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# **THE EFFECT OF WORKFORCE DIVERSITY ON EMPLOYEE PERFORMANCE**

**(The Case of Hibret Manufacturing and Machine Building Industry of  
Ethiopia)**

**ADDIS ABABA UNIVERISTY**

**College of Business and Economics**

**Department of Management**

**A Research Paper Submitted in Partial Fulfillment of the Requirement for the  
Master of Business Administration Degree**

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## **Letter of Certification**

This to certify that Nawal Mohammed has carried out her thesis work on the topic entitled “The Effect of Work Force Diversity on Employee performance (The Case of *Hibret* Manufacturing and Machine Building Industry of Ethiopia)” under my guidance and supervision. Accordingly, I hereby assure that her work is appropriate and standard enough to be submitted for the award of Master of Arts in Business Administration.

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Signature \_\_\_\_\_

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## DECLARATIONS

Here with I, Nawal Mohammed, declare that this thesis is prepared for the partial fulfillment of the requirements for the Master of Arts in Business Administration ‘A Study on Effects of Workforce Diversity on Employee Performance (The Case of *Hibret* Manufacturing and Machine Building Industry of Ethiopia)’. This thesis is my original work and has not been presented for a degree in any university, and that all sources of material used for the thesis have been officially recognized. I have made it independently with the close advice and guidance of my advisor.

Name: Nawal Mohammed

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## **List of Abbreviations**

AgeP .....	Age
Ethn .....	Ethnicity
DM .....	Diversity Management
GBIn .....	Gender Based Inequalities
HRDD .....	Human Resource Development Departments
MduQa .....	Multiple Education Qualification
SPSS .....	Statistical Package for Social Sciences
WFD .....	Work force Diversity

## Abstract

In a constantly changing world, workforce diversity has become a common term in organizations to represent employee performance. The study sought to find out the effect of workforce diversity on employee performance in Hibret Manufacturing and Machine Building Industry of Ethiopia. In the context of the study, workforce diversity is defined as organizations that are heterogeneous in terms of age, gender, ethnicity and educational background. Given the current wave of globalization and the prevalence of diversity in Ethiopia the study aims to fill the perceived gaps on the area of the relationship between age, gender, ethnicity, educational background on employee performance in Hibret Manufacturing and Machine Building Industry of Ethiopia. The study employed explanatory research design with mixed data type. The study area was the 4 clustered industries with sample size of 384 which was taken using simple random sampling. Questionnaires were used for data collections tool and data analysis was done portraying using Robust mean compassion test and Mixed-effects GLM result for regression analysis for the relevant research objectives and the four hypotheses formulated in the study. The analysis was done using the software STATA v14. Inferential statistics was used to show up the effect between the independent variable (age, gender, ethnicity and educational background) and the dependent variable (employee performance). From the result of Mixed-effects GLM, it is observed that educational qualifications, age and gender has a significance positive influence on employee performance. While multicultural workforce (Ethnicity) has a significant negative influence on employee performance. Based on the finding, the study recommended that Hibret Manufacturing and Machine Building Industry of Ethiopia should have a careful management of diverse workforce and uphold diversity policies in order to enhance employee performance.

***Key words: Workforce diversity, Performance, Industries***

# CHAPTER ONE

## 1. INTRODUCTION

### 1.1. Backgrounds of the Study

The modern workforce is far more varied in its composition than it has been previously. The success of any organization depends on the employees or workforce of that organization because they carry out the operations of the organization. Workforce diversity has been identified as one of the strategic capabilities that will add value to the organizations. Workforce diversity refers to organizations that are becoming more heterogeneous with the mix of people in terms of gender, age, race, and education background (Robbins, 2009). Gender, age, ethnicity, and educational background all contribute to a varied workforce. According to Robbins (2009: p. 87), the diversity of the workforce has important implications for management practices and policies and changes the behavior of employees. Diversity is often seen only in a limited way, primarily addressing issues of race or multicultural differences, which are linked to laws that give certain groups protective status..

Diversity alone cannot make an organization successful. Organizations need to handle it well (Farrer, 2004). The fundamental problem of diverse workforce, according to Oyewunmi (2018), is identifying individuals or groups based on gender, age, ethnicity or cultural affiliation, religion, socioeconomic status, disability, and other factors. With the mixture of talents of diverse, gender, age, educational backgrounds, abilities, and religion an organization can respond to business opportunities more rapidly and creatively (Srivastava & Agarwal, 2012). It is one of the important organizational goals to be achieved. More importantly, if the organizational environment does not support diversity broadly, there will be a potential for higher voluntary employee turnover, difficulty in communication, and interpersonal conflicts (Christian, Porter, & Moffitt, 2006). Overall, if managers do not know the factors which contribute to effective diversity management

they are unable to effectively deal with diversity-related issues. It will be adversarial to the organization's performance (Childs Jr, 2005).

For organizations to reach its goals, the skills, knowledge, attitude and efforts of its workforce have to sharpen occasionally to optimize the effectiveness of its workforce and to enable them to meet greater challenges. Organizations are made up of individuals and without the workforce, organizations cannot achieve its goals (Mullins, 2010). For this reason, the management of its human resources is a crucial issue for organizational leaders (Saxena, 2014). To be successful, it is imperative that organizational leaders understand just how the social work environment have an effect on the employees' beliefs about work and they must have effective communication skills to be able to develop the self-esteem and confidence in all its members (Griffin & Moorhead, 2014). Hence, to achieve and maintain competitive advantage over competitors, managers must be able to draw from the most valuable resources.

Given the current reality that threatens organizations today, we can conclude that workforce diversity can create opportunities and challenges in the workplace (Daniel, 2009). In a country of different ethnicities, dialects, social and religious backgrounds, such as Ethiopia, the issue of workplace diversity, especially between groups, cannot be fully emphasized (Assefa, 2014). Therefore the study seeks to find out the effect of workplace diversity on employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia.

## **1.2. Statements of the Problem**

Workforce diversity nowadays has become a main issue in most organizations as the diverse workforce is both an opportunity and a challenge for organizational performance. The current study is motivated by the fact that a country like Ethiopia, with its diverse ethnic nationalities and dialects, as well as diverse social and religious backgrounds, has yet to address the issue of workplace diversity, particularly within groups. Nwinami (2014) contends that as long as

individuals are diverse in the same workplace in terms of gender, age, religion, ethnicity and education backgrounds, workforce diversity always becomes an important issue to manage. Managers are not well aware of how to effectively practice diversity management.

Hilary and Elaine (2000) suggested that organizations should embrace diversity in their workplace and work towards achieving it. For example, according to an Ethiopian labor and social affairs report, private-sector employers must capitalize on their variety and strength while also reviewing the affirmative action policy established under Ethiopia's new economic policy (ELSA, 2019). However, according to an article 14 in Ethiopian labor and social affair, most of the Ethiopian companies are not doing enough in to retain women professionals by fostering a welcoming work atmosphere. According to a survey by EPFAM (2020), many women in their 30s are choosing to abandon their jobs in order to establish a better balance between work and home.

This study aims to enhance the main goal of Human Resource Development Departments (HRDD) which improves the employee's performance within organization by identifying the factors that affect it. Also, it provides insight understanding of the diversity in workforce and how it affects their performance at the company. Furthermore, as De Dreu and Van de (2017) referenced in Baer, Niessen (2017), decades of research on the effects of diversity within teams and small groups show, diversity can have both positive and negative consequences (2017). Furthermore, the absence of data relating workforce diversity to employee performance indicates that the relationship between diversity and the bottom line is more nuanced, according to the report.

As a result given the importance of diversity in Ethiopia, the study aims to fill the perceived gaps on the area of the relationship between age, gender, ethnicity and educational background on employee performance in Hibret Manufacturing and Machine Building Industry of Ethiopia.

### **1.3. Research Questions**

The research questions of this study are:

#### General Question

1. What is the effect of workforce diversity on employee performance?

#### Specific questions

1. What is the effect of gender-based inequity towards employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia?
2. What is the effect of multiple educational qualification towards employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia?
3. What is the effect of self-categorization (age) towards employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia?
4. What is the effect of multicultural workforce (Ethnicity) towards employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia?

### **1.4. Research Objective**

#### **1.4.1. General Objectives**

The main objective of this research is to provide insights and in-depth understanding of the workforce diversity whether it has an effect towards employee performance and to identify whether the variables gender, age, ethnicity and education background would affect employee performance.

#### **1.4.2. Specific Objectives**

The objectives of this proposed study are to:

- (1) To investigate the effect of gender-based inequity towards the employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia;
- (2) To investigate the effect of multiple educational qualification towards employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia;
- (3) To investigate the effect of self-categorization (age) towards employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia;
- (4) To investigate the effect of multicultural workforce (Ethnicity) towards employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia.

## 1.5. Research Hypotheses

In order to attain the objective of the study, the null and alternative hypotheses are developed based on review of relevant and related literatures. Four testable hypotheses formulated in this study are as follows: -

Hypothesis 1-

**H<sub>0</sub>**. Gender-based inequity has no negative and significant effect on the employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia.

**H<sub>1</sub>**. Gender-based inequity has a negative and significant effect on the employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia.

Hypothesis 2-

**H<sub>0</sub>**. Multiple Educational Qualification has no positive and significant effect on the employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia.

**H<sub>2</sub>**. Multiple Educational Qualification has a positive and significant effect on the employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia.

Hypothesis 3-

**H<sub>0</sub>**. Self-categorization (Age) has no positive and significance effect on the employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia.

**H<sub>3</sub>**. Self-categorization (Age) has a positive and significance effect on the employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia.

Hypothesis 4-

**H<sub>0</sub>**. Multicultural workforce (Ethnicity) has no positive and significant effect on the employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia.

**H<sub>4</sub>**. Multicultural workforce (Ethnicity) has a positive and significant effect on the employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia.

## **1.6. Significance of the Study**

Mutual goals provide opportunity for alignment of company goals that lead to growth for both the human resources and organizations. Upon completion, diversity management suggestions are made to ensure that the organization is able to create an environment that values diversity and strengthens its processes, such as recruiting, promotion, communication, and power sharing. Organizations that manage diversity and multiculturalism will have a competitive advantage in the marketplace because they create higher morale and better relationships in the workplace.

In addition, the simple act of learning other cultural practices allows organizations to extend their thoughts to other disciplines. The most optimum outcome of this research is to benefit Hibret (4 sister) Manufacturing and Machine Building Industry of Ethiopia by working with top management and workers from various backgrounds who will find the information in this research study useful in understanding the value of workforce diversity in the company.

## **1.7. Scope of the Study**

The study is geographically delimited to Addis Ababa Ethiopia. The first aim of this research is to provide insights and in-depth understanding of the workforce diversity and its effect on *Hibret (4 sister) Manufacturing and Machine Building Industry of Ethiopia*. Secondly, the determination of this research is to identify whether if the variables including gender, age, ethnicity and educational background affect employee performance in an organization using explanatory survey design.

## **1.7. Organizations of the study**

This research is structured as follows:

In chapter one, the researcher presents the overview of the study context and explain the research problem. This chapter addresses the research objective to be achieved, the research question to be answered and briefly explains the importance or contribution of the research.

Chapter two focuses on the literature review of the theoretical argument from secondary sources such as journal, articles and etc. The empirical studies will be done in this chapter to enable the researchers to construct the literature and conceptual framework of the research.

Chapter three is conducted to describe how the research is carried out in terms of research design, population, sample and sampling procedures, data collection methods, operationalization and the methods of data.

Chapter four deals with processing, analysis and discussion of data. Finally, Chapter five presents the summary of the findings, conclusions and recommendations.

## **CHAPTER TWO**

### **2. LITERATURE REVIEW**

#### **2.1 Theoretical Review**

##### **2.1.1 Concept of Workforce Diversity**

According to Erasmus (2007), diversity management and diversity is a mandatory integration that causes tension and anxiety in the workplace since leaders are not trained in diversity management and its principles. As a result, managers are unsure how to effectively practice diversity management or what elements contribute to effective diversity management and workplace diversity concerns. Employees make decisions that break the rules with diversity behavior, even when companies conduct recruitment training, ethics testing, online training, and specific harassment training (Victoria and Mary, 2010).

According to Dahm (2003), workplace diversity can evoke a lot of emotion, as some people see it as something to deal with, not as a tool to improve the organization. Many agree that the results of a diversity-aware organization represent the added value of employees and the organization, but there are no studies assessing diversity to develop further training tools (Dahm, 2003). Hilary and Elaine (2000) states that companies recognize the diversity of their employees and are simply for representation and assimilation.

Hilary and Elaine (2000) suggested that businesses should not only work on expression and assimilation, but also on creating a culture in which employee diversity and differences can thrive.

Tension between team members is also possible (Hackman and Morris, 1975; Wall and Callister, 1995). As soon as a relationship conflict breaks out, each individual shows different differences.

Continued conflicts cause tension, competition, stress, dissatisfaction, and poor performance of employees within the organization (Hasan, Muhammad and Imran, 2009; Pondy, 1967). Divergence of thoughts, actions, and opinions leads to flimsy events being resolved. It consumes people's energy to resolve conflicts and counteract their effects, rather than spending time achieving the organization's goals (Simons and Peterson, 2000).

Previous studies of workplace diversity, according to Jonathan, David, and Aparna (2004), suggest that diversity can be beneficial or detrimental to workgroup performance (Williams and). 1998, O'Reilly. Working group diversity, for example, has a positive link with creativity and problem-solving skills (Bantel and Jackson, 1989; Jehn, Northcraft, and Neale, 1999) and a negative correlation with cohesion and cooperation (Bantel and Jackson, 1989; Jehn, Northcraft, and Neale, 1999). (Pelled, Eisenhardt). Xin et al., 1999). The practice of good talent diversity is believed to improve employee and company performance (Adler, 1986).

Diversity management refers to using people's cultural diversity in talents, ideas, and creativity to contribute to a common goal in a way that gives a company a competitive advantage (Morrison, 1992). Strong correlation has been shown between good diversity practices and benefits in recent studies. Diversity enables more creativity, a broader perspective, better definition of problems, more choices and better solutions. Also, as the workforce becomes less uniform, companies can develop equal opportunity and diversity strategies to maintain the skills of employees from different backgrounds and protect their competitiveness in the market. It is claimed to be important (Gilbert and Ivancevich 2000).

### **2.1.1.1 Gender-based inequity**

Gender-specific inequities in an organization are enhanced and justified by the positive characteristics of men, and thus stereotypes and prejudices that explain higher status (Leonard and Levine, 2003; Nkomo, 1992; Heilman et al., 1989). In other words, companies prefer to hire men over women since they are thought to perform better and work harder.

According to Brown (2008) and Carr Ruffino (2003), a substantial quantity of diversity in the workforce is rendered useless unless gender concerns are first identified and addressed. Research and research have also found that the biggest constitutional challenge is to overcome the notion that women are not equal to men. According to Kossek, Lobel, and Brown (2005), just 54 percent of working-age women in the world are employed. In addition, women continue to dominate the "invisible care" industry, which includes domestic and care employment.

According to Kochan et al. (2002) however, it is important to provide women with equal employment opportunities in order to improve the performance of employees within the organization. These social obligations have removed formal policies that discriminate against certain classes of workers and increased the cost of organizations that did not implement fair labor practices. Companies that employ workers who are paid more than alternative workers yet are less productive as a result of gender discrimination in hiring (Barrington and Troke, 2001). In addition, a study by Wentling and Palma Rivas (2000) found that companies with diverse workforces offer better service because they can better understand their customers (Kundu, 2003). Kundu Inquiry, 2003; Mueller, 1998 states that hiring women, minorities and other organizations can help find niche markets.

According to Joshi and Jackson (2003), there is a favorable association between team gender diversity and team cooperation, but only within locations where gender differences are significant. Furthermore, gender diversity in the team was found to be favorably associated to team

performance, but only in places with a high level of gender diversity. In general, the regions with greater gender diversity were more cooperative, both at the management level and outside the management level.

Jayne and Dipboye (2004), on the other hand, suggest that gender diversity does not necessarily result in beneficial outcomes such as higher motivation, increased talent, increased engagement, and a refusal to engage in conflict. As a result of our research, we have come to the conclusion that the benefits of diversity depend on corporate strategy, culture, environment, and circumstances such as people and organizations. In addition, more appropriate training is needed to encourage employee engagement at the superficial level. This is time consuming and costly.

Last but not least, the argument that increased diversity is inextricably linked to poor quality puts poor performers in a position they are not suitable for (Herring, 2005; Rothman). According to Williams and O'Reilly (1998), the majority of empirical evidence implies that diversity slows group function (Hering, 2005). In summary, critics of the Diversity Model point out that group differences cause conflicts and associated costs. As a result, detractors of the diversity model business model wonder whether diversity programs have a real influence on a company's bottom line (Hering, 2005).

#### **2.1.1.2. Self-categorization (Age)**

Age diversity increment is part of many organizations (Florian Kunze, Stephen Boehm, Heike Bruch, 2009). There are two main theories that explain this relationship which are social identity and self-categorization. People are grouped into groups based on individually meaningful features, according to the social identity and self-categorization hypothesis (Kunze, Boehm, and Bruch, 2009; Tajfel and Turner, 1986).

As a result, people prioritize members of their own group over members of other groups who might discriminate against them. Therefore, if the age or generational affiliation of employees is considered as a relevant differentiation criterion, a differentiation between age groups may arise within an organization, which favors emotional conflicts and age discrimination between groups. (Kunze et al., 2009).

According to Gelner and Stephen (2009), age heterogeneity might have a negative influence on performance due to differences in value and preferences among age groups. Conflicts that reduce productivity have been shown to occur particularly frequently in the presence of “generational gaps” (Gelner and Stephen, 2009; Lau, Murnighan, 2015; Pitcher & Smith 2021).

Gelner and Stephen (2009), on the other hand, propose that age variability may have certain advantages. Complementary effects occur when working together in groups can be more productive than when individuals work alone. As a result, the advantages of age heterogeneity are based on the additional productivity impacts that emerge from the interaction of people of various ages with various eligibility profiles, viewpoints, and, in certain cases, personality qualities. Last but not least, according to Brown (2008), increasing diversity can also pose many challenges to human resource management. For example, as the workforce is aging, employers need to deal with higher health care costs and pension contributions. Employees must accept that performance is in line with the vision of the company; therefore, your engagement will significantly increase.

### **2.1.1.3. A multicultural Workforce**

The multicultural workforce grew rapidly in the 1990s and continues to do so in the new millennium (Zgourides, Johnson, and Watson (2002); Milliken and Martins, 1996; Nemetz and Christensen, 1996). With increasing diversity, the use of work teams is generally increasing to promote participation and synergies to improve and enhance both employee satisfaction and performance. While the workforce is becoming more varied in terms of gender, age, and ethnicity,

there is growing interest in the impact of this diversity on educational institutions (Zgourides et al., 2002) A company's multicultural growth is a result of contemporary society's multicultural growth, which pervades the family, educational, and religious circles.

According to Zgourides et al. (2002), cultural differences predicted team outcomes. This could be interpreted as an advantage of ethnically different views on team problem solving, which later improved team performance. The team learned to take advantage of these differences.

Timmermans, Ostergaard, and Kristinsson et al. (2011) discovered that innovation is an interactive process that frequently requires communication and interaction among corporate personnel, and that its varied aspects work at all levels of the organization. Diversity of attributes such as ethnicity, nationality, gender and age can adversely affect the company. Members of minority groups may experience reduced job satisfaction, lack of engagement, identity issues, and perceptions of discrimination (Timmermans et al., 2011; Milliken and Martins, 1996; Harrison and Klein, 2007).

However, as the minority group grows, some of the problems disappear. According to the study by Timmermans et al. (2011), ethnicity can be used as a surrogate for cultural background, and ethnic diversity can have a positive impact on innovative performance, as it broadens perspectives and perspectives in the company (Richard, 2000). ).Timmermans et al. (2011) Higher ethnic diversity can be negative, as some ethnic diversity can be positively linked to innovation, and social classification can create conflicts and factions due to social categorization.

#### **2.1.1.4. Multiple Educational Qualification**

Tracy and David (2011) found that employers often refuse to hire workers whose education, experience, or training is deemed inadequate. On the other side, it suggested that employees value academic training. Without proper academic training, employees cannot find work or perform

well. Furthermore, Daniel (2009) also found that different levels and types of education can expect different rates of mobility. For example, professions for people with professional experience who do not have a certified tertiary degree may differ from those with a corresponding level of education. Mobility can vary between these professions, which mean that the mobility of people with work experience differs from that of people with non-work experience but has a degree.

According to Daniel (2009), a person's productivity is proportional to their educational degree. The more educated a worker is, the more productive he or she is. Moretti (2004) examined this idea and found that in cities with a high proportion of tertiary employment, people of all education levels can earn higher wages. Other studies have demonstrated that more education leads to improved public participation (Dee, 2004) or lower crime rates (Lochner and Moretti, 2004). Glaeser, Scheinkman and Shleifer (1995) also found a high proportion of educated people. Urban workers lead to higher economic growth. However, Zeng, Zhou, and Han (2009) found that senior managers with higher education and employees who have been with the company for 11 to 15 years' experience an unusual decline in job performance because they have not found the space to proper development, thus temporary disengagement occurs.

## **2.2 Review of Theoretical Model**

### **2.2.1 Employees performance**

#### **2.2.1.1 The Capabilities Model**

According to Kostas (2007), skill models extend the concept of core competencies by using fits between specific skills and employees (Stalk, 1992). Capabilities are defined as a chain of or complex business processes that add unique value to a customer. The uniqueness of the skill makes it more difficult to duplicate a product than, for example, a core competency.

Capabilities-based organizations have been extremely successful in migrating critical business processes to new geographic locations and new business ventures (Stalk, 2012)..While the transfer of core competencies is a fragmented approach that requires a great deal of coordination on the part of people, when using the capabilities approach, employees are trained in the use of processes to make it easier to adapt to employees (adaptation internal / external) to global needs.

#### **2.2.1.2 The Behavior Engineering Model**

Based on the classical behavioral engineering model by Gilbert (1978), HR specialists can organize and monitor the most important personnel attributes of a global organization. The model consists of three cells that correspond to the work environment (information, resources, and incentives) and three cells that correspond to employee performance factors (knowledge, skills, motivation). Employee factors are central to planning excellence, but general research shows that employees can demonstrate excellence when properly provided with information, resources, and incentives.

Because of excellence, Gilbert (1978), Rothwell (1996), and Wright and Geroy (1999) suggest that most changes are more likely to occur in the environment rather than in humans. Basically, this model leads to a gap analysis that determines which factors need to be modified to achieve optimal work results.

### **2.2.2. The Effect of Work force diversity on Employee Performance**

According to a study by Hasan, Muhammad, and Imran (2009), conflict is a condition in which two or more parties pursue incompatible goals and their perceptions and actions correspond to these incompatible ones (Mack, 1965). Conflict is a reliable predictor. It can't go away or be ignored (Michael and Wayne, 2001; Medina, Munduate, Dorado, Martinez, and Guerra, 2005) It can be found in individual, group, or organizational interactions.

Conflicts are either "good or bad" or "sinful or immoral." This is important when processing intelligently. It becomes more important when you drive it in a smart and skillful way. When a conflict is improperly treated, it becomes harmful, and when treated morally and creatively, it ceases to be incapacitated and be connected into the growth, maturity, and empowerment of individuals, groups, and organizations.

Conflicts emerge as a result of disparities in perceptions, beliefs, behaviors, interests, and attitudes, as well as religious and political disagreements and unequal distribution of national resources. Conflict isn't always a bad thing. It all relies on how you deal with the situation. If properly managed, it can become a source of development; otherwise, it creates hostility (Kigali, 2006). Therefore, it affects the quality, performance, and profits of the organization. For team performance, conflicts are critical and dynamic (Medina et al., 2005). When managers ignore the clash between employees, those clashes turn into long-term personal and emotional conflicts, thus damaging corporate culture, morale and general degradation of employees.

Tension, rage, and animosity among group members describe interpersonal disputes, also known as interpersonal incompatibilities (Hasan, Muhammad & Imran, 2009; Jehn, 1995; Simons, Peterson, 2000).

It has different relationships and relationships between team members. It is sterile, unwieldy, and likely to leave people most pressured and least able to cope. It usually takes place between front-line employees and their supervisors. Creativity, innovation, quality, and performance of employees and companies may be impacted (Friedman, Curren and Tsai, 2000; Michael et al., 2001; Passos and Caetano, 2005). Relationship conflicts are also associated with conflicts over personal tastes, political preferences, values, and styles of interpersonal relationships (De Dreu and Weingart, 2003). Relationship conflicts negatively impact team performance and disrupt personal and professional relationships between gender and employee performance.

#### **2.2.2.1. Relationship between gender and employee Performance**

According to Kochan et. al. (2002), the widespread adoption of such training program expanded the concept of diversity and people begin to realize and recognize demographic differences such as gender are affecting the working relationship between workers and toward their performance. Furthermore, Jehn and Werner (1993) found that range had a significant impact on organizational processes, but the nature of the impact varied depending on whether the diversity was gender-based. Gender diversity, in particular, boosted positive group dynamics. Furthermore, diversity-focused HR strategies enhanced the positive benefits of gender diversity on productive group processes (Kochan et. al. 2002)

Besides that, Hack and Lammers (2008) advocate that managers have to be conscious that there is probably gender variations concerning the relative significance assigned to distributions and communication. This may also mean exclusive communication techniques for managing male and

female employees as management attempts to create ideal surroundings of fairness. As a result, poor communication between men and women can lead to poor organizational performance.

However, some researchers suggest that these relationships may not currently exist due to the changing roles played by women in the workforce. For example, Lee and Farh (1999) found no gender effects in justice outcome relationships; They indicate as reasons the reduction of gender gaps and the similarity in labor values between men and women (Beldona and Namasivayam, 2006). Simply put, the study says that gender diversity in an organization has no impact on employee performance.

#### **2.2.2.2. Relationship between age diversity and employee performance**

According to Winnie (2008), young people are motivated to learn new things and embrace new ideas during the learning phase. Older people with more life experience are more mature and have better problem-solving abilities. In addition, researchers find that Western results suggest that older and younger employees need to be together to form a coherent and sustainable corporate culture did. Within the organization, these values of various age groups can complement each other and tend to increase the enterprise's success. Their findings reveal that businesses appreciate different things from different age groups, and that these values can complement each other and increase a company's performance.

In addition, age heterogeneity alone has a negative impact on individual productivity. Moreover, routine tasks do not result in significant advantages of age heterogeneity that could outweigh the increasing costs due to greater age heterogeneity. For example, in a company that does day-to-day work, increasing age heterogeneity generally reduces productivity (Gellner and Veen, 2009). Similar to Joshi and Jackson, 2008; did not find a significant effect of age diversity on employee reports on team processes or target measures for team performance.

### **2.2.3. Relationship between multicultural work force and employee performance**

As organizations become more multicultural workers along their ethnicity, it makes more sense to pay more attention to the interactions of different groups in the workplace (Pitts and Jarry, 2005).

According to Pitts and Jarry (2005), as ethnic diversity of private sector workers grows and attempts to "manage" that diversity, how diversity leads to workplace interactions and work-related consequences. It is critical to comprehend how your actions will influence you.

It is critical for businesses to understand how to manage a diverse staff. You can enhance the benefits of variety while minimizing the drawbacks by doing so (Opstal, 2009). Based on research by researchers, it is said that ethnic diversity can have both strengths and weaknesses for an organization. Some of the disadvantages and challenges that arise include communication problems, conflicts (Jackson and Joshi, 2004; Milliken and Martins, 1996; Benschop, 2001), discrimination (Ely and Thomas, 1996), a lack of social cohesion in organizational working groups, and a lack of consensus (van Knippenberg et al., 2004).

According to Opstal (2009), the advantages include enhanced creativity, innovation (Milliken & Martins, 1996), and a larger pool of resources available to the company (knowledge, skills, social networks, etc.) (Van Knippenberg, et al , 2004), and therefore better problem solving (Jackson et al., 2004). Diversity management is important for organizations to enjoy these benefits and minimize the disadvantages that can negatively impact performance (Benschop, 2001; van Esbroek and van Engen, 2008).

According to Opstal (2009), a company's performance is linked not just to (strategic) outcomes like competitive advantage (Bowen and Ostroff, 2004) but also to how these results are achieved. Van Knippenberg et al. (2004) defined the intended manner of functioning in an organization as

the efficient utilization of all resources. Overall, ethnic diversity can have both beneficial and bad consequences on the effectiveness of an organization's workforce.

#### **2.2.2.4. Relationship between educational background and Employee performance**

Educational diversity programs are implemented by organizational executives to motivate and encourage employees to collaborate efficiently in order to achieve company goals (Gwendolyn, 2002). The educational background of a person can be an important indicator of knowledge, skills and abilities. In addition, the choice of a particular subject may reflect a person's cognitive ability and personality (Holland, 1997). A person who has studied computer science, for example, can be anticipated to have a little different cognitive disposition than someone who has studied marketing or advertising (Hambrick and Mason, 2002). Different educational backgrounds appear to have a good impact on team performance and develop a wider range of cognitive skills, similar to functional experience (Cohen & Bailey, 2001).

Cohen and Levinthal (2000) argue that the diversity of knowledge structures can increase the capacity of an organization, as reflected in various educational programs. Jehn and Bezrukova (2004) observed that various information, such as education and functional disciplines, had a positive relationship with the working group's actual performance, even if mediated by conflicting tasks. Carpenter and Fredrickson (2001) similarly reported that international experience and a different educational background had a positive effect on the global strategic attitude of companies in top management teams.

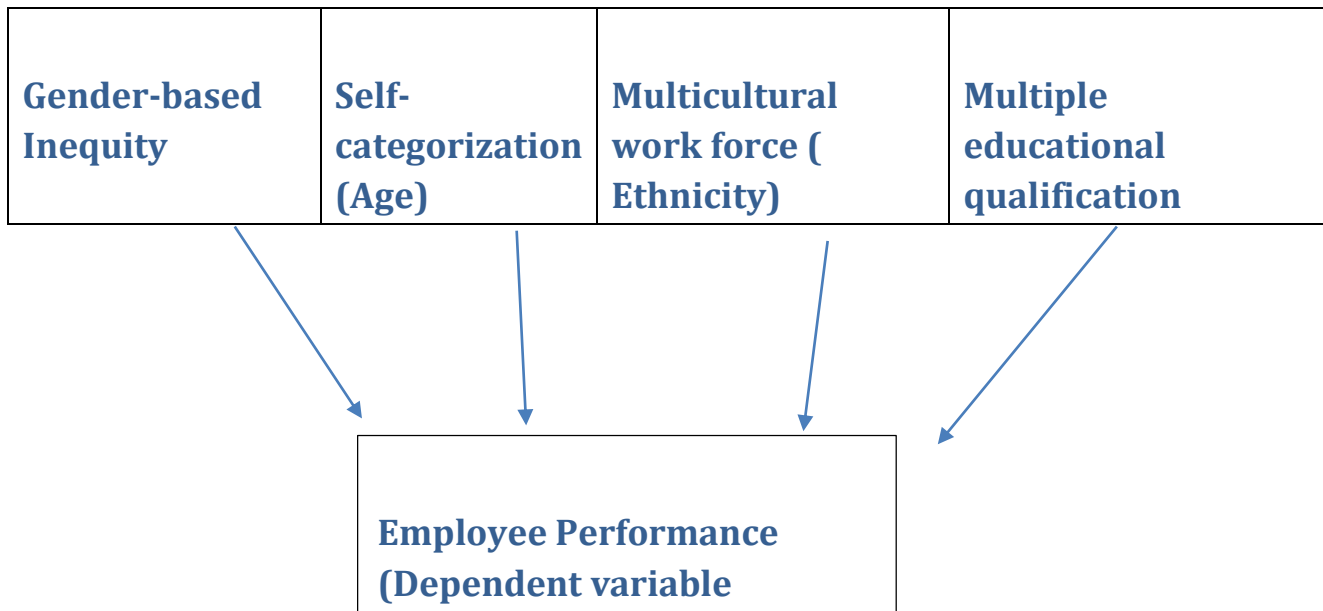
On the other side, educational background may have a negative impact on team performance and social integration (Cohen and Bailey, 2001) Jackson, May and Whitney (2005) found that the heterogeneity of education levels (Bachelor's degree and college graduates) is closely associated

with fluctuating intent. Due to significant variations in educational backgrounds, task-related talks within working groups increased (Jehn, Chatwick and Thatcher, 2007). In a study of Japanese top management teams, Wiersema and Bird (2003) reported that differences in university prestige were associated with member turnover rates. More recent studies include Knight and others. (2009) found that educational diversity has a negative impact on the decision-making consensus of top management teams. In other words, in terms of employee performance toward the organization; diversity of educational backgrounds can have both advantages and disadvantages.

### 2.3. Conceptual Framework

Literature reviews of relevant theoretical models and variety of approaches to employee’s performance provides conceptual background to strengthen the argument of this research. More importantly, the formulation of hypotheses will allow qualitative and quantitative testing to proceed. Research methods will be discussed in detailed (figure 1).

#### Multi Diversified Workforce (Independent Variable)



*Figure 1: Conceptual Framework Model Adapted from*

*(Source: (Jehn, Chatwick, and Thatcher, (2007); Wiersema and Bird (2003) modified in 2021.*

## CHAPTER THREE

### 3. RESEARCH DESIGN AND METHODOLOGY

#### 3.1. Background of case study Area

##### 3.1.1. *Hibret* Manufacturing and Machine Building Industry

According to an HMMB report dated September 2, 2021, the Hibret Manufacturing and Machine Building is located in Addis Ababa, Lideta Kifleketema, Kebele 07, around Mexico Square, and has a total space of 97,025 square feet. This company was founded in Addis Ababa in 1945 by an agreement between Japan and the Czechoslovak government in Addis Ababa in 1945 E.C at an estimated cost of Birr 2,000,000.00 and invested capital of Birr 2,000,000.00. In 1977 E.C., it was extended at a cost of Birr 82, 000,000.00. The primary goal was to make several varieties of basic bullet ammunition, as well as woodwork and metalwork, medals and badges, and tools and spare parts.

Before the current name given as *Hibret* Manufacturing and Machine Building Industry, it was categorized into four (4) different sub groups. The names of the company were: Addis Ammunition Factory and Machine Tools Factory, TAFCON Metal Pressing Enterprise, GAFAT Tools and Spare Parts of Design and Manufacturing Center, Addis-Hibert Engineering Center and Machine Tool Engineering Complex. This organization was established in June 19, 1990 E.C. by the council of ministers Regulation No. 38/1990, with an authorized capital of Birr 111,216,000.00 and a paid capital of Birr 76,216,000.00. According to proclamation No. 25/1984, it is governed under the development of government organizations.

In Resolution 2 / ms101w284 / 1996, the 101st Regular Meeting of the Council of Ministers of the Government of the Federal Democratic Republic of Ethiopia held a fully reconstructed Addis Metal Press Company, transferring the organization's rights and obligations to the Minister of

Defense. Under the name of Ministerial Regulation No. 102/1996 Provocation, this was done by Federal Negative Gazeta 11th Year No. 39.

Defense takes corrective action and orders the ammunition factory to move to the Hormat Ammunition Engineering Factory. In keeping with this order, the primary body of the manufacturing facility i.e. Product gadgets, machines and many others have been transferred to Hormel Ammunition Engineering Manufacturing unit. As a result, the organization's remaining workshops are: Tools and Spare Parts Workshop (Mechanical Workshop) Badges and Medals Metal fabrication and product packaging are two of the workshop's specialties. The organization operates under the name "Tools and Spares Parts of design and manufacturing center " starting from the day the Minister of Defense wrote a letter on EG on April 9, 1997 with Protocol number" m3 / st2 / t / 1094/96 ". On November 23, 1997 E.C., the Defense Industries Coordination Bureau wrote another letter with the protocol number "m3 / st / 2 / t / 357/97.", it was decided that the name of the organization would be the Addis Engineering Center (Gelila, 2021).

Finally in December 2000 E.C, the Defense Industries Coordination Office decided to rename the company to Hibret Machine Tool Engineering Complex, and use new management methods to provide value to the country's stumbling manufacturing industry. Based on past history, the complex is now being expanded to industry. The Ethiopian government has given it a new vision and direction, and it has restructured itself under the metal and engineering corporation to accomplish the goals for which it was created.

The industry has four factories, expected to perform several activities and become a role model for machine tool manufacturing.

Objective: - The primary objective of this industry is to address industrial machineries, spare parts and capital goods demand.

Core Business:-Industrial machine design and building, component (Capital goods) manufacturing. Specialization:-Production of industrial precision machineries & machine tools

Peripheral Business: -Providing training and advisory services related to machine tool technology, providing material processing and testing services, Pressing and engraving product, Production of Jigs, fixtures and dies, Production of bolt and nut. Hibret manufacturing and machine building industry, on the other hand, is made up of four factories: machine building, precision machinery, materials treatment, conventional manufacturing, and engineering. *Hibret* manufacturing and machine building industry is selected for this study because it implemented kaizen system in all shops by implement 5s (sort, straighten, shine, sustain and standardize), calculating through put time, visual management, doing SMED (single minute exchange dies), tool board for all workshops and improve manufacturing system.

### **3.2. Research Design**

The study employed explanatory research design with self-administered questionnaire as primary data collection techniques using both qualitative and quantitative data type. Therefore, explanatory research design is believed to be appropriate for this study as it consists of mainly how and why questions of the study.

### **3.3. Research Method**

To carry out this research, both qualitative and quantitative research data type was used. This approach is recognized for its ability to incorporate different methods and techniques into the collection and analysis of data focused on different subjects of research to explain in scientific methods and phenomena.

### **3.4. Population and Sample**

According to Bell and Waters (2014), the term population is defined as a total group of people or units of interest to researchers and those through which results of the study can be generalized.

The respondents are employees in the *Hibret* manufacturing and machine building industry in Addis Ababa, Ethiopia. Candidates meet two conditions before qualified as valid respondents.

Proper selection of respondent *unit of analysis* is important to achieve objective of the study

- i. Employees working in the *Hibret* manufacturing and machine building industry;
- ii. Currently employed and working in the management and non-management departments.

As per the report from Human Resource Department of *Hibret* manufacturing and machine building industry, the total number of employees is around 1477 in *Hibret* manufacturing and machine building industry which has four factories in Ethiopia.

*Hibret* manufacturing and machine building industry of Ethiopia has about 1477 employees; among these 143 are military, 1178 are permanent civil worker, 156 are contract civil worker. There are 198 first degree holders, 328 advance diplomas, 100 college diploma and TVET graduates with different levels, 852 are certificate, 10th grade complete and below 10th grade (HMMBI,2021).

### **3.5. Sampling Techniques and Sampling Procedures**

#### **3.5.1. Sample Techniques**

A sample design is a set of guidelines that a researcher must follow in order to create a sampling frame and pick certain sampling units from which inferences about the population can be made. Sampling is the process of choosing smaller and more manageable number of study units from a defined study of

population. Probability approaches can be used to categorize the various different sampling plans. Every element in the population has a known non zero probability of selection in probability sampling (Zikmund, Babin, Carr, & Griffin, 2010).

Simple random is the most common probability sampling in which all members of the population are equally likely to be selected. Simple random probability sampling was used in the current study. It suited due to the representativeness of the sample is of importance in the interest of wider generalizability (Creswell, 2009:p87).

This was used as this technique allows sample research respondents to be selected based on equal chance with less bias. Probability sampling designs will be used in the current study. It suited due to the representativeness of the sample is of importance in the interest of wider generalizability (Creswell, 2009:p87) when time or other factors, rather than generalizability, become critical, non-probability sampling was generally used.

### **3.5.2. Sample Size**

To determine the sample size from the number of people (Employees working in the *Hibret* manufacturing and machine building industry and currently employed also working in the management and non-management departments) used simple formula to include in the survey. The employees are considered to be heterogeneous in their nature and also influenced by the operation of the system. For this study the researcher believed that the target population of the study was employees of the *Hibret* manufacturing and machine building industry (4 factories) in Addis Ababa, Ethiopia in the operation department total sample from 1477 employees. To calculate the sample size Yamane (1967) provides a simplified formula. Based on this formula confidence level is 95% and level of precision is 5%, and the marginal error  $e$  was limited to 0.05, where,  $e^2$  is the marginal error.

$$n = \frac{N}{1+N(e)^2} \quad \text{Formula (Yamane, 1967)}$$

n - The sample size

N - The population size

e - The acceptable sampling error      \* 95% confidence level and  $p = 0.5$  are assumed

Using this formula  $n = \frac{1477}{1+1477*(0.05)^2}=384$

Therefore, based on the above analysis the sample size is determined by 384 respondents.

### **3.6. Source and Instruments of Data Collection**

#### **3.6.1 Source of Data**

For this study, both primary and secondary source of data were used. A primary data source is the original data source, that is, the source from which researchers collect data directly for a particular research purpose or project. Such method provides quantitative part of the study's database. Secondary data is a type of data which was collected in the past. It was also used from perspective of Human resource policy, published and unpublished information about the study area.

#### **3.6.2. Instruments of Data Collection**

For this study, the research instrument used is self-administered questionnaire. Self-administered questionnaire required respondent to have the responsibility to read and answer the questions. The questionnaires were distributed directly to the employees and it takes around 10-15 minutes for a respondent to complete it. The questionnaire was generated based on the literature review of (Gelner and Stephen, 2009; Lau & Murnighan, 2015; Pitcher & Smith 2021) It is because reviewing of the literature will help to develop research ideas and questionnaire with good quality will be conducted as a guideline.

The questionnaire is separated into three sections; namely;- Section A, B and C.

-Section A collects the respondent's demographic data which consists of elements such as gender, age, ethnicity, education level, position in an organization and working experience. -Section B consists of four independent variables which are to determine the main effects of workforce diversity towards employee's performance. Each variable consist of 5 to 9 questions to be answered by respondents.

- Section C consists of 10 questions that talked about employee's performance. It consists of 10 questions to be answered by respondents.

### 3.7. Validity and Reliability

Validity is concerned with the degree to which a question measures what it claims to measure. To assure the validity of the study, the researcher reflected with the advisor and other management staffs about the questionnaires before it persists to distribute. It was developed on the basis of previous studies and review of related literature. In addition, the researcher provided explanations concerning on the questions to the respondents.

As per Creswell (2009:p91) reliability refers to consistency, where internal consistency involves correlating the responses to each question in the questionnaire with those other questions in the questionnaire. Cronbach's alpha is employed to calculate the instrument's internal consistency. The reliability of effects retrieved from dichotomous and or multi-point structured surveys or scales was described using Cronbach's alpha coefficients, which range in value.

<i>Table 1: Reliability Test measures indicator</i>		
<b>Variable</b>	<b>Number of items</b>	<b>Cronbach Alpha <math>\alpha</math></b>
<b>Gender-based Inequities</b>	7	0.978
<b>Self-categorization (Age)</b>	5	0.952
<b>Multicultural Workforce (Ethnicity)</b>	8	0.984

**Correlation is significant at the 0.01 level (2-tailed).**

<b>Multiple Education Qualification</b>	7	0 .985
<b>Employee performance</b>	10	0 .968

**Source: Own survey data, 2022**

The following are the Cronbach's alpha value:.. Aspect of Gender-based Inequities yield Cronbach's alpha = 0.978, Aspect of self-categorization (Age) Cronbach's alpha = 0.952, the Cronbach's alpha for Multicultural Workforce (Ethnicity) was at 0.984, Cronbach's alpha for Multiple Education Qualifications was at 0.985 which is highly fitted and Cronbach's alpha for Employee performance is 0.968 that the variables considered are greater than 0.6 and this indicates the items in each of the domains are around above 90% found well understood by the respondents. The coefficient, on the other hand, has no lower limit. The closer Cronbach's coefficient alpha is to 0.65 the greater the internal consistency of the items of the scale (Zikmund, Babin, Carr, & Griffin, 2010:p77).

### **3.8. Methods of Data Analysis**

It is unquestionable that after the collection of data analysis, interpretation and presentation is required in order to give recommendation to the problem. Both qualitative and quantitative data were analyzed for the purposes of this study.

Qualitative data during and after data collection helped in rearranging and analyzing these data systematically and rigorously.

Mainly for quantitative data was used pair wise comparison to identify cluster group means using Robust mean comparison test, analyzing the Work force Diversity and employee performances in four industries group differently. Diversity was summarized using STATA v 14 software. Statistics including mean, robustness of data also was analyzed among the different groups.

The mean and standard deviation was used to describe the data obtained indicating mean difference of independent variables (work force) and the dependent variable (Employee performance). Inferential statistics, particularly the *General liner model* to regression analysis was used to show up the effect.

The General Linear model is an extension of group labeled linear regression that shows up the out case

and effect, factor and impact analysis. a variable's value depending on the values of two or more other variables. The dependent variable is the one that is utilized to predict (or sometimes, the outcome, target or criterion variable). The independent variables are the variables that are utilized to predict the values of the dependent variable (or sometimes, the predictor, explanatory or repressor variables). Sometimes it also called multivariate linear regression for MLR.

$\beta_0$  = the intercept (value of EY when  $X = 0$  x or groups);

$\beta_{1-n}$  = the regression coefficient or change included in Y by each  $\chi$ ;

$\epsilon_i$  = error term

### **3.9. Ethical Consideration**

Ethical consideration in research should up hold fairness, honesty, openness, disclosure of methods and the purpose for which the research is being carried out. In this case, Primary information gathered from *Hibret* manufacturing and machine building industry permanent staff's respondents are kept until the reasonable period of time.

Confidential files and issues regarding employees' personal data, policies and strategies of the organization and other highly classified information that need to be kept confidential are given value and kept confidential.

## CHAPTER FOUR

### 4. RESULTS AND DISCUSSION

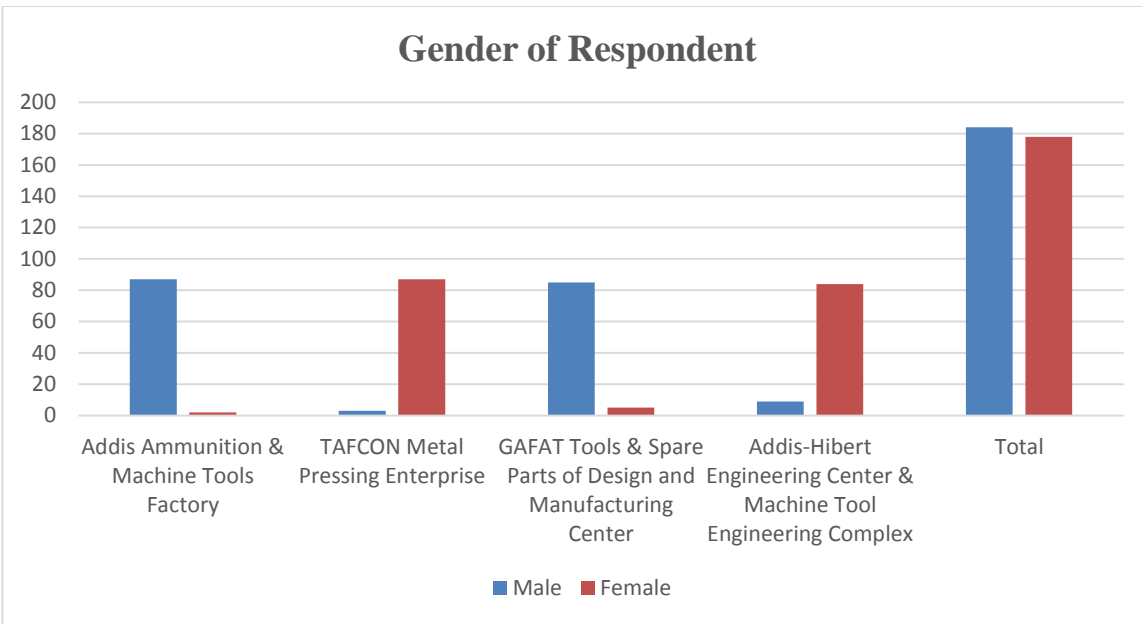
#### 4.1. Introduction

This chapter is all about the results of the study. The result of the study are presented and discussed in detail. The distributed and returned questionnaires are discussed in the first section of the chapter. The second part is about the responses received and the analysis made along with the interpretations of the results. Even though the sample size of the study is 384 and questionnaires were distributed for the same number but only 362 questionnaires were returned. Out of 384 questionnaires, 12 questionnaires were rejected due to missing data and the rest ten questionnaires were returned unfilled. Therefore, 362 questionnaires served as data for analysis to present the findings and draw a conclusion.

#### 4.2. Characteristics of the Respondents

As the demographic aspect of the respondents is important for gaining insights into the broader study, it will begin by viewing at their demographics.

**Figure 1: Gender of Respondent in the *Hibret* manufacturing and machine building industry of Ethiopia**



**Source: Own Survey, 2022**

From the study, Figure 1 result indicating gender of participant of 362 respondents in the four industries: In Addis Ammunition Factory male respondents were 47.28% and female respondents were 1.12%, In TAFCON Machine Tools Factory 1.635% were male and 48.88% of them were female. In GAFAT Tools & Spare parts of Design and Manufacturing Center, 46.20% were male respondents and 2.81% of them were female. In Addis-Hibert Engineering Center & Machine Tool Engineering Complex, 4.89% of the respondents were male and 47.19% of them were female.

In general gender balance of respondents was depending on availability of male and female employees who are less female in Addis Ammunition Factory and less male in TAFCON Machine Tools Factory which is not balanced at all. In a broad-spectrum, result shows that from the respondent's gender, majority of 184 respondents are male that is consisting 51.0% of the workforce while 178 respondents are female consisting 49.0%.

From the above Table 1 it can be observed that the difference in gender composition in the Hibret manufacturing and machine building industry of Ethiopia is marginally high which the respondents rating promotes gender balance in its employment practices.

**Table 2: Age of respondents in the Hibret manufacturing and machine building industry of Ethiopia**

Age	Industries				Total
	Addis Ammunition & Machine Tools Factory	TAFCON Metal Pressing Enterprise	GAFAT Tools & Spare Parts of Design and Manufacturing Center	Addis-Hibert Engineering Center & Machine Tool Engineering	
20-29 years old	5 18.52%	9 33.33%	6 22.22%	7 25.93%	27 100.00
30-39 years old	63 26.92%	45 19.23%	40 17.09%	86 36.75%	234 100.00
40-49 years old	21 22.58%	32 34.41%	40 43.01%	0 0.00%	93 100.00
50 years old & above	0 0.00%	4 50.00%	4 50.00%	0 0.00%	8 100.00
Total	89 24.59%	90 24.86%	90 24.86%	93 25.69%	362 100.00

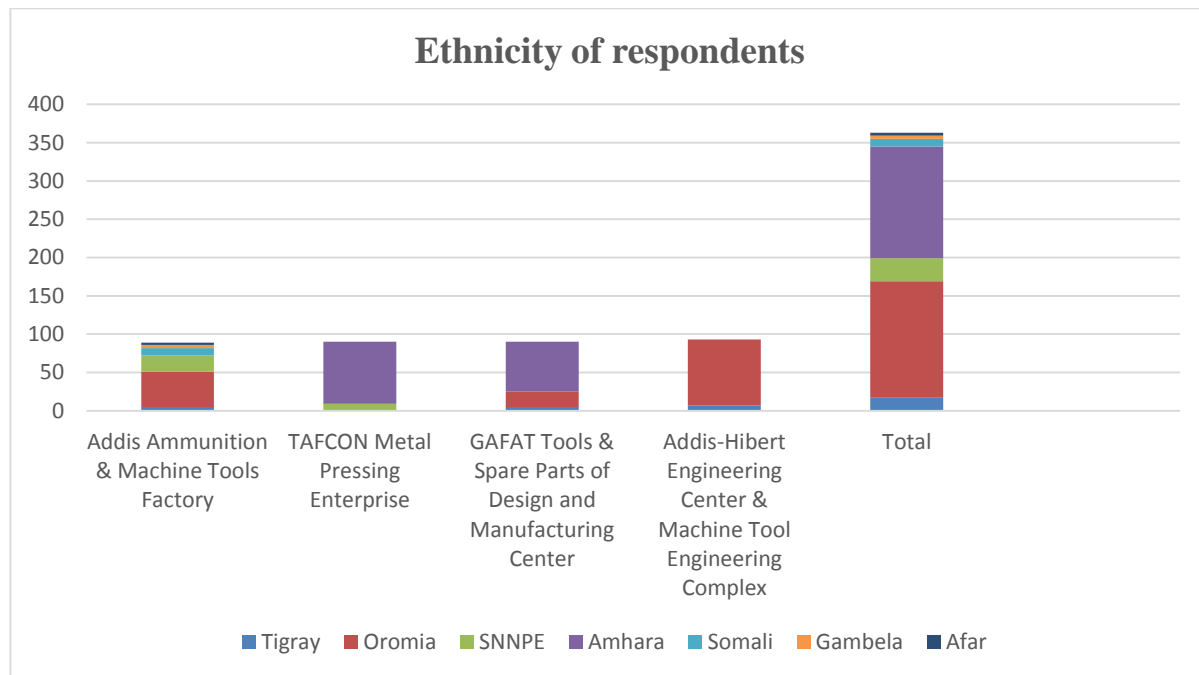
Pearson chi2(9) = 69.4519 Pr = 0.000

**Source: Own Survey, 2022**

From above Table 2 result, we can indicate that, In Addis Ammunition& Machine Tools Factory, 26.92% majority respondents are from age 30-39 years old but not 50 years old & above, where as in TAFCON Machine Tools Factory, 34.41% of majority respondent’s age are 40-49 years old and 33.33% of them are from age of 20-29 years old.

In GAFAT Tools & Spare Parts of Design and Manufacturing Center 43.01% majority respondent’s age is 30-39 years old and the rest of Addis-Hibert Engineering Center & Machine Tool Engineering majority 36.75% of the respondent’s age is 30-39 years old which is 69.4% age diversity are indicating significantly the seemliness of employees. Therefore, this implies that more than half of the employees working in the *Hibret* manufacturing and machine building industry of Ethiopia’s respondents are between the age group of 30-39 years.

**Figure 2: Ethnicity of respondents in the Hibret manufacturing and machine building industry of Ethiopia**



**Source: Own Survey, 2022**

From the study result of Figure 2 indicating the Ethnicity of Employees in the Hibret manufacturing and machine building industries of Ethiopia, ethnicity in Addis Ammunition Factory which 21(70.00%) of them are from SNNPE and other 46(30.26%) of them are recruited from Oromia national and regional state. In TAFCON Metal Pressing, majority 81(55.48%) of them are from Amhara regional state. On other hand, in GAFAT Tools & Spare Parts of Design and Manufacturing Center majority 65(44.52%) of them are from Somali regional state. The rest 86 (6.58%) employees working in Addis-Hibert Engineering Center & Machine Tool Engineering Complex are from Oromia national and regional state.

In General, the study result indicates that the employees who are working in the Hibret 4 different manufacturing and machine building industry of Ethiopia’s (Addis Ammunition Factory, TAFCON Metal Processing Enterprise, GAFAT Tools & Spare Parts of Design and

Manufacturing Center and Addis-Hibert Engineering Center & Machine Tool Engineering Complex)’s ethnicity from 362 respondents are in majority 152(41.9%) of them were employed from Oromia national and regional state of Ethiopia.

Other of 146(40.2%) of them were employed from Amhara national and regional state of Ethiopia. Moreover 31(8.5%) of them were employed from Gumuz , Other 17(4.7%) of them were conscripted from Tigray national and regional state of Ethiopia, 10(2.8) of them were employed from Somalia national and regional state of Ethiopia and the rest of 3(0.8%) of them were employed from Afar national and regional state of Ethiopia.

**Table 4: Educational background of respondent in the Hibret manufacturing and machine building industry of Ethiopia**

Educations	Industries				Total
	Addis Ammunition and Machine Tools Factory, and	TAFCON Metal Pressing Enterprise	GAFAT Tools and Spare Parts of Design and	Addis-Hibert Engineering Center and Machine Tool	
certificate	7 17.50%	0 0.00%	17 42.50%	16 40.00%	40 100.00%
Diploma	47 33.10%	0 0.00%	33 23.24%	62 43.66%	142 100.00%
Degree	35 53.85%	15 23.08%	1 1.54%	14 21.54%	65 100.00%
Master	0 0.00%	75 69.44%	33 30.56%	0 0.00%	108 100.00%
PhD	0 0.00%	0 0.00%	6 85.71%	1 14.29%	7 100.00%
Total	89 24.59%	90 24.86%	90 24.86%	93 25.695	362 100.00%

Pearson chi2(12) = 70.1138 Pr = 0.000

**Source: Own Survey, 2022**

From study result indicating the Educational background of respondents in the Hibret manufacturing and machine building industry of Ethiopia, from 89 respondents majority 35(53.85%) of the employees in Addis Ammunition Factory are degree holder and other 47(33.10%) of them are diploma holder.

From 90 of participant employees, Majority 75(69.44%) of them working in TAFCON Metal Pressing Enterprise are master degree holder. Majority 33(30.56%) of the employees who are working in GAFAT Tools & Spare Parts of Design and Manufacturing Center are master degree holder, majority 62 (43.66%) of employees who are working in Addis-Hibert Engineering Center & Machine Tool Engineering Complex are diploma holder.

Totally, the study result shows that the employees who are working in the *Hibret* manufacturing and machine building industry of Ethiopia’s educational background for the majority of the respondents are diploma holders (39.12% of respondents), followed by masters holders (29.75% respondents), degree holders (18.18% respondents). As there are so many diploma holders on the job market, the majority of responders are diploma holders.

**Table 5: Work Experience of respondents in the Hibret manufacturing and machine building industry of Ethiopia**

Work Experience	Industries				Total
	Addis Ammunition and Machine Tools Factory, and	TAFCON Metal Pressing Enterprise	GAFAT Tools and Spare Parts of Design and Manufacturing Center	Addis-Hibert Engineering Center and Machine Tool Engineering Complex	
2-5 years	33	0	41	43	117
	28.21%	0.00%	35.04%	36.75%	100.00%
6-10 years	28	0	16	50	94
	29.79%	0.00%	17.02%	53.19%	100.00%
10- 15 years	28	15	0	0	43
	65.12%	34.88%	0.00%	0.00%	100.00%
	0	75	33	0	108

more than 15	0.00%	69.44%	30.56%	0.00%	100.00%
Total	89	90	90	93	362
	24.59%	24.86%	24.86%	25.69%	100.005

Pearson chi2(9) = 88.8174 Pr = 0.000

**Source: Own Survey, 2022**

From the study above Table 5, Work Experience of respondents: majority 28(65.12%) of Addis Ammunition Factory are from 10- 15 years, in TAFCON Machine Tools Factory out of 90 respondent, majority 75(69.44%) of them have more than 15 years of Work Experience. Whereas, GAFAT Tools and Spare Parts of Design and Manufacturing Center majority 41(35.04%) of the employees have from 2-5 years of Work Experience. And In Addis-Hibert Engineering Center and Machine Tool Engineering Complex respondent’s work experience, majority of 50 (53.19%) of them have 6-10 years of Work Experience.

**Table 6: The employee’s current positions in the *Hibret* manufacturing and machine building industry of Ethiopia**

current positions	Industries				Total
	Addis Ammunition Factory	TAFCON Machine Tools Factory	Addis Metal Pressing Enterprise	Geyon Tools and Spare Parts of Design and Manufacturing	
Senior Manager	30 24.59%	24 19.67%	25 20.49%	43   35.25%	122 100.00%
Operational manager	29 33.72%	7 8.14%	0 0.00%	50   58.14%	86 100.00%
productions	29 65.91%	15 34.09%	0 0.00%	0   0.00%	44 100.00%
Executive	0 0.00%	30 47.62%	33 52.38%	0   0.005	63 100.00%
Entry level	1 2.135	14 29.79%	32 68.09%	0   0.00%	47 100.00%
Total	89 24.59%	90 24.86%	90 24.86%	93   25.69%	362 100.00%

Pearson chi2(12) = 251.6069 Pr = 0.000

**Source: Own Survey, 2022**

From the study result above in Table 6, indicating to the employees current positions in the *Hibret* manufacturing and machine building industry which are (*Addis Ammunition and Machine Tools*

*Factory, TAFCON Metal Pressing Enterprise, GAFAT Tools and Spare Parts of Design and Manufacturing Center and Addis-Hibert Engineering Center and Machine Tool Engineering Complex*) of Ethiopia which is majority 33.6% of them are senior manager, other 23.69% of them are operational manager, other 17.36% of them are executive level, more over 17.36% of the respondents were productions manager and the rest of 12.95% were on entry level.

## 4.3 pair wise compression of means

### 4.3.1. Robust mean compassion test analyzing the Work force Diversity

Measurements of Robust mean compassion test is used to discover the mean scores for the five interval-scaled constructs with four industries. It take average mean of item in cluster four (4) industries using effect sized mean comparison method with adjusted 4 clusters of industries in the *Hibret* manufacturing and machine building industry of Ethiopia vs. variable in average (Zikmund, 2003).

### 4.3.1. Gender-diversity, over (Industries) vice (cluster Industries)

**Table 7: Mean compassion of Gender-based equities, over (Industries) vice (cluster Industries)**

Mean estimation	Number of obs	=	362
1: Industries = 1			
2: Industries = 2			
3: Industries = 3			
4: Industries = 4			
(Std. Err. adjusted for 4 clusters in Industries)			
Gender-based equities (Item= 5)	Grand Mean	Robust	[95% Conf.]
1. Addis Ammunition and Machine Tools Factory	2.044944	5.20e-17	2.044944 2.044944
2. TAFCON Metal Pressing Enterprise	3.911111	1.87e-17	3.911111 3.911111
3. GAFAT Tools and Spare Parts of Design and Manufacturing Center	3.411111	1.06e-17	3.411111 3.411111
4. Addis-Hibert Engineering Center and Machine Tool Engineering Complex	1.752688	6.50e-17	1.752688 1.752688

**Range Description- Mean Difference by Dhawan (2010) & Davies (2017)**

**Mean difference from 1.00-2.500=Near to the ground level of diversity**

**2.600-3.500= Intermediate level of diversity**

**3.600=5.00= compromised level of diversity**

**Source: Own Survey, 2022**

According to research finding indicted in Table 7: Mean of Workforce Diversity Determinates over (Industries) vce(cluster Industries) fond of by the *Hibret* manufacturing and machine building industry of Ethiopia where the status of Gender-based equities, in Addis Ammunition and Machine Tools Factory is found with Near to the ground level of diversity which indicated average mean difference of 2.044944; it will retaliate against some groups of workers and increase the costs of the Addis Ammunition Factory, which has failed to follow fair employment practices.

Similarly, the result in TAFCON Metal Pressing Enterprise brings into being an intermediate level of diversity which indicated in average mean of 3.911 which signifies that supervisors did not discriminate against employees based on their gender during the recruiting and recruitment process.

At the same time, GAFAT Tools and Spare Parts of Design and Manufacturing Center found to bring an intermediate level of Gender-based diversity which indicated average mean of 3.4111 which means performance criteria for success are projected to be higher for males than for women, indicating that men are likely to do better than women.

In other hand, supervisory while hiring and recruitment process on the gender basis in Addis-Hibert Engineering Center and Machine Tool Engineering Complex of Design and Manufacturing found biased indicating an average mean of 1.752688. In other words, the Addis-Hibert Engineering Center and the Machine Tool Engineering Complex prefer to hire males over women because they believe men can perform better and manage their positions, as stated in the (Table 1).

Besides, according to TAFCON Metal Pressing Enterprise and Addis Ammunition & Machine Tools Factory, significant amount of workforce diversity remains effective in gender issues portrayed first recognized and managed. The research and study also states that the Addis Ammunition and Machine Tools Factory and Addis-Hibert Engineering Center and Machine Tool

Engineering Complex have got challenge considering woman are not equal to man in this study at all level.

According to Joshi and Jackson (2003)'s research, there is a favorable association between team gender diversity and intra-team cooperation, but only within locations where gender diversity is quite high. Furthermore, team gender diversity was positively connected to team performance, but only in places where gender diversity was quite large. Regions with more gender diversity at the managerial and non-managerial levels were more cooperative overall.

#### 4.3.1.2. Self-categorization (Age) over (Industries) vice (cluster Industries)

**Table 8: mean compassion of Self-categorization (Age), over (Industries) vice (cluster Industries)**

	Mean estimation	Number of obs	=	362
1: Industries = 1				
2: Industries = 2				
3: Industries = 3				
4: Industries = 4				
(Std. Err. adjusted for 4 clusters in Industries)				
Self-categorization (Age) (item=5)	Grand Mean	Robust	[95% Conf. Interval]	
1. Addis Ammunition and Machine Tools Factory	2.578123	5.38e-17	2.044944	2.044944
2. TAFCON Metal Pressing Enterprise	3.711111	3.20e-17	3.711111	3.711111
3. GAFAT Tools and Spare Parts of Design and Manufacturing Center	3.277778	1.41e-16	3.277778	3.277778
4. Addis-Hibert Engineering Center and Machine Tool Engineering Complex	1.666667	4.59e-18	1.666667	1.666667

#### **Range Description- Mean Difference by Dhawan (2010) & Davies (2017)**

**Mean difference from 1.00-2.500=Near to the ground level of diversity**

**2.600-3.500= Intermediate level of diversity**

**3.600=5.00= compromised level of diversity**

**Source: Own Survey, 2022**

According to the above study result indicated in Table 8, mean compassion of Self-categorization (Age) diversity in Addis Ammunition and Machine Tools Factory is found relatively in an intermediate level showing an average mean difference of 2.578123. Whereas employees (Age)

diversity in TAFCON Metal Pressing Enterprise found to be in compromised level indicating an average mean difference of 3.711111, which indicates that they classify themselves into certain groups found meet halfway of age diversity as of personally relevant for them according to social identity and self-categorization.

Moreover, In GAFAT Tools and Spare Parts of Design and Manufacturing Center employees' age diversity is found relatively in an intermediate level of diversity showing an average mean difference of 3.2777. The advantages of age heterogeneity are predicated on the additional production impacts that result from interactions between people of different ages who have diverse skill profiles, viewpoints, and maybe personality features.

And finally, mean compassion of Self-categorization (Age diversity), over (Industries) vice (cluster Industries) of *Addis-Hibert Engineering Center and Machine Tool Engineering* was found near to the ground level of diversity showing an average mean difference of 1.666. As a result, individual employees at Addis-Hibert Engineering Center and Machine Tool Engineering favor members of their own age group at the expense of other groups, whom they may discriminate against.

As a result, if an employee's age or generational affiliation is considered a relevant criterion for difference, a division between age groups inside an organization may arise, generating emotional tensions and age-based discrimination (Kunze et al., 2009).

Last but not least, growing diversity, according to Brown (2008), may present various issues for HR management as the workforce matures; for example, firms may face higher healthcare expenditures and pension payments. Employees must agree that perks are aligned with the organization's goal; as a result, their commitment will increase.

### 4.3.1.3. Ethnic diversity over (Industries) vice (4 cluster Industries)

**Table 9: Mean multicultural Workforce (Ethnicity) over (Industries) vice (cluster Industries)**

Mean estimation	Number of obs	=	362
1: Industries = 1			
2: Industries = 2			
3: Industries = 3			
4: Industries = 4			
(Std. Err. adjusted for 4 clusters in Industries)			
multicultural Workforce (Ethnicity)	Mean	Robust	[95% Conf. Interval]
1. <i>Addis Ammunition and Machine Tools Factory</i>	2.067416	9.02e-17	2.067416 2.067416
2. TAFCON Metal Pressing Enterprise	2.988889	2.09e-17	3.988889 3.988889
3. GAFAT Tools and Spare Parts of Design and Manufacturing Center	2.488889	9.72e-17	3.488889 3.488889
4. <i>Addis-Hibert Engineering Center and Machine Tool Engineering Complex</i>	2.72043	3.80e-17	1.72043 1.72043

**Range Description- Mean Difference by Dhawan (2010) & Davies (2017)**

**Mean difference from 1.00-2.500=Near to the ground level of diversity**

**2.600-3.500= Intermediate level of diversity**

**3.600=5.00= compromised level of diversity**

**Source: Own Survey, 2022**

According to study result portraying from Table 9 the Mean multicultural Workforce (Ethnicity diversity) over (Industries) vice (cluster Industries) which for Addis Ammunition and Machine Tools Factory is near to the ground level of diversity indicated in mean difference of 2.0674. Whereas, TAFCON Metal Pressing Enterprise indicted in mean difference of 2.988889 and GAFAT Tools and Spare Parts of Design and Manufacturing Center indicated mean difference of 2.488889 while, *Addis-Hibert Engineering Center and Machine Tool Engineering Complex*

indicated in mean difference of 2.72043. Thus, according to the findings of the study, members of the minority group may report lower job satisfaction, a lack of commitment, identity issues, and perceived discrimination (Timmermans et al., 2011).

As a result, cultural differences were less predictive of team scores, which can be interpreted as the benefit of having ethnically diverse perspectives for team problem-solving was discovered close to the ground in building team performance after the teams biased how to use these differences based on their ethnicity.

#### 4.3.1.4. Educational Diversity over (Industries) vs. (cluster Industries)

**Table 10: mean Multiple Educational Qualifications, over (Industries) vice (cluster Industries)**

Mean estimation	Number of obs	=	362
1: Industries = 1			
2: Industries = 2			
3: Industries = 3			
4: Industries = 4			
(Std. Err. adjusted for 4 clusters in Industries)			
Multiple Education Qualifications	Mean	Robust Std.	[95% Conf. Interval]
1. Addis Ammunition and Machine Tools	2.094728	2.98e-31	3.442221 3.682221
2. TAFCON Metal Pressing Enterprise	3.122222	3.47e-17	3.631211 3.622289
3. GAFAT Tools and Spare Parts of Design	3.166667	4.16e-17	3.166667 3.166667
4. Addis-Hibert Engineering Center and Machine Tool Engineering Complex	1.666667	3.78e-18	1.666667 1.666667

**Range Description- Mean Difference by Dhawan (2010) & Davies (2017)**

**Mean difference from 1.00-2.500=Near to the ground level of diversity**

**2.600-3.500= Intermediate level of diversity**

**3.600=5.00= compromised level of diversity**

**Source: Own Survey, 2022**

Result indicating in Table 10 analyzing the mean Multiple Educational Qualifications, over (Industries) vice (cluster Industries) comparing Addis Ammunition and Machine Tools Factory



2: Industries = 2

3: Industries = 3

4: Industries = 4

(Std. Err. adjusted for 4 clusters in Industries)

Employee performances	Mean	Robust	[95% Conf. Interval]	
		Std. Err.		
1. Addis Ammunition and Machine Tools Factory	1.235955	2.60e-18	1.235955	1.235955
2. TAFCON Metal Pressing Enterprise	2.255556	3.56e-17	2.255556	2.255556
3. GAFAT Tools and Spare Parts of Design and Manufacturing Center	2.733333	3.51e-17	2.733333	2.733333
4. Addis-Hibert Engineering Center and Machine Tool Engineering Complex	4.094728	3.98e-31	3.442781	3.6809120

**Range Description- Mean Difference by Dhawan (2010) & Davies (2017)**

**Mean difference from 1.00-2.500=Near to the ground level of diversity**

**2.600-3.500= Intermediate level of diversity**

**3.600=5.00= compromised level of diversity**

**Source: Own Survey, 2022**

The study designating from above Table 11, the Mean compassion of Employees performance, over (Industries) vice (cluster Industries) in Addis Ammunition and Machine Tools Factory indicated mean difference of 1.235955. Similarly, TAFCON Metal Pressing Enterprise indicated mean difference of 2.255556. In the same way, with GAFAT Tools and Spare Parts of Design and Manufacturing Center indicated mean difference of 2.733333 demarcated as found near to the ground performances score level, or a complex string of industrial performances processes that deliver value to clients in a unique way as government institutions.

In other hand, Addis-Hibert Engineering Center and Machine Tool Engineering Complex is found in compromised level indicated in mean difference of 4.094728 predicted with very successful at transferring their critical business development and diversity processes to new geographic

locations and to new business ventures as respondent response result predicting in the study. This supported on the suggestions of Gilbert (1978), Rothwell (1996) and Wright and Geroy (1999) that most of the change would likely be found in the environment, rather than in the person. Thus, a two prong approach is needed to engineer “worthy performance”. In essence, the model results in a gap analysis that determines what factors should be changed to reach optimum work results.

#### 4.4. Tests of Normality

**Table 12: One-Sample Kolmogorov-Smirnov Normality Test**

Measurement		<i>GBIn:</i>	<i>AgeP:</i>	<i>Ethn:</i>	<i>MduQa:</i>	<i>EmpR:</i>
N		362	362	362	362	362
Normal Parameters <sup>a,b</sup>	Mean	11.5873	11.8310	11.2226	6.7401	15.0390
	Std. Deviation	3.37671	4.53224	5.05447	2.79471	3.89345
Most Extreme Differences	Absolute	.220	.142	.210	.220	.199
	Positive	.200	.142	.210	.140	.168
	Negative	-.220	-.100	-.180	-.220	-.199
Test Statistic		.220	.142	.210	.220	.199
Asymp. Sig. (2-tailed)		.209 <sup>c</sup>	.141 <sup>c</sup>	.176 <sup>c</sup>	.415 <sup>c</sup>	.150 <sup>c</sup>

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

**Source: Own survey, 2022**

From above Table 12, the normal probability plot can be used to determine whether our data originated from a normal distribution. Each observed value is paired with its predicted value from the normal distribution in a normal probability diagram (Hair, et, al, 2007 cited in Benschop, 2011).

The value of the variable defines the GBIn: based on the output of the One-Sample Kolmogorov-Smirnov Test. The Gender-based Inequities practice indicates that the data came from a normal distribution at a sig level of 0.209c.

In the same way, the value of the variable *Asymp* on AgeP: self-categorization (Age) shows sig level of 0.141c, the value of the variable *Asymp* on Ethn: A multicultural Workforce (Ethnicity) shows in sig level of 0.176c, the value of the variable *Asymp* on MduQa: Multiple Education Qualifications shows in sig level of 0.415c and finally the value of the variable *Asymp* on S EmpR: Employee performance shows sig level of 0.150c. It can be concluded that the sample data is from a normal distribution, and the researcher expects the points to fall more or less on a straight line, indicating that there is no difficulty with normality distributions on this data.

#### 4.5. The effect of workforce diversity on employee performances (Mixed-effects GLM)

**Table 13: Mixed-effects GLM predicted the employee performances**

```
Iteration 0: log pseudolikelihood = -33.08172
Iteration 1: log pseudolikelihood = -33.08172

Mixed-effects GLM                Number of obs    =        362

Family:                          Gaussian

Link:                             identity

                                Wald chi2(3)      =    0.8763

Log pseudolikelihood = -33.08172   Prob > chi2      =    0.0000

                                (Std. Err. adjusted for 4 clusters in Industries)

      |                               Robust
EmpR |                               Coef.   Std. Err.   z     P>|z|   [95% Conf. Interval]
Agep |                               .0924563 .024283   3.81  0.000   .0448624   .1400501
Ethn |                               -.1634394 .0441424  -1.44  0.004  -.1499569   .0230781
MduQa |                               .0994645 .0361455   2.75  0.005   .0286206   .1703085
GBIn |                               1.045907 .0359985  29.05  0.000   .9753514   1.116463
_cons |                               1.867248 .2153671   8.67  0.000   1.445137   2.28936
var(e.EmpR) |                               .0702914 .0204349                               .0397598   .1242686
```

**Significance level = 90% significant at 10% (\*).**

P=0.005 significance value

Source: Own survey, 2022

From above Table 13, it shows that the values of the coefficient independent variables can be retained in the model. In other word, these variables can explain the change in employees performances which is independent variables are found to be very significant and supportive to the hypotheses of regression analysis, Multiple Education Qualifications, self-categorization (Age), Gender-based Inequities, A multicultural Workforce (Ethnicity)) found statistically significance and support the hypothesis from the study.

<b>Table 14: The Summary of Hypotheses Results</b>	
<b>Hypothesis</b>	<b>Remark</b>
<b>H1. Gender-based Inequity has a negative and significant effect on the employee performance in Hibret Manufacturing &amp; Machine Building Industry of Ethiopia.</b>	Rejected
<b>H2. Multiple Educational Qualification has a positive and significant effect on the employee performance in Hibret Manufacturing &amp; Machine Building Industry of Ethiopia.</b>	Accepted
<b>H3. The self-categorization (Age) has a positive and significance effect on the employee performance in Hibret Manufacturing &amp; Machine Building Industry of Ethiopia.</b>	Accepted
<b>H4. Multicultural workforce (Ethnicity) has a positive and significant effect on the employee performance in Hibret Manufacturing &amp; Machine Building Industry of Ethiopia.</b>	Rejected

Source: Own survey, 2022

From above Table 13, result indicates that in the aspect of *Hibret* manufacturing and machine building industry which are (*Addis Ammunition and Machine Tools Factory, TAFCON Metal Pressing Enterprise, GAFAT Tools and Spare Parts of Design and Manufacturing Center and*

*Addis-Hibert Engineering Center and Machine Tool Engineering Complex*) of Ethiopia: Multiple Education Qualifications, self-categorization (Age), has a significance positive influence on employee performance. Therefore, the hypotheses, H2, H3, are Accepted at the minimum of 5 % and maximum of 10% level of significance (p-value =0.000). In other hand, a multicultural workforce (Ethnicity)) has a significance negative influence on employee performance, created once the primary needs in the *Hibret* manufacturing and machine building industry of Ethiopia are met negatively implicating the stiffness of employee performance. Therefore, H4 is rejected. Moreover, in case of any problem employee performance likely demarcated based nationwide is found inaccessible and not actively responsive in ( $\beta=-0.1634394$ ) implicating by multicultural workforce (Ethnicity)) at 5% significance level.

#### **4.7. Discussions**

From above Table 13, Mixed-effects GLM predicted that the employee performances in the *Hibret* manufacturing and machine building industry which are (*Addis Ammunition and Machine Tools Factory, TAFCON Metal Pressing Enterprise, GAFAT Tools and Spare Parts of Design and Manufacturing Center and Addis-Hibert Engineering Center and Machine Tool Engineering Complex*) of Ethiopia result regarding to **the Gender-based Inequalities** indicated in (coefficient of  $\beta=1.045907$ ) found positively combined employee performance with significance level of (P Value=0.05). The results of this study revealed a positive relationship between gender group and employee performance. Based on the data collected, it appears that gender was not a major concern for the majority of the participants. Performance assessments comprised measures of employees' ability to meet the targets in order to enforce the above-mentioned employee performance. According to Carpenter & Fredrickson (2011), performance reviews were utilized to make decisions about promotions and compensation. A HRM strategy that uses behavioral modeling techniques to help improve managerial capacities for engaging with subordinates and colleagues regardless of demographic disparities was discovered to be included

in an extensive diversity gender need. As a result, the training efforts concentrated more on skill development than on raising awareness or changing behavior. Based on the regression result, **self-categorization (Age)** has a positive relationship with employee performance which carries (coefficient of  $\beta=0.09245$ ) and p-value of 0.00 which is significant at the alpha value 0.01. Age is also regularly viewed as one dimension of social category diversity that has positive influence on Employees performance in the *Hibret* manufacturing and machine building industry of Ethiopia, which agrees to the findings of the empirical studies reviewed in Abbas, Qasar & Hameed, Abdul (2010). The number distinctiveness between younger and older managers is less significant than the numerical distinctiveness between female and male managers, which could explain why we find no effect of age diversity. As a result, age is likely to be less important than gender, and so age diversity has a less impact. Furthermore, when age diversity is high, there is no negative effect, and increased variety appears to help decision-making processes, as evidenced in Ethiopia's Hibret manufacturing and machine-building industry.

According to the regression coefficient results, a **multicultural workforce (Ethnicity)** has a negative and significant relationship between ethnicity group and employee performance, with a correlation coefficient value of -0.064 which is significant at the alpha value 0.00. The role of ethnic diversity found negatively affecting the different pattern of employee's performances. There is a significant negative effect of organizational ethnic demography that study examined objective employee performance in the *Hibret* manufacturing and machine building industry of Ethiopia.

When compared to more homogeneous teams, ethnically heterogeneous teams working in Ethiopia's Hibret manufacturing and machine building business encountered performance losses (Barrington & Troske, 2011). Furthermore, ethnic differences among members of varied teams in Ethiopia's Hibret manufacturing and machine-building business grow increasingly prominent and

are more likely to negatively affect performance. However, in ethnically diverse businesses, team members' ethnic identities may be less prominent, resulting in less disruption.

According to the regression coefficient results, there is a substantial positive and modest, practically negligible association between **Multiple Educational Qualifications** and employee performance, with a correlation coefficient of 0.0994645 and a p-value of 0.001, which is significant at the alpha value 0.01, which indicates that there is a greater balance in the sorts of education that a company has, which increases the possibility of an innovation. The education diversity metric has a bias because it only assesses diversity among highly educated personnel (those with a diploma or higher). All employees with a degree below bachelor are put in a single category.

As a result, a greater entropy value can be explained by having a larger share of employees with a higher education and diverse sorts of more educated persons, according to Baer, Niessen, and Ruenzi (2007). Having a highly educated employee would be beneficial in and of itself, but having more varied types would improve the chances. As a result, in Ethiopia's Hibret manufacturing and machine-building industry, a bigger proportion of personnel with a higher education, as well as a diversity of education types have a better possibility of innovating.

Although education is essential to human capital, on job training, health care, experience and migration also have great effect on the actual human capital. Growth-oriented strategies moderated the effects of group diversity in level of education on composite bonuses; this type of diversity was more beneficial in department with a strong focus on growth oriented strategies (Bezrukova, 2004). Finally, *Hibret* manufacturing and machine building industry of Ethiopia found to make an effort to compensate for educational or skill deficiencies of group members by offering specialized training that brings employees up to the required standards.

## CHAPTER FIVE

### 5. Conclusion and Recommendation

#### 5.1. Conclusion

The main objective of this research is to provide insights and in-depth understanding of the workforce diversity whether it has an effect towards employee performance and to identify whether the variables gender, age, ethnicity and educational background would affect employee performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia.

According to study result portraying using Robust mean compassion test analyzing the Work force Diversity, the Mean multicultural Workforce focusing the (Ethnicity diversity) over (Industries) vice (four cluster Industries) which for Addis Ammunition and Machine Tools Factory is Near to the ground level of diversity indicated in mean difference of 2.0674. Whereas, TAFCON Metal Pressing Enterprise indicated in mean dereference of 2.988889 and GAFAT Tools and Spare Parts of Design and Manufacturing Center indicated mean difference of 2.488889 while, Addis-Hibert Engineering Center and Machine Tool Engineering Complex indicated mean difference of 2.72043 which predicted that the members of the minority group can experience less job satisfaction, lack of commitment, identity issues and perceived discrimination.

The study was analyzing designating the Mean compassion of Employees performance, over (Industries) vice (cluster Industries) in Addis Ammunition and Machine Tools Factory indicated in mean difference of 1.235955. Similarly, TAFCON Metal Pressing Enterprise indicated in mean difference of 2.255556. In the same way, with GAFAT Tools and Spare Parts of Design and Manufacturing Center indicated in mean difference of 2.733333 demarcated as found near to the ground performances score level or a complex string of industrial performances processes that deliver value to clients in a unique way as government institutions.

From study Mixed-effects GLM, predicted that the effect of work force diversity on employee performances analyzing the result indicates that the aspect of Multiple Education Qualifications,

self-categorization (Age), has a significance positive influence on employee performance. In other hand, a multicultural workforce (Ethnicity)) has a significance negative influence on employee performance, created once the primary needs in the *Hibret* manufacturing and machine building industry of Ethiopia are met negatively implicating the stiffness of employee performance. Moreover, in case of any problem employee performance likely demarcated based nationwide is found inaccessible and not actively responsive.

## 5.2 Recommendation

Based on the discussions and findings of the research, *Hibret* Manufacturing and Machine Building Industry of Ethiopia needs to give careful attention to the following recommendations.

It needs to implement mechanisms to effectively manage workforce diversity.

- As organizations become more multicultural, work force along ethnic lines comes negatively imaged; thus it's critical to pay greater attention to how various groups interact with one another. Thus *Hibret* should encourage social interactions such as encouraging after-work gatherings between employees. With this, employees can learn about the culture of fellow who works in that organization. Such interaction can encourage tolerance among the employees, experience sharing and knowing of other culture can be help to successfully carry out specific task that requires such knowledge.
- According to the study result, as the workforce is ethnically diverse and attempts are made to “manage” that diversity, workplace interactions and work-related outcomes increase: thus it is important to carefully manage it. The organization should emphasize the importance of recognizing and valuing diversity in the workplace.
- It is critical that *Hibret* manufacturing and machine-building industry of Ethiopia understand how to manage their diverse workforce in order to reap the benefits of diversity while minimizing the downsides. For instance it should not assume that breakdowns in communication occur because other people are on the wrong track but rather search for

ways to make the communication work, rather than searching for whom should receive the blame for the breakdown.

- According to the researcher's findings, ethnic diversity has disadvantages for organizations that negatively impact performance due to communication issues, conflict, discrimination (Ely and Thomas 1996) a lack of social cohesion in organizational work groups, and difficulties reaching consensus; therefore, Hibret manufacturing and machine building industry of Ethiopia shall have proper problem solving strategies in eloping recoupment management help an organization benefit from it. They need to emphasize diversity in planning, operations and in the top management activities. Management should make certain that great effort is taken to ensure that workers are properly informed of the present or existing initiatives and programmes of diversity and also ensure to educate or train existing and newly employed employees on issues of diversity and its importance.
- The organization should include workforce diversity and its proper management in their policy documents. Through looking out ways to increase diversity succession planning for management roles, this allows businesses to properly grasp workforce diversity as a notion that can be used to improve employee performance.
- Hibret manufacturing and machine-building industry of Ethiopia should organize trainings making sure that Equal Opportunities Policy is easily accessible to all. It could also arrange compulsory training sessions on equality and diversity, focusing in particular on unconscious bias.

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## APPENDICES

### The Questionnaire

#### Dear respondents,

Greetings,

I am currently pursuing Master of Business Administration (MBA) degree in Addis Ababa University. I am required to conduct a research survey. The title of my research project is “**The Effect of Workforce Diversity towards Employee Performance in *Hibret* Manufacturing and Machine Building Industry of Ethiopia**”. It would be grateful if you could spend a few minutes of your time to complete the questionnaire. I assure that all information collected is strictly for academic purpose and will be kept confidential. Your cooperation shall be highly appreciated.

Thank you for your kind assistance.

Sincerely,

Nawal Mohammed

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## **Section A: Demographic Information**

Please specify your answer by placing a (√) on the relevant answers provided. The following questions will be used only in determining our sample demographics.

### **1. Gender**

Male

Female

### **2. Age**

20-29 years old

30-39 years old

40-49 years old

50 years old and above

### **3. Ethnicity**

- Tigray
- Oromia
- SNNPE
- Amhara
- Somali
- Gambela
- Afar
- Gumuz
- Harar

### **4. Educational Level**

- certificate
- Diploma
- Degree
- Master
- PhD

### **5. Work Experience**

- 2-5 years
- 6-10 years
- 10- 15 years
- more than 15 years

### **6. Position in the organization**

Senior Manager

Operational manager

productions manager

Executive

Entry Level

## Section B: Workforce Diversity

The questions below ask about your self-perceived performance. Based on your experiences and understanding, please indicate your response to the following survey questions by circling your level of agreement on each statement on the five point Likert scale;

(1) Strongly Disagree (SD)

(2) Disagree (D)

(3) Neutral (N)

(4) Agree (A)

(5) Strongly Agree (AS)

<i>I. Workforce Diversity Determinates</i>	1	2	3	4	5
<b>Gender-based Inequities</b>	1	2	3	4	5
1. During the recruiting and recruitment process, the employer did not discriminate against employees based on their gender.	1	2	3	4	5
2. All employees are treated equally, whether they are male or female.	1	2	3	4	5
3. Opportunities for growth and advancement exist for women in our organization.	1	2	3	4	5
4. A career development that includes women is encouraged within our organization program is developed to meet the criteria/requirement of the male and female.	1	2	3	4	5
5. Women are part of the decision-making process as men are.	1	2	3	4	5
6. I am positive about gender diversity in this workplace.	1	2	3	4	5
<b>self-categorization (Age)</b>	1	2	3	4	5
1. This organization provides me with equal opportunities for training and career development.	1	2	3	4	5
2. In problem-solving and decision making, my team leaders include all members for decision making.	1	2	3	4	5
3. Conflict may arise as a result of the age differences in the work group.	1	2	3	4	5

4. At work, I experience lack of bonding with people of different age group.	1	2	3	4	5
5. I am positive about age diversity in this workplace.	1	2	3	4	5
<b>A multicultural Workforce (Ethnicity)</b>	1	2	3	4	5
1. The organization does a good job of attracting and hiring minorities.	1	2	3	4	5
2. Opportunities for growth and advancement exist for minorities in our organization.	1	2	3	4	5
3. The organization is concerned about the customs, cultures, and values of its employees.	1	2	3	4	5
4. Different languages that are used to communicate do not create problem among employees.	1	2	3	4	5
5. At work, I developed low self-esteem due to my ethnicity.	1	2	3	4	5
6. The ethnicity differences in education background do not encourage conflict.	1	2	3	4	5
7. In problem solving and decision making, the team leader includes all members of diverse ethnicities.	1	2	3	4	5
8. I am positive about ethnicity diversity in this work place.	1	2	3	4	5
<b>Multiple Educational Qualification</b>	1	2	3	4	5
1. The recruitment plan of the organization is based on the educational background of the employees.	1	2	3	4	5
2. Employees who continue further their education are given paid study leave by the organization.	1	2	3	4	5
3. Employees with lower qualification in education have opportunities for growth and promotion.	1	2	3	4	5
4. The difference in educational background does not encourage conflict.	1	2	3	4	5
5. At work, I experience lack of confidence due to my education background.	1	2	3	4	5
6. In problem solving and decision making, the team leader includes all members with different levels of education.	1	2	3	4	5
7. The organization gives equal treatment when it comes to the diversity of educational background	1	2	3	4	5

## Section C: Employee Performance

The questions below ask about your self-perceived performance. Based on your experiences and understanding, please indicate the most appropriate opinion/response with the scale below.

(1) Strongly Disagree (SD)

(2) Disagree (D)

(3) Neutral (N)

(4) Agree (A)

(5) Strongly Agree (AS)

<b>II. Employee Performance</b>	1	2	3	4	5
1) I enjoy my tasks and the division's work approach.	1	2	3	4	5
2) I am committed to the mission and direction of my organization.	1	2	3	4	5
3) I am motivated to complete the task that is assigned to me.	1	2	3	4	5
4) I co-operate well with my colleagues of different ethnicity.	1	2	3	4	5
5) Opposite gender can perform well and I enjoy working with them.	1	2	3	4	5
6) My performance level affects my salary level.	1	2	3	4	5
7) I am satisfied with my current salary level.	1	2	3	4	5
8) I am given the opportunity to try my own approach of doing the job.	1	2	3	4	5
9) By learning more skills through courses/training, I can improve my task performance.	1	2	3	4	5
10) Good employee performance is important for the future growth of my organization.	1	2	3	4	5

**Thank you in advance for all your cooperation.**