omari & Haneen Okasheh (2017); Christabella P. Bushiri (2014); Simegn Zena (2019) and Getamesay Birhane (2016).

Responses of the questionnaires were judged to be unacceptable when respondents' scoring did not differ. For instance, when respondents answered all questions with the same response, such responses were struck out and rejected so as not to affect the validity of the study. Again, where respondents failed to answer all the questions, their responses were equally rejected and were not part of the data analysis.

3.11. ETHICAL CONSIDERATIONS

The research procedure has ethical clearance; no falsification, alteration or misrepresentation of data for biased or other purposes. The study was conducted by considering ethical responsibility. This includes:

Confidentiality - The respondents were assured that their response will remain confidential, their names will not be stated and the data they provided shall be used for academic purpose only. Respondents' anonymity was kept so that participants would feel free and safe to express their ideas.

Organizational approval – An approval has been obtained from the sectors where the research had been carried out prior to any research activity.

Informed consent - The cover letters explained the purpose of the questionnaire (the purpose of the study and the use of the information) and the right to accept or refuse to participate in the research activities had been given to the respondents of this study. In addition, assurance that the participant can withdraw at any time was granted.

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CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1. INTRODUCTION

This chapter presents analysis and interpretation of the data obtained from the primary source. The primary data for this study was obtained from the questionnaire which is designed to collect the necessary data to answer the research questions. Then the next step was to analyze the collected data and to present the results. Data were coded so that they will be understood and analyzed by SPSS 25. This chapter presents a discussion of the final results and the process through which the results were obtained. The demographic characteristics of respondents is presented; and the responses regarding the factors of physical working environment were analyzed by descriptive method using bar charts, pie-charts, tables, frequencies, percentages and mean. Concurrently, the result obtained from analysis is also compared with the reviewed literatures to confirm if they are consistent.

4.2. RESPONSE RATE

In an attempt to achieve the objectives of the study, questionnaires were designed and distributed to a total of 168 questionnaires. And out of those 168 questionnaires, 118 of them were collected successfully representing 70.2% response rate. 118 employee respondents' responses were used for analysis. And among these 118 employees 18 of them were Human Resources/ Supervisors that rated employees' performance. Therefore, this chapter has statistically examined the effect of physical work environment on the performance of the employees of public sectors in Addis Ababa, Ethiopia. According to Barbie (2002), as cited by Tihut Zekarias (2016:43), any response rate of 50% and above is adequate for analysis, thus 70% is even better. These response rates were made a reality after frequently reminding the respondents to fill-in and return the questionnaires. Accordingly, the analysis of this study is based on the number of questionnaires collected.

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4.3. DATA PRESENTATION AND ANALYSIS

The first phase involved editing, coding and the tabulation of data. This assisted in identifying any anomalies in the responses and the assignment of numerical values to the responses in order to continue with the analysis. The data was then checked for possible erroneous entries. The descriptive statistics was used to provide information on the demographic characteristics and the other independent variables. Frequency tables, frequencies, percentages and mean are computed for each factor of PWE and JP in this study.

4.4. DESCRIPTIVE STATISTICS

In this section various statistical data analysis tools such as mean, frequency and percentile are used to analyze the collected data. The summary of descriptive statistics of all variables that are evaluated based on a 5-point Likert scale (“1” being “strongly disagreed” to “5” being “strongly agreed”) is presented.

4.5. FINDINGS AND DISCUSSIONS FROM THE QUESTIONNAIRE SURVEY

4.5.1. DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

The first part of the questionnaire consists of six items about the demographic information of the respondents. It covers the personal data of respondents such as gender, age, marital status, educational qualification, year of service in that sector and salary. And this part of the chapter deals with demographic profile of the public sectors staffs. Below is a table consisting of respondents' demographic characteristics.

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Table 4-1 Respondents’ Demographic Characteristics

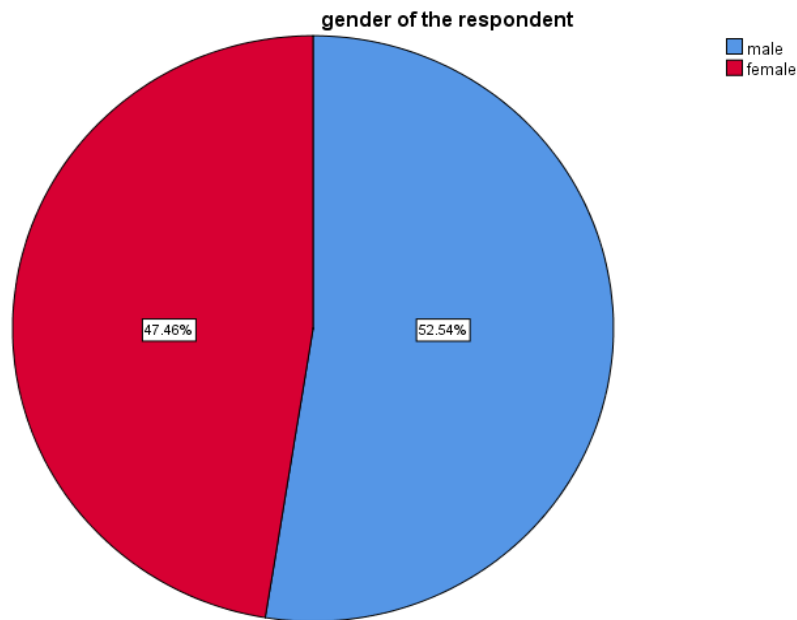
PARAMETERS		FREQUENCY	PERCENT
Gender	Male	62	52.54%
	Female	56	47.46%
	total	118	100%
Age	20-25 Years	9	7.63%
	26 - 30 Years	53	44.92%
	31 - 35 Years	33	27.97%
	36 - 40 Years	9	7.63%
	>40 Years	14	11.86%
	total	118	100%
Marital Status	Single	60	50.85%
	Married	48	40.86%
	Divorced	8	6.78%
	Widowed	2	1.68%
	total	118	100%
Work Experience	0 - 4 Years	66	55.93%
	5-9 Years	36	30.51%
	10 -20 Years	15	12.71%
	>20 Years	1	0.85%
	total	118	100%
Education Level	12 Certificate	2	1.7%
	Diploma	19	16.1%
	Degree	82	69.5%
	Masters	15	12.7%
	Ph.D.	0	0
	Total	118	100%
Salary	1501-2000	2	1.69%
	2001-3000	9	7.63%
	3001-5000	26	22.3%
	5001-7000	33	27.97%
	>7000	48	40.68%
	Total	118	100%

Source: own calculation of sample survey result (2020)

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i. GENDER OF RESPONDENTS

Fig. 4-1: Gender of the respondents



Source: own survey (2020)

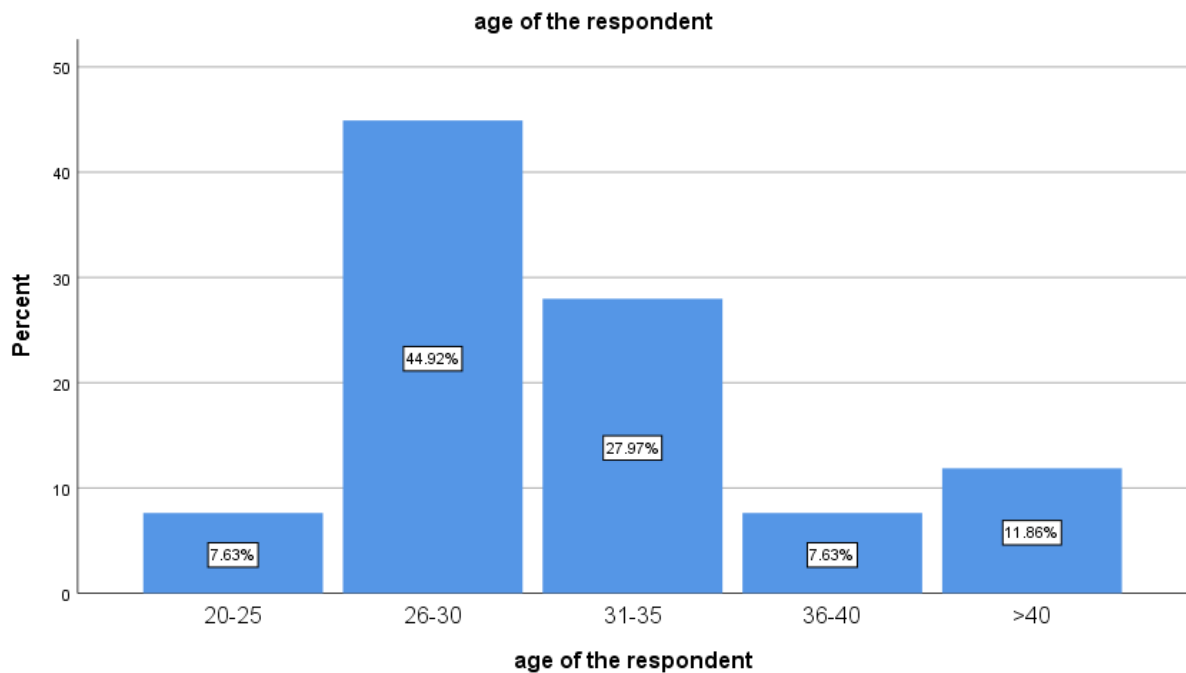
The demographic data for gender shows that, out of the total 118 respondents, there were 62 males and 56 female. Fig. 4-1 above shows that a percentage of 52.54%, while female respondents were representing 47.46%. This result shows that majority of the respondents are male.

ii. AGE OF RESPONDENTS

From the total number of questionnaires that were gathered during this study 7.63% of the respondents are between the age group of 20 and 25, 44.92% of the respondents are between the age group of 26 and 30, 27.97% of the respondents are between the age group of 31 and 35, 7.63% of the respondents are between the age group of 36 and 40 and the remaining 11.86% of the respondents lie in the age group of 40 and above.

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Fig. 4-2: Age of the respondents



Source: own survey (2020)

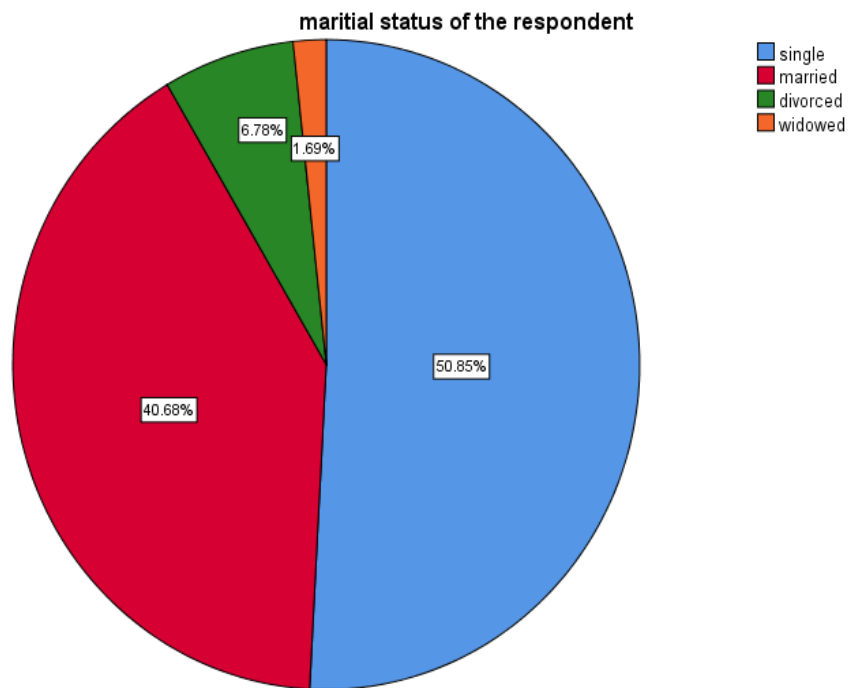
The sample population age distribution was clearly depicted at fig. 4-2 and the result shows that majority of the respondents are on the age group of 26 to 30. Here the data indicated that most of the employees in the public sectors are in the maturity age that are productive and can contribute for the achievement of company objectives.

iii. MARITAL STATUS OF RESPONDENTS

As indicated on the table below, from the questionnaires that were gathered during this study 50.85% of the respondents are single, 40.86% of the respondents are married, 6.78% of the respondents are divorced and the remaining 1.68% of the respondents are widowed. The result shows that the majority of the respondents are single.

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Figure 4-3: Marital status of the respondents



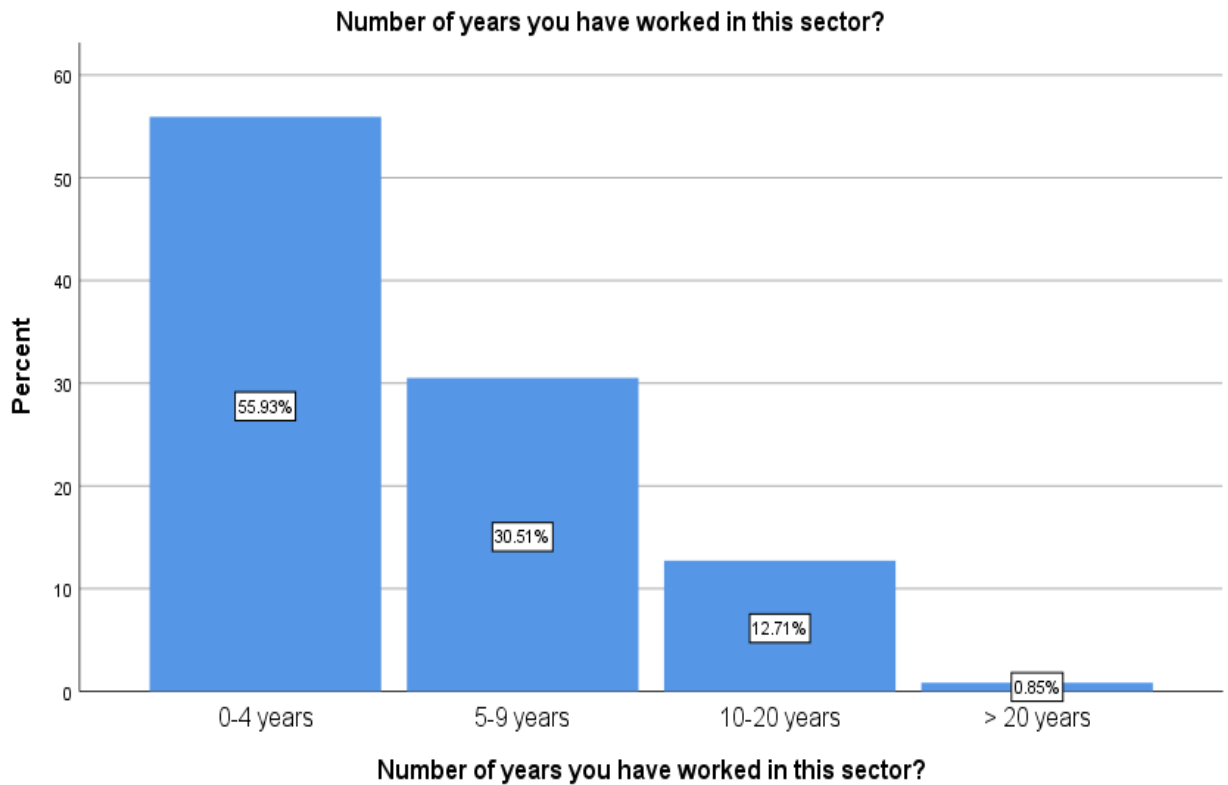
Source: own survey (2020)

iv. TENURE (EXPERIENCE) OF RESPONDENTS

Regarding how long the respondents worked in that specific public sector, the survey result indicated on fig. 4-4 shows that the respondents have served in the public sector (sub-city) from 1 year up to above 20 years. From the total number of the respondents, 55.93% of the respondents have experience that ranges between 0 to 4 years, 30.51% of the respondents have experience that ranges between 5 to 9 years, 12.71% of the respondents have experience that ranges between 10 to 20 years and the remaining 0.85 % of the respondents have experience that is greater than 20 years. The result shows that the majority of the respondents have an experience that ranges from 0 to 4 years. Since most of the respondents are youngsters they have few years of work experience.

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Figure 4-4: Tenure (experience) of the respondents



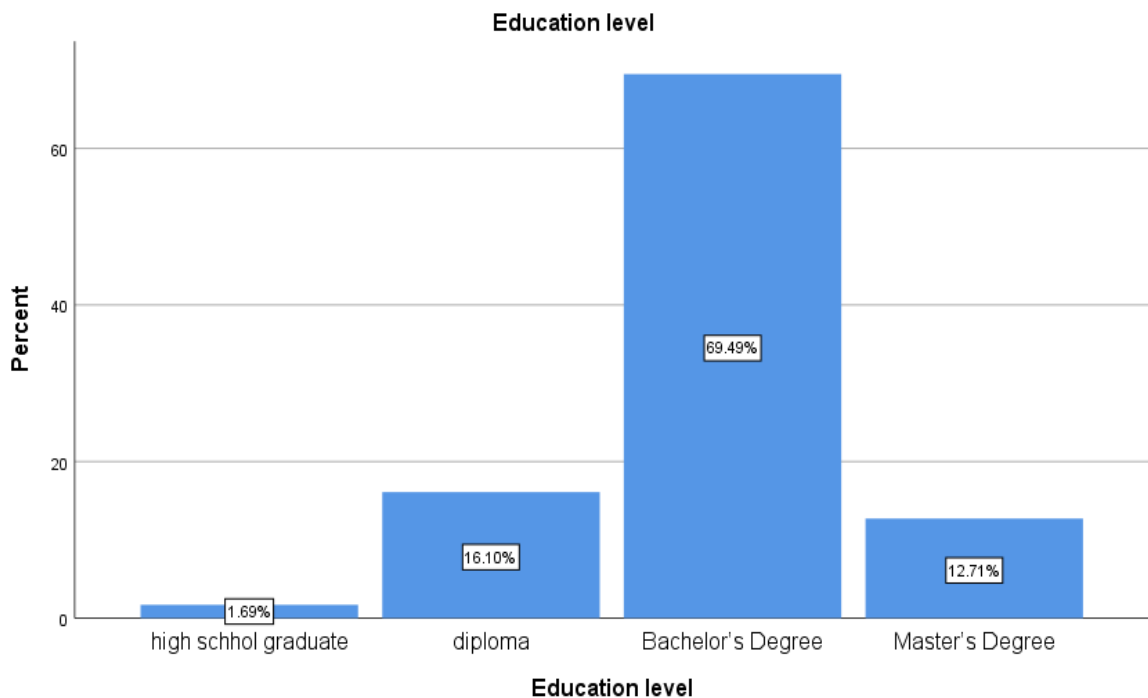
Source: own survey (2020)

v. EDUCATIONAL LEVEL OF RESPONDENTS

It can be seen from fig. 4-5 that respondents hold a range of educational qualification from High School graduates to Master's Degree. The survey report revealed that from the total number of the respondents 1.69% of the respondents are high school graduate, 16.10% of the respondents are diploma holders, 69.49% of the respondents are bachelor degree holder and the remaining 12.71% of the respondents are master's degree holder. The result shows that the majority of the respondents are bachelor's degree holder. And since the majority of the respondents were educated, it can be concluded that almost all employees are capable of understanding the concept of the survey and properly responding the questions.

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Figure 4-5: Education level of the respondents



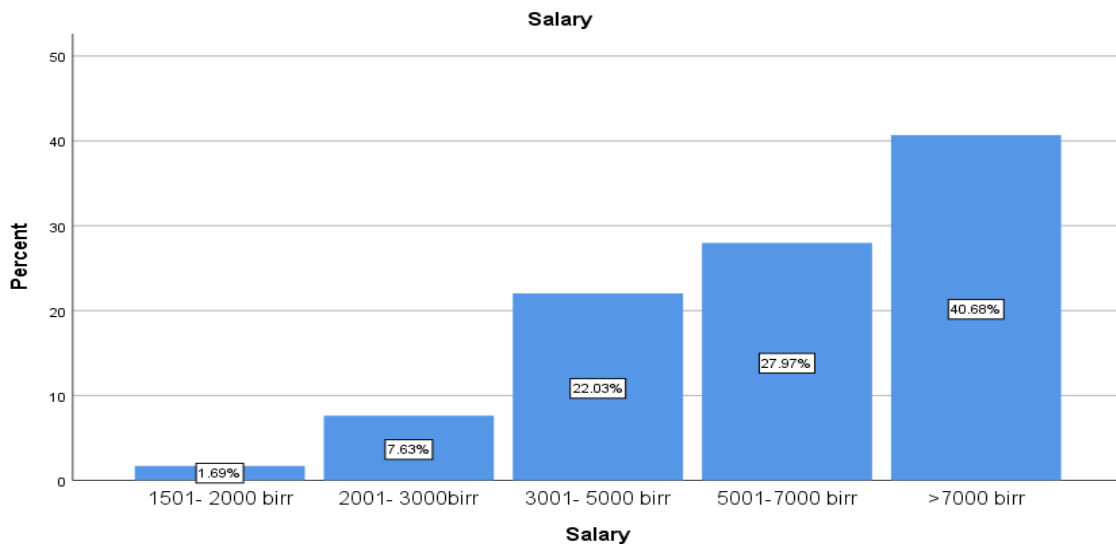
Source: own survey (2020)

vi. SALARY OF RESPONDENTS

Fig. 4-6 below illustrates that respondents hold a range of salary from 1501 to more than 7000 birr. From the total number of respondents 1.69% of the respondents have a salary range of 1501 and 2000 birr, 7.63% of the respondents have a salary range of 2001 and 3000 birr, 22.03% of the respondents have a salary range of 3001 and 5000, 27.97% of the respondents have a salary range of 5001 and 7000 birr and the remaining 40.68% of the respondents have a salary above 7000 birr. The result shows majority of the respondents have a salary above 7000.

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Figure 4-6: Salary of the respondents



Source: own survey 2020

4.5.2. PHYSICAL WORK ENVIRONMENT FACTORS

This section presents the data from the second part of the questionnaire that was gathered regarding the impact of the physical work environment factors on the work performance of the employees, and respondents were asked to indicate their level of agreement on a five point Likert response format ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 4-2: Employees' response to PWE

Statement	Strongly Agree (5)		Agree (4)		Neutral (3)		Disagree (2)		Strongly Disagree (1)		Mean
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
The sector has safe & secure workspace	29	24.6	39	33.1	13	11.0	29	24.6	8	6.8	3.44
Level of cleanliness is good	32	27.1	44	37.3	12	10.2	23	19.5	7	5.9	3.60

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The restrooms are clean	13	11.0	46	39.0	13	11.0	23	19.5	23	19.5	3.02
I worry about the effect of the PWE on my health	27	22.9	35	29.7	10	8.5	32	27.1	14	11.9	3.25
Due to the overall office environment I can complete my daily tasks easily	29	24.6	38	32.2	16	13.6	26	22.0	9	7.6	3.44
Due to the overall office environment I can do my work effectively	27	22.9	36	30.5	21	17.8	26	22.0	8	6.8	3.41
All in all I am satisfied with the indoor PWE	11	9.3	51	43.2	10	8.5	33	28.0	13	11.0	3.11
Average number of respondents	24	20.3	41.29	35.0	13.57	11.5	27.4	23.2	11.71	9.93	3.32
TOTAL Freq.	118										
TOTAL %	100										

Source: own calculation of sample survey result (2020)

According to the above table, 57.7% of the respondents “strongly agree” and “agree” that the sector they work in has a safe & secure workspace and 31.4% of the respondents “strongly disagree” and “disagreed”. The obtained mean score for this item was 3.44. From this result, we can infer that **the sectors have a safe & secure workspace**. Table 4-2 also illustrates that 64.4% of the respondents “strongly agree” and “agree” that the level of cleanliness in their offices is good.

Therefore, we can infer that the **level of cleanliness in the offices is good**. As depicted in the table, it was obtained that 50% of the respondents agree that the restrooms/toilets of their work place are clean, leaving 39% of them disagree that

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the restrooms/toilets are clean. And the mean score of 3.02, which is slightly higher than 3, and this could indicate that **the restroom of the workspaces are clean.**

The result from the survey indicates that 52.6% of the respondents agree that they worry about the effect of their physical work environment on their health, while 39% disagree. And a mean score of 3.25 can infer that the **respondents are worried about the effect that their physical work environment has on their health.** And 52.5% of the respondents (majority of the employees) are satisfied with the indoor physical work environment with a mean score of 3.32 that infers respondents feel **they are satisfied with their indoor physical work environment.**

This result shows that the safety, security, cleanliness in the workplace is good, and employees are satisfied with their indoor physical work environment. But they are worried about the effect that their physical work environment has on their health. This implies that even though the overall physical work environment is good there could be certain physical factors that they are worried about.

i. AIR FACTOR

Table 4-3: Employees response to air factor

Statement	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Mean
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
There is sufficient ventilation in the office	18	15.3	36	30.5	17	14.4	21	17.8	26	22.0	2.99
There is high concentration of adequate oxygen	20	16.9	48	40.7	21	17.8	17	14.4	12	10.2	3.40

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There is dust	2	1.7	17	14.4	28	23.7	48	40.7	23	19.5	2.38
There is bad smell	5	4.2	15	12.7	22	18.6	55	46.6	21	17.8	2.39
There are other pollutants	4	3.4	11	9.3	23	19.5	57	48.3	23	19.5	2.29
The ventilation (the indoor air quality) affects my work	10	8.5	18	15.3	22	18.6	52	44.1	16	13.6	2.61
Average number of respondents	9.83	8.34	24.17	20.48	22.17	18.77	41.67	35.31	20.17	17.1	2.68
TOTAL Freq.	118										
TOTAL %	100										

Source: own calculation of sample survey result (2020)

According to the above table 4-3, 45.8% of the respondents strongly agreed and agreed that there is sufficient ventilation in the office, however 39.8% of the respondents strongly disagree and disagreed, while 14.4% of the respondents remain neutral. The obtained mean score for this item was 2.99, which is slightly lower than 3. Therefore, we can deduct that **there is low level of sufficient ventilation in the offices as per the respondents.**

It is also illustrated in the table that 57.6% of the respondents believe that there is high concentration of adequate oxygen in their workspace. And 17.8% tented neutral while 24.6% of the respondents disagreed. 3.4 being the mean score, it’s possible to deduct that **there is high concentration of adequate oxygen in the workspace.**

Further, it was obtained that 60.2% of the respondents strongly disagreed and disagree that there is dust in the office. And regarding the existence of bad smell in the office, only 16.9% of the respondents agreed that there is bad smell in the office while majority of the respondents (64.4% of them) disagreed. Both of the results of the two items with mean score below 2.5 indicate that there is **low level of dust and also low level of bad smell in the office.**

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Table 4-3 addresses that 57.7% of the respondents disagreed indicating that they don’t believe the ventilation (indoor air quality) in their work space affects their work, while 23.8% of them agreed that it affects their work performance. And the mean score of 2.68 can infer that the **ventilation (air quality) of the offices has low level of effect on the respondents work performance.**

Based on the findings above, it **can be concluded that air factor has no noticeable impact on job performance of employees and its influence can be neglected.** Although ventilation in the office is not sufficient, the fact that there is adequate oxygen, low level of dust, low level of bad smell and due to employees’ response that ventilation of the offices has low level of effect on their work performance, it could lead us to conclude that air factor has no noticeable impact on job performance of employees and its influence can be neglected. This finding contradicts to the findings of Abdul Rahman Ahmad Badayai, (2010:491), that the air in the work place can play a significant function in relation to job performance.

The finding could mean that there are other needs and factors that employees prioritize before putting air quality to be of importance, or the fact that there is high level of oxygen, low level of dust and bad smell made them satisfied and led to this result.

ii. TEMPERATURE FACTOR

Table 4-4: Employees response to temperature factor

Statement	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Mean
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
The temperature in my workspace is adequate	6	5.1	61	51.7	16	13.6	28	23.7	7	5.9	3.26
There is heater in the office for cold weather	4	3.4	6	5.1	1	0.8	56	47.5	51	43.2	1.78

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There is adequate cooling system in the office for warm weather	4	3.4	13	11.0	0	0	51	43.2	50	42.4	1.90
Average number of respondents	4.67	3.97	26.67	22.6	5.67	4.8	45	38.13	36	30.5	2.31
TOTAL Freq.	118										
TOTAL %	100										

Source: researcher’s calculation of sample survey result (2020)

The result from the survey indicate that majority of the respondents (56.8%) agree that the temperature in their workspace is adequate, while 29.6% of the respondents disagree with a mean score 3.26. Therefore, we can deduct that **the respondents feel that the temperature in their workspace is adequate.**

90.7% of the respondents disagreed that there is heater in their office for cold weather, while only 8.5% of the respondents agreed that there is heater with a mean value of 1.78 inferring that **there is inadequacy of heater in their offices.** Similarly, 85.6% of the respondents disagreed that there is adequate cooling system in the office for warm (hot) weather, while only 14.4% of the respondents agreed with a mean value of 1.9 inferring that **there is inadequacy of cooling system in the office.**

Generally, even though the effect of temperature factor depends on each individual’s nature; physical appearance, heat/ cold tolerance level, personality and so on, and even if there is low level of heater and cooling system in the office, the survey indicates that the temperature level of the sector is good. Yet, as to be observed on table 4-10, it is indicated that employees do believe that temperature has the most effect on job performance. **This finding implies that employees do believe that temperature has effect on job performance** but their workspace has a good level of temperature.

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iii. SOUND (NOISE) FACTOR

Table 4-5: Employees response to noise factor (I)

Statement	YES		NO		Null	
	Freq.	%	Freq.	%	Freq.	%
The sector I work in uses an open-office design	55	46.6	63	53.4	0	0
if “yes”, this open interactive space boosts noise in the work space	37	31.4	35	29.7	46	39.0
There is an interior design mechanism used in the office to keep noise level down (some sound proofing system)	39	33.1	79	66.9	0	0

Source: own calculation of sample survey result (2020)

As depicted in the table above, regarding the question about the sector the respondents work in having an open-office design or not, majority of the respondents (53.4%) stated ‘No’ indicating that their work space did not have an open-office design, while the remaining 46.6% of them responded ‘Yes’. And in determining whether those respondents who indicated that their office space have an open and interactive design, believe that such space boosts noise in their work space. As a result 31.4% of the respondents feel that such an open and interactive space boosts noise, while 29.7% of them stated “No, it does not boost noise” and the rest of the respondents (39%) were left undecided (null). Therefore, we can deduct from this finding that **an open and interactive space boosts noise.**

The last item on table 4-5 indicates that majority of the respondents (66.9%) stated that there is no interior design mechanism used in their office to keep noise level down (no sound proofing system), while the rest 33.1% of the respondents indicated that there is interior design mechanism used in their office

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to keep noise level down. We can deduct from this result that **there is no interior design mechanism used in the offices to keep noise level down.**

Table 4-6: Employees response to noise factor (II)

Statement	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Mean
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
There is excessive noise here	19	16.1	24	20.3	17	14.4	51	43.2	7	5.9	2.97
I must yell in order to communicate with a person standing right next to me	3	2.5	15	12.7	21	17.8	57	48.3	22	18.6	2.32
Average number of respondents	11	9.3	19.5	16.5	19	16.1	54	45.75	14.5	12.25	2.65
TOTAL Freq.	118										
TOTAL %	100										

Source: own calculation of sample survey result (2020)

Table 4-6 shows that 49% of the respondents disagree that there is excessive noise in the work environment, while 36.4% of them agreed and the rest 14.4% were neutral. The mean value is 2.97 as a result, we can deduct that **there is no excessive noise in the office.** Similar findings were obtained about whether the respondents are forced to yell or not in order to communicate with a person standing right next to them in their work space. And 66.9% of the respondents disagreed while 15.2% agreed with a mean score of 2.32. And with this mean value we can infer that **it is not necessary to yell in order to communicate in the office.**

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Table 4-7: Employees response to annoying source of noise in the office

Annoying source of noise in the office	YES		NO	
	Freq.	%	Freq.	%
Work telephone	36	30.5	82	69.5
Copiers and printers	55	46.6	63	53.4
Computers	16	13.6	102	86.4
Heating and air conditioning units	3	2.5	115	97.5
Conversations of office workers	62	52.5	56	47.5

Source: own calculation of sample survey result (2020)

Moreover, when asking employees about the annoying source of noise, the results as indicated in the above table are shown as follows:

- (a) 30.5% of the respondents indicated that the annoying source of noise in the office is work telephone.
- (b) 46.6% for copiers and printers,
- (c) 13.3% for computers,
- (d) 2.5% for heating and conditioning units, and
- (e) 52.5% for conversation of office workers responded ‘Yes’ to being the source of annoying noise in the work space.

Therefore, from the result on table 4-7, it can be seen that **the majority of the annoying noise comes from conversation of the office workers** (as 52.2% of the respondents indicated), and the second most annoying noise comes from copiers and printers, followed by work telephone then computers. And the least annoying source of noise on the sectors is heating and air conditioning units.

From the three tables above, we can see that employees feel that there is no excessive noise in the office and that it is not necessary to yell in order to

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communicate in the office. Yet there is lack of interior design mechanism in the offices to keep noise level down and it is determined that an open and interactive space boosts noise. And this finding is in line with the findings of Khaled Al-Omari and Haneen Okasheh, (2017:15546) which stated that companies today use an open-office design to increase teamwork, productivity and communication; however, researchers' studies indicate that these open interactive spaces boost noise in the workplace.

Even though the effect of noise factors depends on each individual's nature; noise tolerance level, personality and so on, the survey indicates that majority of the **annoying noise comes from conversation of the office workers**, and this could impact their work performance in the office. This finding is in line with Christian Addai Manu (2015:13) that claims that noise is one of the leading causes of employees' distraction, leading to reduced productivity, serious inaccuracies, and increased job-related stress. And also Khaled Al-Omari and Haneen Okasheh, (2017:15546&15547) indicated that unwanted sound is the most common complaint in workplace and the highest percentage of respondents' strongly agreed that the influence of noise affects their job performance.

As a result, we can conclude that the employees feel their offices are not equipped enough with the necessary equipment to reduce noise level and the open-office design system leads to destruction due to noise coming from conversation, printers and copy machines. And in the findings that follow, it can be seen that employees who work in closed office have better job performance than those who work in an open-interactive office space. **The overall finding implies that sound/noise has effect on employees' performance.**

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iv. LIGHT AND COLOR FACTOR

Table 4-8: Employees response to light & color factor

Statement	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Mean
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
There is appropriate color in my working area	17	14.4	61	51.7	18	15.3	20	16.9	2	1.7	3.60
It is bright colored and brings positive feelings during work	16	13.6	54	45.8	22	18.6	22	18.6	4	3.4	3.47
I feel that my work environment is provided with sufficient lighting	23	19.5	65	55.1	15	12.7	11	9.3	4	3.4	3.78
I sit near the window in order to be exposed to adequate lighting	3	2.5	13	11.0	13	11.0	74	62.7	15	12.7	2.28
The ample amount of light comes from artificial light	16	13.6	32	27.1	8	6.8	43	36.4	19	16.1	2.86
Spatial arrangement of my work space allows me to be exposed to adequate lighting	24	20.3	43	36.4	21	17.8	25	21.2	5	4.2	3.47
The lighting in the office helps me to do my duties in a better way	16	13.6	51	43.2	21	17.8	24	20.3	6	5.1	3.40
I like the view I see outside the window of my workspace	13	11.0	22	18.6	29	24.6	30	25.4	21	17.8	2.72

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The general aesthetics of the office is good	11	9.3	44	37.3	42	35.6	15	12.7	6	5.1	3.33
Average number of respondents	15.45	13.1	42.78	36.25	21	17.8	29.34	24.84	9.11	7.73	3.21
TOTAL Freq.	118										
TOTAL %	100										

Source: own calculation of sample survey result (2020)

Regarding the survey on color, it was found out that 66.1% of the respondents agreed that **there is appropriate color in their working area**. While 59.4% of the respondents agreed that **their work space is bright colored and brings positive feelings during work**. 43.2% of the respondents indicated that **they don’t like the view they see outside the window of their workspace**, while 29.6% of them agreed that they like the view and the other 24.6% remained neutral. The mean score is 2.72. Therefore, the fact that only 29.6% of the respondents like the view they see outside the window of their offices implies that the sectors fail to meet the expectation of the largest portion of the employees.

74.6% of respondents feel that **their work environment is provided with sufficient lighting as the ample amount of light comes from natural light**, as 53.5% of the respondents disagreed that the ample amount of light comes from artificial light while 40.7% of them agree. With a mean value of 2.86 which is slightly less than 3, it could infer that there is low level of artificial light in the office, while only 13.5% of the respondents indicated that they had to sit near the window in order to be exposed to adequate lighting.

The other item on table 4-8 addresses respondents’ perception about whether the light in the office helps them to do their duties in a better way or not. And 56.8% of the respondents agreed that the light in the office helps them do their duties in a better way. The mean score is 3.4 indicating that there is **good level**

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of light in the office that helps them do their duties in a better way. Finally, the highest percentage of respondents’ ranks reached 46.6% for scale “Strongly agree” and “Agree” regarding **the general aesthetics of their office being good**, while only 17.8% respondents disagree.

Color highly depends on individuals’ choice and amount of light depends on the kind of tasks being performed, the time it is being performed or if it is an outdoor or indoor activity. And the survey above indicates that the color, lighting and the general aesthetics of the office is good having low level of effect on the respondents work performance, even though they are not happy about the view they see outside their windows.

Providing a pleasant work environment with appropriate color and view impacts individual feelings and moods; this impacts their performance. Yet the finding implies that the work places of the public sectors were not lacking light and color to the extent that employees feel that it affects them and their performance. **This could imply that light and color have low level of effect on employees’ performance.**

v. SPACE FACTOR

Table 4-9: Employees response to space factor

Statement	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Mean
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
My office has sufficient size	21	17.8	41	34.7	8	6.8	30	25.4	18	15.3	3.14
There is always overcrowding at the workplace	30	25.4	30	25.4	13	11.0	40	33.9	5	4.2	3.34

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My office has appropriate number of shelves and drawers	9	7.6	41	34.7	9	7.6	37	31.4	22	18.6	2.81
The way the furnishings and other equipment are arranged is good	6	5.1	40	33.9	25	21.2	26	22.0	21	17.8	2.86
Sitting chairs and other furniture here are comfortable (no pain or discomfort while seated all day)	6	5.1	41	34.7	14	11.9	35	29.7	22	18.6	2.78
The office space influences me to stay in the office and work comfortably	7	5.9	41	34.7	19	16.1	24	20.3	27	22.9	2.81
Average number of respondents	13.16	11.15	39	33.01	14.67	12.43	32	27.11	19.17	16.23	2.96
TOTAL Freq.	118										
TOTAL %	100										

Source: own calculation of sample survey result (2020)

52.5% of respondents agreed that their office has sufficient size, while on the other hand 40.7% of respondents disagreed. And with a mean score of 3.14, we can infer that the **offices have sufficient size**. Yet, 50.8% of the respondents agree that there is always overcrowding at their workplace while 38.1% of them disagree. And with a mean score of 3.34, it can be inferred that **there is always overcrowding at their workplace**.

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Moreover, 50% of the respondents disagree that their office has an appropriate number of shelves and drawers while 42.3% of them agree. And with a mean value of 2.81 which is slightly lower than 3, it is possible to infer that **there is low level of appropriate number of shelves and drawers in the offices of the sectors**. In addition, 39.8% of the respondents indicated that the sitting chairs and other furniture in their workspace are comfortable, while majority of the respondents (48.3% of the respondents) feel that the sitting chairs and other furniture in their workspace are not comfortable. Therefore, with a mean score of 2.78 it is possible to infer that **there is low level of comfort from the chairs and other furniture in the offices**.

40.6% of the respondents believe that the office space influences them to stay in the office and work comfortably while 43.2% of them disagree, with a mean value of 2.81. The result shows that **the office space does not influence employees to stay in their office and work comfortably**.

Generally, the survey indicates that there is always overcrowding at their workplace and the comfort level of the furniture, the number of shelves and drawers is not sufficient and affects the employees' performance. These environmental situations within their work space makes them lose the desire to want to stay in the office longer, therefore, most of them are forced to stay rather than wanting to stay and this can reflect on their performance. **This implies that space has effect on employees' performance**. The finding is in line with K. Chandrasekar (2011), who indicated that office space is one of the leading physical aspects that influence the employee's performance at the workplace; poor arrangement of office space, wastes time and energy by failing to provide the means for effective work habits.

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Table 4-10: Employees response regarding which physical factor affects their job performance

This affects my job performance	YES		NO	
	Freq.	%	Freq.	%
Hot/ Cold Temperature	50	42.4	68	57.6
The influence of noise	49	41.5	69	58.5
Inconvenient lighting	37	31.4	81	68.6
Indecent color	18	15.3	100	84.7
Discomfort of furniture	32	27.1	86	72.9

Source: own calculation of sample survey result (2020)

42.2% (majority) of the respondents believe that temperature has effect the most effect on their job performance, and 41.5% believe that the influence of noise affects their job performance the most. In addition, 31.4% of the respondents feel that inconvenient lighting affects their job performance the most, as 15.3% of the employees believe that indecent color has the most effect and 27.1% feel that the discomfort of furniture affects their job performance the most.

From the table above, it can be observed that **temperature has the most effect on job performance**, followed by influence of noise, inconvenient lighting and discomfort of furniture. And it is indicated that indecent color has the least effect on employees’ job performance.

4.5.3. EMPLOYEE PERFORMANCE FEEDBACK

i. SELF-RATING ON JOB PERFORMANCE

This section presents the data from the third part of the questionnaire that was gathered regarding the employees’ own performance rating (self-rating). And respondents were asked to indicate their level of agreement on a five point Likert response format ranging from 1 (strongly disagree) to 5 (strongly agree).

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Table 4-11: Employees response to job performance (self-rating on JP)

Statement	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Mean
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
I am confident in my work	58	49.2	54	45.8	6	5.1	0	0	0	0	4.44
I am competent in my work	49	41.5	64	54.2	5	4.2	0	0	0	0	4.37
I arrive to work on time	31	26.3	60	50.8	16	13.6	10	8.5	1	0.8	3.93
My overall attendance is good	27	22.9	48	40.7	23	19.5	19	16.1	1	0.8	3.68
I meet deadlines at work	34	28.8	60	50.8	17	14.4	6	5.1	1	0.8	4.02
I always achieve the job targets	40	33.9	53	44.9	22	18.6	2	1.7	1	0.8	4.09
My supervisor gives me regular feedback on my performance	15	12.7	48	40.7	36	30.5	16	13.6	3	2.5	3.48
My supervisor is generally satisfied with my JP	23	19.5	53	44.9	33	28.0	8	6.8	1	0.8	3.75
The indoor PWE of the sector has effect on my JP	28	23.7	40	33.9	25	21.2	21	17.8	4	3.4	3.57
I think employees who work in closed office have better JP than those who work in an open-interactive office space	11	9.3	59	50.0	23	19.5	19	16.1	6	5.1	3.42
I am generally satisfied with my JP	42	35.6	53	44.9	14	11.9	9	7.6	0	0	4.08
I think that if my PWE is good, I will be more efficient and effective with my job	61	51.7	52	44.1	3	2.5	2	1.7	0	0	4.45

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I think that if employees have good PWE the organization will be more effective and successful	75	63.6	37	31.4	4	3.4	2	1.7	0	0	4.57
Average no. of respondents	38	32.21	52.38	44.39	17.46	14.8	8.77	7.44	1.38	1.15	3.98
TOTAL Freq.	118										
TOTAL %	100										

Source: own calculation of sample survey result (2020)

Results on the above table shows that 95% of the respondent agree that they are confident in their work, and 95.7% of the respondents agree that they are competent in their work. 91% of the respondents in the survey agreed that they arrive to work on time as 63.6% of them believe that their overall attendance is good.

79.6% of respondents agree that they meet deadlines at work, and 78.8% of them believe that they always achieve the job targets. The next item on the table indicates that 53.4% of the respondents agree that their supervisor gives them regular feedback on their performance. And 64.4% agree that their supervisor is satisfied with their job performance.

As depicted on table 4-11, 57.6% of the respondents agree that the indoor physical work environment of the sector has effect on their job performance, while 21.2% disagree. The mean score is 3.57. Therefore, it is possible to infer that the employees agree that **the indoor physical work environment of the sector they work in has effect on their job performance.**

On the other hand 59.3% of the respondents think that employees who work in closed office have better job performance than those who work in an open-interactive office space, while only 21.2% of them disagreed. The mean score is

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3.42; therefore the result shows that **employees who work in closed office have better job performance than those who work in an open-interactive office space.** And 95.8% of the respondents think that if their physical work environment is good, they will be more efficient and effective with their job. Finally, it is indicated that 95% of the respondents think that if employees have good physical work environment, the organization will be more effective and successful.

The overall finding of the self-rating implies that employees feel that they have good performance even if they believe that their indoor physical work environment of the sector they work in has effect on their job performance. So, if the physical environment of their work place is improved they could perform better.

ii. SUPERVISORS’ RATING ON JOB PERFORMANCE

Here, the second section of the data from the third part of the questionnaire is presented. It is based on the supervisors’/the human resources’ performance rating (employers’ rating of employees’ job performance), and respondents were asked to indicate their level of agreement on a five point Likert scale. Around 18 participants have responded as follows:

Table 4-12: Supervisors’/HRM’s response to employees’ job performance

Statement	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Mean
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
The workers in the sector are hard workers	5	27.8	10	55.6	1	5.6	2	11.1	0	0	4.0
The motivation level of employees in the sector is high	4	22.2	11	61.1	1	5.6	2	11.1	0	0	3.94

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There are no absenteeism in the sector	0	0	2	11.1	5	27.8	8	44.4	3	16.7	2.33
There is no lateness in the sector	0	0	2	11.1	3	16.7	9	50.0	4	22.2	2.17
The health of the employees in the sector is good	0	0	10	55.6	4	22.2	3	16.7	1	5.6	3.28
The employees attribute to company's success	2	11.1	11	61.1	4	22.2	1	5.6	0	0	3.78
Employee performance is affected by the PWE of the sector	3	16.7	7	38.9	3	16.7	4	22.2	1	5.6	3.39
The work environment decreases the quality of JP	2	11.1	6	33.3	3	16.7	4	22.2	3	16.7	3.0
Better physical work environment improves attendance and punctuality	5	27.8	9	50.0	2	11.1	0	0	2	11.1	3.83
Suitable PWE allows employees to focus more on their task	5	27.8	10	55.6	1	5.6	1	5.6	1	5.6	3.94
The management of the sector is aware about the PWE factors	5	27.8	7	38.9	0	0	2	11.1	4	22.2	3.39
Average number of respondents	2.82	15.66	7.73	42.93	2.45	13.65	3.27	18.18	1.73	9.61	3.37
TOTAL Freq.	118										
TOTAL %	100										

Source: own calculation of sample survey result (2020)

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Another important finding of the study was the overall performance of employees as rated by the supervisors and human resource managers. And on the above table, it can be seen that 83.4% of the respondents agree that the workers in the sector are hard workers. 83.3% of the supervisors also agree that the motivation level of employees in the sector is high.

Regarding absenteeism and lateness of employees in the sectors, only 11.1% of the supervisors agree that there is no absenteeism in the sector, while 61.1% of them believe that there is absenteeism in the sectors with a mean score of 2.33. And 72.2% of the respondents believe that there is lateness of employees in the sectors while only 11.1% of them agree that there is no lateness of employees with a mean score of 2.17. This result shows that **there is lateness and absenteeism in the sectors.**

The study results showed that 72.2% of supervisors agree that the employees attribute to company's success, while 55.6% agree that **employee performance is affected by the physical work environment of the sector.** And 44.4% of the respondents agree that the work environment decreases the quality of job performance as 38.9% of them disagree. From the mean score of 3.0, it can be inferred that the **supervisors/human resource managers of the sectors agree that the work environment decreases the quality of job performance.**

Moreover, 77.8% of the supervisors agree that better physical work environment improves attendance and punctuality, while 83.4% of these respondents indicated that suitable physical work environment allows employees to focus more on their task. And related to the awareness of the management about the physical work environment factors, majority of the supervisors, i.e. 66.7% agree that the management of the sector is aware about the physical working environment factors.

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This result implies that employee performance is affected by the physical work environment of the sector and the work environment decreases the quality of job performance. Plus the fact that there is lateness and absenteeism in the sectors, it implies that this could be due to some of the inconveniences and the discomforts of the office environment. Yet it was indicated that the employees in the sector are hard workers, with high motivation level and good attribution to the success of the sector.

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CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1. INTRODUCTION

As findings by Khaled Al-Omari and Haneen Okasheh (2017:15544) revealed that the situational constrains constituted of factors such as noise, office furniture, ventilation and light, are the major work environment conditions that have negative impact on job performance and should gain more attention.

This research also had an aim of investigating the effect of selected indoor physical work environment factors on employees' job performance. These PWE factors are air, temperature, noise, space, light and color. In addition, the research study examined how well employees are performing their job in the public sectors by looking at their mean scores of the response of the participants which is summarized under the descriptive statistical analysis.

In this chapter the summary of the major findings, conclusion inferred from the data analysis in chapter four, recommendations and suggestion to further research are discussed in detail. For clarity purpose, the conclusions are based on the research objectives of the study. And based on the findings of the study recommendations are made.

5.2. SUMMARY OF THE RESEARCH FINDINGS

The survey as presented on this work studied the impact of physical working environment on employees' performance in public sectors of Addis Ababa. These discussions are made based on the review of related literature, results of statistical analysis and discussions of findings from chapter four. The major findings of the data analyzed using descriptive statistics are summarized and presented below as follows:

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- Majority of the respondents believed that the sector they work in has a safe & secure workspace, and that the level of cleanliness in their offices is good. But, most of the respondents are worried about the effect that their physical work environment has on their health.
- Ventilation in the offices is not sufficient although majority of the employees believed that there is adequate oxygen in their workspace. And majority of the respondents indicated that there is low level of dust and also low level of bad smell. Yet ventilation (air quality) of the offices was found to have low level of effect on the respondents work performance.
- Majority of the respondents feel that the temperature in their workspace is adequate. However, the results indicate that there is low level of adequate cooling system and heater in the offices. Plus, it is observed from further findings that temperature has the most effect on job performance
- Respondents, who indicated that their office space has an open-space design, were found to believe that such an open environment and interactive space boosts noise. On top of that majority of the employees indicated that the sectors they work in do not have soundproofing system to keep noise level down. And the most annoying source of noise in the office environments was found to be conversation of office workers which could be due to the open-space design.
- It was found out that the respondents agreed there is appropriate color in their working area and that their work space is bright colored. The finding of study also reveals that majority of the respondents agreed that there is sufficient natural light that helps them do their duties in a better way, and also the respondents feel that the general aesthetics of the office is good. But on the other hand respondents' opinion indicated that that they don't like the view they see outside the window of their workspace.
- Even if respondents believed that their office has sufficient size, many of them indicated that there is always overcrowding at their workplace. In addition it is indicated that there is low level of appropriate number of

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shelves and drawers in the offices of the sectors and that there is low level of comfort from the chairs and other furniture in the offices. And the office space did not influence the employees to stay in their office and work comfortably, rather they had other reasons that made them stay and perform.

- Finally it is observed from the findings that temperature has the most effect on job performance, followed by influence of noise, inconvenient lighting and discomfort of furniture. It is also indicated that indecent color and air quality has the least effect on employees' job performance. And many of the respondents agree that the indoor physical work environment of the sector has effect on their job performance.
- Majority of the Supervisors and HRMs agree that employee performance is affected by the physical work environment. And they agree that the work environment decreases the quality of job performance, indicating that better and suitable physical work environment improves attendance, punctuality, and helps employees to focus more on their task.

Regarding the employees' performance rating (Self-Rating), here are the findings:

- Majority of the respondents agree that they are confident, competent in their work, they meet deadlines, achieve the job targets and that their supervisor is satisfied with their performance.
- Respondents think that employees who work in closed office have better job performance than those who work in an open-interactive office space. And finally, respondents indicated that if employees have good physical work environment, the organization will be more effective and successful.

Finally regarding supervisors' performance rating, here are the findings:

- Supervisors agree that the workers in the sector are hard workers and they attribute to company's success. However, there is absenteeism and lateness

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of employees in the sectors. And majority of the supervisors agree that the management of the sector is aware about the physical working environment factors.

5.3. CONCLUSION

This research was conducted in public sectors of Ethiopia, Addis Ababa region with the prime intent of statistically examining the physical work environment factors affecting employees' work performance. Many sectors are concerned about the people they served, but one important thing they come to neglect is the fact that a satisfied employee guarantees a satisfied customer. As indicated by Chika Ebenezer Duru & Dominic Shimawua, (2017:24), workers today are more educated than before. They are more likely to raise questions about their work environment.

As already indicated on the literature review of the paper and the findings of the study, a strong interaction is found between job performance and physical working environment. With regards to the respondents' perceptions of their work environment and its effect on their performance, it is revealed that the indoor physical work environment of the sectors under study has effect on their job performance and that the effect decreases the quality of job performance. This indicates that **quality** (one of the performance indicators) of work can be observably affected by the physical work environment factors. Therefore, based on the interpreted results and discussions of findings, further conclusion is drawn.

It can be concluded that, the indoor physical work environment of the sector has negative effect on the public servants' job performance. And the highest ratio affecting employees' performance comes from inconvenient temperature, followed by noise, insufficient space (including the discomfort of used furniture and insufficiency of shelves and drawers), inconvenient lighting and the view outside their offices which imply that these variables have a high effect on employees of the public sectors of Addis Ababa. On the other hand, air and color were found to have negligible effect.

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The implication of this finding is that the effects of PWE factors are highly dependent on individuals' nature, personality and choices. And with regards to the findings of the study in relation to the motivation theories (i.e. Process/Cognitive Theory, Need Theory and Maslow's Hierarchy of Needs Theory), it can be observed that employees have other needs that they prioritize and expect to be met by their sectors before putting the PWE factors to be of importance. As stated by Michael Armstrong, (2006:251), motivation theory describes what organizations can do to encourage people to apply their efforts and abilities, which implies that supervisors/HRMs need to be aware of the need level of their employees to assure good level of motivation and better performance.

5.4. RECOMMENDATIONS

Since employee's job performance is one of the important factors for any sectors to stay competitive, the management of the sectors should avoid discouraging environments in order to have positive effect on employees' job performance. And as indicated by Akinyele Samuel Taikwo, (2010:301) some private sector agencies have implemented incentive programs in order to influence and increase productivity. Many of the motivation tools used in private industries are not available to managers who work in the public sector.

Employees would most likely feel important and cared for (given enough attention) when their work environment is improved, made healthy, safe and secure for them. If these things are dealt with, they would put all the effort into their work. Therefore, based on the major findings and conclusions of the study, the following recommendations are provided:

- Transforming the work place's physical appearance using a well-designed workspace so that the sectors will yield competitive advantage as it will increase employee job performance, satisfaction and commitment to organization.

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- Management of public sectors should make sure that their strategies include frequent assessment of the satisfaction level of employees on their physical work environment. The organization needs to have periodic meetings with employees to air their grievances to management. And to improve the indoor office space that will encourage employees to perform better on their job resulting better work outcome.
- Create a work environment where employees would feel comfortable and want to stay in without being forced. This could inspire employees for enhanced job performance.
- Create roomy and well-organized work space for the employees, make the working environment better; re-design the space to facilitate more comfortable and efficient work environments, use sound and visual barriers, keep workplace furniture and work surfaces away from line of sight distractions.
- As most respondents indicated in the questionnaire survey, the open-space design of the office boosts noise. So management should try to reduce those kinds of offices.
- Create a strategy that could have employees to play a part in improving their own office environment in a way they feel most happy and relaxed, in a way that they would consider their office to be their second home that they would want to stay there longer. This might encourage employees to score high level of job performance.

Generally, the public sectors can get superior employees' job performance than what they are currently obtaining if they managed to revise and identify their weak sides in arranging and providing a safe and comfortable physical work environment in the indoor workspace. This is because; inappropriate office setup and the physical factors can discourage employees from utilizing their full potential which negatively affect their job performance and organizational performance as a whole. Therefore, the public sectors should get their employees satisfied with the indoor office environment for higher level of job performance

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and organizational performance. As a whole this may be achieved through all the above recommendations.

If not employees may no longer stay working in these sectors where they do not have comfortable physical work environment; where the environment is with poorly designed office layout, with no adequate space, ventilation, lighting, temperature, proper noise and color. And this is particularly true for those employees who spend most of the day operating within the office.

5.5. SUGGESTIONS FOR FURTHER RESEARCH

Areas arising for further investigation include:

- The study was limited to the public service sectors. So, the future researches should examine the determinant factors on employees' job performance on more public sectors, other government and private offices, hotel service, factories, telecommunication service, post office service, educational institutions and may compare different organization.
- This study included only the physical work environment factors and was limited to 5 physical work environment factors, but there are other relevant factors that might be perceived as important by organizations and employees. Future researches, therefore, may consider more factors of work environment, may focus on different variables or combination of those variables included in this study, which can influence job performance.
- This study was based on a descriptive statistical analysis and examined how employees perceived their physical work place environment and its effects on their performance. So, for a better and detailed finding more analysis like regression analysis could be done for a better and sound judgment.

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- Involve larger number of sample size, more sub-cities, other public (government) and private sectors in Addis Ababa and other parts of Ethiopia.
- Involve other environmental factors like social and psychological factors that are within the work environment and study the effect along with the physical factors and compare the effects they have on employees' productivity and performance.
- Determine whether physical work environment and job performance vary across different demographic factors (Gender/Age/Marital status/Number of children/Education level/Experience level).

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Appendix A: Survey Questionnaire

ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS,

Department of Business Administration

MBA PPROGRAM

Questionnaire Survey

Researcher: - Mekdelawit Temesgen (Mekdella@gmail.com , Tel: +251-913-15-28-81)

Research Topic: - **The Impact of Work Environment on Employees' Performance: The Case of Public Sectors in Addis Ababa.**

Dear respondents,

This questionnaire is designed to gather data for the above research topic, for an MBA dissertation. And the data to be gathered is from employees of public sectors in Addis Ababa, in order to examine the impact and suggest possible solutions for problems in line with the title. Therefore, to achieve this purpose your response to the questions given below has a crucial value. So, you are kindly requested to read the questions carefully and give accurate and real responses.

The information you give is strictly for academic purposes; it will not be used for any other purpose other than this research work, so be free and give your honest and genuine response and it will be treated with maximum confidentiality. And if there is any ambiguity you face understanding the questions or how to give response, you can ask anytime with the contact provided.

Thank you in advance for your Cooperation!

Mekdella@gmail.com

0913152881

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General Instructions

- Please, do not state your name!
- In all cases where answer options are available please tick (✓) on your answer in the appropriate box.
- For questions that demand your opinion, please try to honestly describe as per the questions on the space provided.
- If the space provided is not enough for your opinions, please use the back side of the paper by stating the question number.

Part 1: Demographic Information

1. Gender Male Female
2. Age
 20-25 26-30 31-35 36-40 >40
3. Marital status
 Single Married Divorced Widowed
4. How many children do you have? _____
5. Number of years you have worked in this sector?
 0-4 years 5-9 years 10-20 years >20 years
6. Education level
 High School graduate Diploma Bachelor's Degree
 Master's Degree PhD other (please specify
:_____)
7. Please state your current position: _____
8. Salary
 1501- 2000birr 2001- 3000birr 3001- 5000 birr
 5001-7000 birr >7000 birr

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Part 2: In this part of the questionnaire, there are questions that are related issues of physical work environment.

Please, indicate the extent to which you agree/disagree by ticking the appropriate boxes below. Please tick (√) on your answer in the appropriate box.

5 =Strongly Agree; 4= Agree; 3= Neutral; 2= Disagree; 1= Strongly Disagree

No.	A. PHYSICAL WORK ENVIRONMENT	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
		5	4	3	2	1
1.	The physical layout is comfortable and convenient to perform the work					
2.	The sector has a safe and secure workspace					
3.	The level of cleanliness in the offices is good					
4.	The restrooms/toilets are clean					
5.	I worry about the effect of the physical work environment on my health					
6.	Due to the overall office environment I can complete my daily tasks easily					
7.	Due to the overall office environment I can do my work effectively					
8.	All in all I am satisfied with the indoor physical work environment					
	B. AIR FACTOR	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
		5	4	3	2	1
9.	There is sufficient ventilation (air conditioning) in the office					
10.	There is high concentration of adequate oxygen					
11.	There is dust in the office					
12.	There is bad smell in the office					
13.	There are other pollutants in the office					

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14.	The ventilation and the indoor air quality affects my work performance					
	C. TEMPERATURE FACTOR	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
		5	4	3	2	1
15.	The office climate is generally comfortable					
16.	The temperature in my workspace is adequate					
17.	There is heater in the office for cold weather					
18.	There is adequate cooling system in the office for warm (hot) weather					
	D. NOISE FACTOR	Yes			No	
19.	The sector I work in uses an open-office design					
20.	if “yes”, this open interactive space boosts noise in the work space					
21.	There is an interior design mechanism used in the office to keep noise level down (some sound proofing system)					
		Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
		5	4	3	2	1
22.	There is excessive noise here					
23.	I must yell in order to communicate with a person standing right next to me					
		work telephones	copier and printer	computers	heating and air conditioning unites	conversations of office workers
24.	The annoying source of noise in the office are					

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		Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
		5	4	3	2	1
E. COLOR AND LIGHT FACTOR						
25.	There is appropriate color in my working area					
26.	It is bright colored and brings positive feelings during work					
27.	I feel that my work environment is provided with sufficient lighting					
28.	I sit near the window in order to be exposed to adequate lighting					
29.	The ample amount of light comes from artificial light					
30.	Spatial arrangement of my work space allows me to be exposed to adequate lighting					
31.	The lighting in the office helps me to do my duties in a better way					
32.	I like the view I see outside the window of my workspace					
33.	The general aesthetics of the office is good					
34.	I like the décor and design of the office					
F. SPACE FACTOR		Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
		5	4	3	2	1
35.	My office has sufficient size					
36.	There is always overcrowding at the workplace					
37.	My office has appropriate number of shelves and drawers					
38.	The way the furnishings and other equipment are arranged is good					
39.	Sitting chairs and other furniture here are comfortable (no pain or discomfort while seated all day)					

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40.	The office space influences me to stay in the office and work comfortably					
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Part 3: In this part of the questionnaire, there are questions that are related to the effect of your physical work environment on your job performance. Therefore, you are required to give your opinion; to what extent you are performing your job.

Leave the last part (part B) if you are not a supervisor/ manager/ (HR Manager).

No.	A. SELF-RATING OF JOB PERFORMANCE	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
		5	4	3	2	1
1.	I am confident in my work					
2.	I am competent in my work					
3.	I arrive to work on time					
4.	My overall attendance is good					
5.	I meet deadlines at work					
6.	I always achieve the job targets					
7.	My supervisor gives me regular feedback on my performance					
8.	My supervisor is generally satisfied with my job performance					
9.	The indoor physical work environment of the sector has effect on my job performance					
		Hot temperature/ Cold temperature	the influence of noise	inconvenient lighting	indecent color	discomfort of furniture
10.	I think this affects my job performance					
		Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
		5	4	3	2	1
11.	I think employees who work in closed office have better job performance than those who work in an open-interactive office space					

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12.	I am generally satisfied with my job performance					
13.	I think that if my physical work environment is good, I will be more efficient and effective with my job					
14.	I think that if employees have good physical work environment, the organization will be more effective and successful					
	B. Only for Supervisors/HR (Employers’ rating of employees’ Job performance level at workplace)	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
		5	4	3	2	1
15.	The workers in the sector are hard workers					
16.	The motivation level of employees in the sector is high					
17.	There are no absenteeism in the sector					
18.	There are no lateness in the sector					
19.	The health of the employees in the sector is good					
20.	The employees attribute to company’s success					
21.	Employee performance is affected by the physical work environment of the sector					
22.	The work environment decreases the quality of job performance					
23.	Better physical work environment improves attendance and punctuality					
24.	Suitable physical work environment allows employees to focus more on their task					
25.	The management of the sector is aware about the physical working environment factors					

THANK YOU FOR YOUR PARTICIPATION!

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Appendix B: Letter of Cooperation for Data Collection

አዲስ አበባ ዩኒቨርሲቲ
የቢዛናና ኢኮኖሚክስ ኮሌጅ
ማስተርስ ኦፍ ቢዛናና ኢኮኖሚክስ ስፔሻላይዥን



Addis Ababa University
College of Business & Economics
Master of Business Administration

Ref. No: CBE/MBA/2018/19/102
Date: _____

To _____

Student Mekdelawit Temesgen, is undertaking project entitle, "Assessing the Impact of Work Environment on Employees Performance: The case of Public Sectors in Addis Ababa."

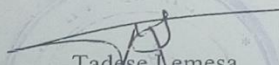
She/He is taking this opportunity of project study in partial fulfillment of MBA master in Finance /Management.

We believe that the result of the project would have practical application and be of value to you, to us and to the business community at large. Hence we would be very grateful if your organization could support us in this endeavor.

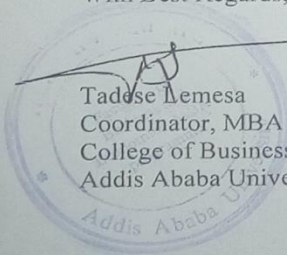
Besides, we promise you that data will be kept confidential and used for academic purposes only. Further, we can send to you all the summary results and findings, when the undertaking is completed.

Thank you for the anticipated cooperation.

With Best Regards,



Tadesse Temesa
Coordinator, MBA Program
College of Business and Economic
Addis Ababa University



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