Addis Ababa University

College of Business and Economics

School of Commerce

The Effect of Organizational Culture on Organizational Performance with the Denison Model: The Case of Ethiopian Construction Works Corporation Building and Housing Construction Sector (ECWC, BHCS).

By: Dereje Dinku Abera (GSD/6082/11)

Project work in Partial Fulfillment of the Requirements for the award of Degree of Master of Arts in Project Management (MAPM)

Advisor: Seifu Mamo (PhD)

May, 2022

Addis Ababa, Ethiopia

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Approval Sheet

Title: The Effect of Organizational Culture on Organizational Performance with the Denison Model: The Case of Ethiopian Construction Works Corporation Building and Housing Construction Sector (ECWC, BHCS)

Submitted by:

Student Name	Signature	Date

Approved by:

Advisor	Signature	Date
Internal Examiner	Signature	Date
External Examiner	Signature	Date

DECLARATION

I, the undersigned, declare that this project work entitled **The Effect of Organizational Culture on Organizational Performance with the Denison Model: The Case of Ethiopian Construction Works Corporation Building and Housing Construction Sector (ECWC, BHCS)** is my original project work and it has not been submitted in partial or in full to any other institutions. All sources of materials are properly acknowledged before referred in the paper.

Declared by: Dereje Dinku Abera

Signature: _____

Date: _____

This Project work has been submitted for examination with my consent as an assigned advisor.

Confirmed by Advisor: Seifu Mamo (PhD)

Signature: _____

Date: _____

ENDORSEMENT

This is to endorse Dereje Dinku Abera's project work entitled **The Effect of Organizational Culture on Organizational Performance with the Denison Model: The Case of Ethiopian Construction Works Corporation Building and Housing Construction Sector (ECWC, BHCS)** done in partial fulfillment of the requirements for the degree of Masters of Arts in project management. It complies with the University's regulations and acceptable standards of novelty and quality.

Advisor: Seifu Mamo (PhD)

Signature: _____

Date: _____

ACKNOWLEDGMENTS

I praise the omnipotent God first, for keeping me as a son and guiding me all the way in my life. I will present my true love of heart for our mother Theotokos, Virgin Saint Mary, let her name be glorified to eternity. I wish I can, but I don`t know how to tell the deeds of the Archangel Saint Michael throughout my life, who embraced me from childhood to now.

I would like to express my sincere gratitude to my advisor Seifu Mamo (PhD) for providing me constructive comment during this project work. I am also very thankful to all my family and my friends especially to Meseret Chernet, Senayit Yigzaw, Engineer Temesgen Kassahun, Engineer Mulugeta Shewarega and Eshetu Abebaw, for all their support in my academic life and career. I would like to be grateful to Engineer Ashenafi Hassen (Deputy CEO of ECWC, BHCS) and to all staff members in ECWC, BHCS, Specially to Kokebe Feleqe, Engineer Samrawit W/Tsadik, Engineer Elisabeth, Engineer Destaye, Engineer Addis and Engineer Shewit for showing me a humble & kind cooperation at the time I conducted the research. I would like to thank Engineer Abraham Yeshitela (my Employer) and Engineer Bisrat Mamo (Immediate Boss) for giving me permission to conduct this research.

Sincerely,

Dereje Dinku Abera

Addis Ababa, Ethiopia

Acronyms

ECWC	Ethiopian Construction Works Corporation
BHCS	Building and Housing Construction Sector
OC	Organizational Culture
OP	Organizational Performance
CSFs	Critical Success Factors
CM	Construction Management
IMD	International Institute of Management Development
DOCS	Denison Organizational Culture Survey
PMI	Project Management Institute
SPSS	Statistical Package for Social Sciences
ROE	Return on Equity
ROI	Return on Investment

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ABSTRACT

The aim of this research is to investigate the effect of organizational culture (OC) on Organizational Performance (OP) with the Denison Model, among employees of Ethiopian Construction Works Corporation, Building and Housing Construction Sector (ECWC, BHCS). The research approach that was used in this paper is Quantitative Method. The type of research applied was Explanatory Research. Structured Questionnaire was used as a research instrument. The data was collected from 12 construction projects under ECWC, BHCS, which are located in Addis Ababa. 137 questionnaires were distributed and 129 was collected and the responses were analyzed using SPSS V.26 software. The result of the study show, the dominant culture in ECWC, BHCS, was Mission Cultural Trait among Denison`s four cultural traits and Team Orientation Culture index scored the highest mean score among the 12 cultural indexes under the four cultural traits. The findings show, there is a strong correlation between all the cultural traits. More over the independent variables (the four cultural traits) have also a strong correlation with the dependent variable (organizational performance), following that, the results show Mission have a strong relationship with organizational performance with correlation coefficient, r=0.844. In order to detect the effect of OC on OP, and also to identify the predicting power (influence) of the independent variables over the dependent variable, both linear and ordinal regressions were applied in the analysis. The findings revealed organizational culture explains 79.4% (R^2=0.794) changes in organization performance. Furthermore, the analysis confirmed Mission traits explains 71.2% of the changes, which implies, the impacting Denison`s Cultural trait was found to be Mission. The implication of cultural traits and key organizational performance metrics of Denison Model was also explained by using Circumplex chart. Core values index have the minimum mean value score of all indexes. Measurements under this index need a critical improvement. ECWC, BHCS need to call out behaviors and actions that are inconsistent with the Core Values, so that to take managerial decisions and actions. Also ECWC, BHCS need to share goals and objectives throughout the organization so that employees at every level understand the key areas of focus. In addition engaging timely discussions with project managers and leaders to assess how well they are meeting plans.

Key words: Organizational Culture, Organizational Performance, Circumplex

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Organizational culture refers to a system of shared meaning held by members that distinguishes the organization from other organizations. Culture defines the rules of the game. First, it has a boundary-defining role: It creates distinctions between organizations. Second, it conveys a sense of identity for organization members. Third, culture facilitates commitment to something larger than individual self-interest. Fourth, it enhances the stability of the social system. Culture is the social glue that helps hold the organization together by providing standards for what employees should say and do. Finally, it is a sense making and control mechanism that guides and shapes employees' attitudes and behavior. This last function is of particular interest to us (Robbins & Judge, 2017).

According to the Project Management Institute, Culture is the totality of socially transmitted behavior, patterns; arts, beliefs, institutions and all other products of human work and thought. Every project must operate within a context of one or more cultural norms. This area of influence includes political, economic, demographic, educational, ethical, ethnic, religious, and other areas of practice, belief, and attitudes that affect the way that people and organization interact (PMI, 2000). An organization's culture, style, and structure influence how its projects are performed (PMI, 2013).

Organizational culture represents a perception the organization's members hold in common. Statements about organizational culture are valid only if individuals with different backgrounds or at different levels in the organization describe the culture in similar terms. The **dominant culture** expresses the core values a majority of members share and that give the organization its **distinct personality**. **Subcultures** tend to develop in large organizations in response to common problems or experiences a group of members face in the same department or location. Most large organizations have a dominant culture and numerous subcultures (Robbins & Judge, 2017).

Researchers (Oberföll, K., et al., 2018; Wee Loong Lee, 2018, Boyce et al., 2015) confirmed that there is significant relationship between organizational culture and performance. Amin Nikpour (2017) cited that, Organizational performance is considered as one of the basic notions in management and most of the management's tasks are formed according to the mentioned notion. Of course, organizations' success can be reflected in their performance. Oxford English Dictionary defines performance as performing, applying, and doing each regular and committed work. This definition is related to inputs and outputs and also indicates that performance has close relationship with work and its outcomes (Chamanifard, Nikpour, & Chamanifard, 2014).

Organizational performance is considered to be the sum of accomplishments achieved by all businesses/departments. These accomplishments are involved with an organizational goal within a given period of time. The goal is either meant for a specific stage or on the overall extent (Lee & Huang, 2012). The idea of organizational performance is affiliated to the survival and success of an organization (Ahmed & Shafiq, 2014). Organizational performance includes effectiveness, efficiency, productivity, quality, and innovation (Tangen, 2004).

The construction industry is one of the biggest sectors which is directly affected by organizational culture. There are different types of construction projects under the construction industry that involve different parties, Walker, A. (2015) define **construction of projects** as: "The construction project organization can be defined as an organization, which can be said to be the pattern of interrelationships, authority and responsibility that is established between the contributors (i.e., client, supervision and contractor) to achieve the construction client's objectives" (Nguyen and Watanabe, 2017).

A number of management thinkers have studied organizational culture and attempted to classify different types of culture. **Edgar Schein`s model** describes organizational culture at three levels; *Artefacts*, *Espoused Values*, *Basic Underlying Assumptions*. **Geert Hofstede and Bob Waisfisz** developed a model based on empirical research and featuring six dimensions: *[Means oriented vs goal oriented]*, *[Internally driven vs externally driven]*, *[Easy going vs strict]*, *[Local vs professional]*, *[Open system vs closed system]*, *[Employee-oriented vs work-oriented]* (Chartered Management Institute, 2015).

The other organizational culture model that this study will focus was Denison`s Model. The Denison model is based on over two decades of research linking culture to bottom-line performance measures. The Denison model was developed by Dr. Daniel Denison, formerly of the University of Michigan Business School, and currently Professor of Organization Development at IMD - International Institute of Management Development in Lausanne, Switzerland. Dr. Denison's research focuses on the link between organizational culture and bottom line performance measures such as profitability, growth, quality, innovation, and customer and employee satisfaction (Denison Consulting, 2009).

The Denison Model of organizational culture highlights four key traits that an organization should master in order to be effective. At the center of the Model are the organization's "Beliefs and Assumptions." These are the deeply held aspects of an organization's identity that are often hard to access. The four traits of the Denison Model, **Mission**, **Adaptability**, **Involvement**, and **Consistency**, measure the behaviors driven by these beliefs and assumptions that create an organization's culture. This approach diagnoses strength and weaknesses of any organization and provides solutions for improving organizational performance where culture may influence its effectiveness (Zahra Mir, 2014).

Denison Organizational Culture Survey (DOCS) consists of 60 items (Denison Consulting officially released on their website, 48 items only, as of 2018) that measure four dimensions of organizational culture: adaptability, mission, consistency, and involvement. Then the individual results are aggregated and reported back in a Circumplex report. The Circumplex report shows a numerical percentile score for each of the 12 indices. The four dimensions are supposed to reflect four key drivers of organizational performance that balance the competing demands of an external versus an internal focus and between stability and flexibility (Denison et al., 2014) as shown in Figure 1.1 below. The DOCS is frequently mentioned as one of the most widely used and acknowledged instruments for assessing organizational culture (Ostroff et al., 2013; Sackmann, 2011; Schneider, Ehrhart, & Macey, 2013), and many studies have confirmed its reliability and validity (e.g., Gillespie, Haaland, Denison, Smerek, & Neale, 2007; Kotrba et al., 2012; Yilmaz & Ergun, 2008).

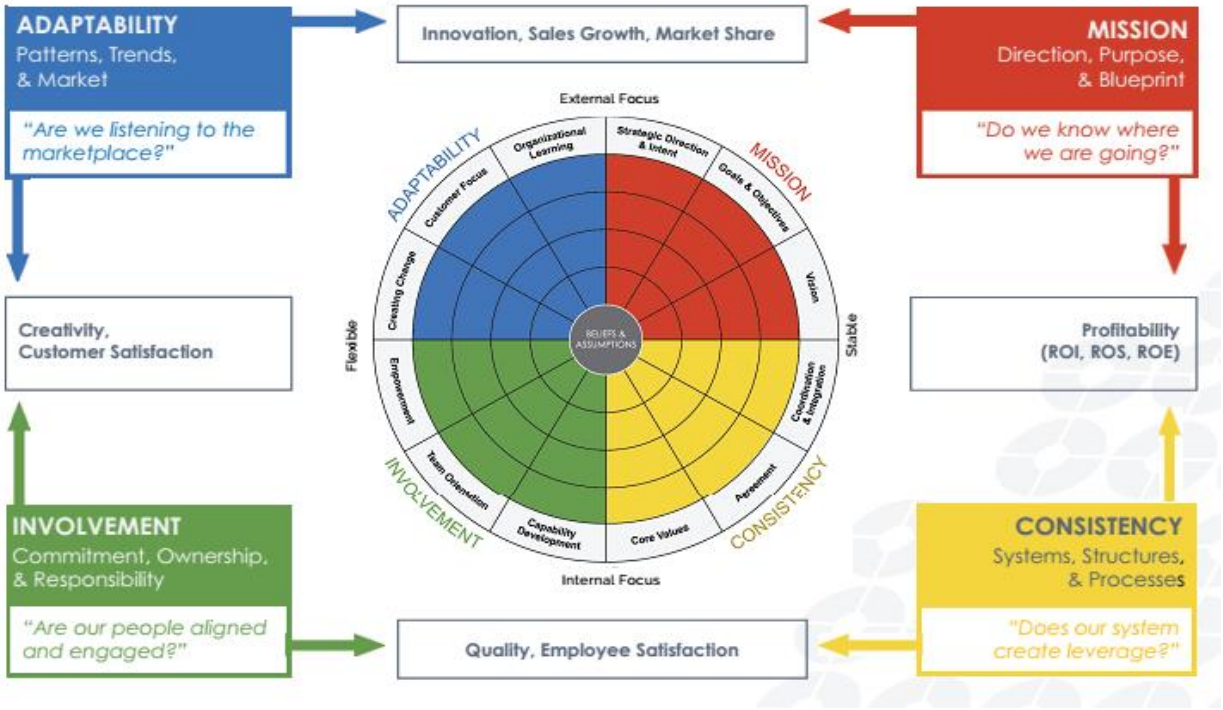


Figure 1.1: Denison Organizational Model and Link to performance (Denison Consulting)

1.2. Background of the company

The Ethiopian Construction Works Corporation (ECWC) is a newly established public enterprise with the authorized capital of Birr 20.3 billion; on December 18/2015 based on council of Ministers Regulation No. 366/2015.

ECWC is governed by the Public Enterprises Proclamation No.25/1992. Its supervising authority is The Ministry of Public Enterprises and its policy-making body is the Board of the Corporation whose members are appointed by the government selected from different organizations. The headquarters of the corporation is located in the city of Addis Ababa, around Gurd Shola. It is headed by a Chief Executive Officer (CEO).

The corporation is formed by incorporation of three public enterprises. These are Ethiopian Prefabricated Building Parts Production Enterprise, Ethiopian Road Construction Corporation and Ethiopian Water Works Construction Enterprise. They are formed way back to the late 1940s and early 1950s.

The **vision** of the corporation was ***"To be one of the best ten East and Central African leading construction and manufacturing companies by 2030",*** with a **mission** that states **"By using skilled manpower and modern technology delivering quality engineering, construction and investment works domestically and overseas; assembling construction equipment and vehicles; manufacturing spare parts; delivering maintenance service and renting construction equipment, machineries, warehouses and buildings."**

Team spirit, Quality first, continual improvement, Responsiveness, Cost effectiveness, Commitment and accountability, Work place and ecological safety were the core values of the corporation. The Corporation holds different construction sectors and take part in the construction of Water Infrastructure, Transport Infrastructure, Building Infrastructure, and Irrigation-Dams-Deep Water wells.

From those different sectors the **Building and House Construction Sector (BHCS)** was mainly engaged on Deep excavation and foundation for specialized electromechanical works, Cave digging, tunneling, ready mix concrete production and pouring, Render a concrete and metal structured base building technology, Building, planting, dismantling, demolishing and construction solution related to prefabricated building and conventional system, Feasibility studies and design works for building a factory that produces UPVC, It also manufactures different sized sandstones and PVC frames. At the time of the research (April 2022) there were 21 active construction projects, where 9 of them were renovation and the rest were new projects.

ECWC is currently under a reform in Construction Project Management. The PM system encompasses organization structure, information processing, decision making and procedures that facilitate integration of horizontal and vertical elements of the project organization. The reform has sixteen knowledge areas consolidated from different reading materials [Webpage: http://www.ecwc.gov.et; Cited on 12/07/2021 12:20 PM].

1.3. Statement of the problem

Jennifer J Moffatt (2018) has cited that, considerable research has been undertaken over the last three decades investigating the impact that OC has on performance, and according to many authors a connection exists, (Bolboli & Reiche, 2014; Coffey, 2010; Denison, 1990; Kotrba et al., 2012; Kotter & Heskett, 1992; Sackmann, 2011; Schein, 2013). However, OCs link to performance still remains mixed and at times controversial with authors taking assorted views. Some authors have touted they can improve organizational performance by helping organizations create certain kinds of cultures (Schein, 2010) and proponents of this idea argued that OC has a direct or significant impact on effectiveness and performance (Cameron & Quinn, 2006; Denison, 1990; Kotter & Heskett, 1992) and past research has shown a close connection (Kotrba, et al., 2012).

Regarding the performance of an organization, due to the considerable evidence of conflicts and misunderstandings caused by cultural differences, sustained development, profitability and high financial returns are not enough to survive and remain successful in highly competitive markets (Ela Oney-Yazic et al., 2006).

Tewodros Bayeh (2016) cited that, the lack of effective organizational culture is a primary cause of poor performance and productivity in the corporate group (Eaton & Kilby, 2015).

As cited by Alao and Aina (2020) Research on organizational culture especially in the construction industry is limited (Ankrah, 2007). A lot of research studies in organizational theory have focused on developed countries (95%), whereas only 5% of the studies are found to be carried out in developing countries (Farashahi et al., 2005: Ahmad, 2012).

The result of a research by World Economic Forum showed that culture is one of the basic transformation areas for the engineering construction industry worldwide (World Economic Forum, 2016). The construction sector involves different parties having a different background in knowledge, academic level, experience, living style, working culture, exposure to team work, loyalty, and dedication and so on (Nguyen and Watanabe, 2017).

Being part of the global construction industry, the Ethiopian construction was one of the sectors which is exposed to impacts related to organizational culture. Even if the construction sector have significant role in the Ethiopian economy (Falcioni, 2016), there is a lack of focus in construction companies, in conducting specific researches about their organizational culture which can help to minimize and eradicate the root problems on the performance and development of their organization.

The Denison Model provides organizations with an easy-to-interpret, business-friendly approach to performance improvement based on sound research principles. The Model and Culture survey helps to easily measure organizational culture and lead the way to performance improvements. Moreover, the model links organizational culture to employee satisfaction, customer satisfaction, market share, profitability and innovation (Denison Consulting LLC).

However, the practical application of this model was limited because unlike other organizational assessment tools which can be used for free and available publicly, DOCS is a proprietary organizational assessment tool which can be "purchased" from Denison Consulting or their accredited consultants or business partners around the world. Prices are undisclosed to the public, so potential users need to contact Denison Consulting (or their licensed affiliates) for a quote and possible engagement (Jun Kabigting et al., 2019).

Following that, this paper will try to apply the basic concept of the model locally on a specific organization i.e. ECWC, BHCS; without linking it with the global database. In line with that, this study will focus on the ISO 9001:2015 Certified, Grade one contractor, Ethiopian Construction Works Corporation Building and Housing Construction Sector. On this specific study the organizational culture of ECWC, BHCS will be assessed and measured based on Denison`s four cultural traits and their respective twelve indices by identifying the dominant cultural trait and by showing the relationship between each cultural trait.

Furthermore, the study will show the effect of cultural traits on organizational performance, also survey results under the four cultural traits will be linked to Key Organizational Performance Metrics of Denison`s Model to implicate the performance of the organization under study using the general concepts of Denison`s Culture Model.

1.4. Research Hypothesis

- **Hypothesis 1**: Mission is dominant trait, among the four Denison`s cultural traits in ECWC, BHCS.
- **Hypothesis 2**: There is statistically significant relationships between the four Denison Cultural traits.
- **Hypothesis 3:** Mission is the impacting cultural trait on the organizational performance of ECWC, BHCS.
- **Hypothesis 4**: There is a positive link between the four Denison`s Cultural traits and Key Organizational Performance Metrics of Denison`s Model in the case of ECWC, BHCS.

1.5. Objectives of the study

i. General objective of the study

- The major goal of the study is to assess the organizational culture of ECWC, BHCS and to show the effect of OC on the organizational performance of ECWC according to Denison Culture Model.

ii. Specific objective of the study

- To investigate the dominant cultural trait and cultural index in ECWC, BHCS.
- To identify which cultural trait have significant impact on organizational performance.
- To show the link between the mean scores of Denison`s cultural traits and their respective indices with organizational performance of the organization i.e. ECWC, BHCS, using Key Organizational Performance Metrics of Denison`s Model, by applying Denison`s Model as a conceptual framework.

1.6. Definition of terms

- **Organizational culture:** is a perception the organization's members hold in common. (Stephen P. Robbins & Timothy A. Judge, 2017; Organizational Behavior 17th edition –Page 566)
- **Mission:** Defining a meaningful long-term direction for the organization. (Denison Consulting, 2009)
- **Adaptability:** Translating the demands of the external environment into action. (Denison Consulting, 2009)
- **Involvement:** Building human capability and creating a shared sense of ownership and responsibility throughout the organization. (Denison Consulting, 2009)
- **Consistency:** Defining the values and systems that are the basis of the culture. (Denison Consulting, 2009)
- **Circumplex:** is a chart that displays the results for each of the twelve indexes that measure the behaviors that impact performance: Mission, Adaptability, Involvement and Consistency. (Denison Consulting, 2009)
- **Performance:** is the accomplishment of a given task measured against preset known standards of accuracy, completeness, cost, and speed. An analysis of a company's performance as compared to goals and objectives. (Zenith Rathore; A framework for organizational performance assessment in the construction industry; Page 5).

1.7. Significance of the study

This research will specifically contribute ECWC, BHCS to identify the dominant cultural trait, so that to embrace and develop existing cultural traits which have a positive impact on organizational performance and to improve weak cultural traits which have contrary effect on performance.

The researcher believe the result and recommendation of this study can be used as an input for future improvements related to organizational culture of ECWC, BHCS. Related to this, it can also be used as an indicative instrument, to examine the performance of ECWC, BHCS with respect to organizational culture in future assessments.

Furthermore, this study gives some insights for other researchers who intend to engage in this area of study, which by itself is one significance.

1.8. Scope of the study

The study was conducted in Ethiopian Construction Works Corporation Building and Housing Construction Sector (ECWC, BHCS) which is ISO 9001:2015 Certified, Grade one contractor. The study focuses on the effect of organizational culture on organizational performance using Denison`s Culture Model.

1.9. Organization of the study

This study comprised of five chapters. The first chapter was introduction and it contains background of the study, statement of the problem, basic research hypothesis, objectives of the study, definition of terms, significance of the study, and delimitation/scope of the study.

The second chapter was Literature Review and include an introduction, theoretical review, empirical review and the conceptual framework of the study.

The third chapter named Research Methodology, under this chapter the type and design of the research; the subjects/participant of the study; the sources of your data; the data collection tools/instruments employed; the procedures of data collection; and the methods of data analysis to be used will be discussed.

The fourth chapter was Results and discussion/Data presentation, analysis &interpretation: - This chapter summarized the results/findings of the study, and interpret and/or discuss the findings. The final fifth chapter was Conclusion, and recommendation. This chapter comprise four sections, which include summary of findings, conclusions, limitations of the study and recommendations.

1.10. Delimitation of the study

ECWC have different sectors with many projects under each sector, taking the number and the areal dispersion of the projects in consideration, this study will only focus on projects under Building and Housing Construction Sector, which are nearby and accessible for the researcher to take the survey. Furthermore, organizational performance was measured using Non-financial performance indicators, if financial indicators were used the project work or the study will be very vast and cannot be conducted within the time limit which was set for the project work. Thus this study will show the effect of organizational culture on organizational performance using non-financial indicators, applying the Denison Model as a conceptual framework. In addition to that, Denison`s culture survey was proprietary assessment tool, and the cost to get the service is too expensive for an individual, taking that in consideration percentiles that are described in the Circumplex chart were calculated organization wise, in other words percentiles didn`t conform or link with the global database of Denison`s Culture Survey.

CHAPTER TWO

LITERATURE REVIEW

2.1. Theoretical Review

2.1.1 The Construction Industry

Construction industry is a project based industry which is extremely dynamic in nature. The need to identify the weak points and search solutions to improve performance of construction organization is extremely crucial (Zenith Rathore, 2016). Construction is a diverse, project-based industry (Ozorhon, 2012). The project-based nature of the construction industry makes every project unique (Veshosky, 1998). Moreover, the market structure is extremely fragmented, making it very competitive and difficult for any particular organization to dominate (Kim & Reinschmidt, 2012). The unique nature of concerns and challenges often render the generalizable decision rules and frameworks for organizational phenomena unusable (Pinto & Covin, 1989).

According to the World Economic Forum (2016), The Engineering & Construction (E&C) industry strongly affects the economy, the environment and society as a whole. It touches the daily lives of everyone, as quality of life is heavily influenced by the built environment surrounding people. The construction industry serves almost all other industries, as all economic value creation occurs within or by means of buildings or other “constructed assets”. As an industry, moreover, it accounts for 6% of global GDP. It is also the largest global consumer of raw materials, and constructed objects account for 25-40% of the world’s total carbon emissions.

According to Ricardo Falcioni (2016) Construction is one of the first businesses that humankind developed, and it continues to shape our daily life in unique ways. Virtually all other businesses rely on the construction industry to provide and maintain their accommodation, plants and infrastructure, and construction is a determinant of where and how almost everyone lives, works and plays.

For nearly the entire population of the world, the built environment heavily influences quality of life. In the United States, for instance, people on average spend nearly 90% of their time indoors. So the building and the materials used in its construction and finishing have a major impact on the health and well-being of its occupants (Ricardo Falcioni, (2016).

With total annual revenues of almost $10 trillion and added value of $3.6 trillion, the construction industry accounts for about 6% of global GDP. More specifically, it accounts for about 5% of total GDP in developed countries, while in developing countries it tends to account for more than 8% of GDP. The industry is expected to grow greatly in the coming years, to estimated revenues of $15 trillion by 2025. More than 100 million people are already employed today in construction worldwide Ricardo Falcioni (2016).

Construction is a "horizontal" industry (like the Financial Services industry), serving all industry verticals; in other words, construction has considerable interaction with numerous other sectors, since value creation almost always occurs within or by means of buildings or other constructed assets. To mention a few, residential housing accounts for 38% of global construction volume; transport, energy and water infrastructure for 32%; institutional and commercial buildings for 18%; and industrial sites (from cement to automotive manufacturing) for 13%.

For countries to enjoy inclusive and sustainable growth, modern and efficient infrastructure is essential. According to a 2014 estimate by the International Monetary Fund, if advanced economies invested an extra 1% of GDP into infrastructure construction, they would achieve a 1.5% increase in GDP after four years. The construction industry is the single largest global consumer of resources and raw materials. It consumes about 50% of global steel production and, each year, 3 billion tonnes of raw materials are used to manufacture building products worldwide (Ricardo Falcioni, 2016).

Falcioni (2016) report states that, Ethiopia is one of Africa's fastest growing, most vibrant economies. Enjoying double digit GDP growth year-on-year for the past decade, and with a quickly growing population, the nation is ready to become a regional leader in construction. Indeed, the construction industry is a major economic growth driver for Ethiopia. Massive government investment in infrastructure and residential building projects is turning the country into one of the continent's highest performing economies.

Rapid urbanization rates have created a huge need for improved infrastructure systems and a big housing backlog. Demand for quality building materials, for which Ethiopia is heavily dependent on imports, is already on the rise and is expected to skyrocket in the near future. Billions of dollars is being invested in the construction industry each year, and foreign firms are seeing their products, knowledge and expertise enjoy high demand. In this report, we examine Africa's most exciting economy, the construction industry as a whole, and the manifold opportunities available for international companies to grasp (Ricardo Falcioni, 2016).

According to Falcioni (2016), The GTP five year plans lay out the blueprint for Ethiopia's continued economic growth. As such, construction will play a key role towards achieving the country's economic prosperity goals. According to the National Bank of Ethiopia (NBE), construction accounts for half of all the nation's industry. What's more, the industry is expanding rapidly. Data from the NBE also suggests that during 2013/14 the building sector grew 37%. Using these stats, it can be seen that construction accounted for 7.5% of Ethiopia's total GDP during this period. According to African Economic Outlook, this equates to 9.4% of total output at current prices. This would give the construction industry a market value of around $6 billion.

As per 2016`s World Economic Forum report, culture is one of the basic transformation areas for the engineering construction industry worldwide. As cited by Bamgbade et al. (2020), the construction industry involves an ample number of workers on construction sites employed for the execution of projects, which is expected to conform to the key performance indicators in the local and global economy. This was as rightly opined by Preeti et al. (2014) that construction final products influence the growth of the nation. There are variances in the organizational culture set up of every organization. The differences can be traced to the mindset of the founders and their leadership styles which are being disseminated throughout the system (Gibson et al., 2012). Essentially, the effect and differences in culture usually come to the limelight when the construction firms are in collaborations together in project execution (Shore & Cross, 2005). It is essential to know that within the construction organizations are varying cultures that firms contend with throughout the construction activities and the existence of the firm.

2.1.2. Organizational Culture

Organizational culture has been variously defined (Ott 1989; Schein 1990; Davies, Nutley, and Mannion 2000). It denotes a wide range of social phenomena, including an organization's customary dress, language, behavior, beliefs, values, assumptions, symbols of status and authority, myths, ceremonies and rituals, and modes of deference and subversion; all of which help to define an organization's character and norms. Unsurprisingly in view of this diverse array of phenomena, little agreement exists over a precise definition of organizational culture, how it should be observed or measured, or how different methodologies can be used to inform routine administration or organizational change. While some commentators see the task in terms of specific and measurable variables, traits or processes, others see it as a global challenge to capture culture as an intrinsic property of the social milieu that forms whenever people are brought together in common enterprise. A third approach sees organizational culture as an anthropological metaphor or a paradigm (Burrelland Morgan1979; Burrell 1996) to analyze organizations as micro societies (Morgan, Frost, and Pondy 1983; Smircich 1983; Morgan 1986). According to Edgar Schein, "Organizational culture is the pattern of shared basic assumptions invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems (Schein 1985a)."

The Project Management Institute (2013) Claim that, Organizational culture is shaped by the common experiences of members of the organization and most organizations have developed unique cultures over time by practice and common usage. Common experiences include, but are not limited to: Shared visions, mission, values, beliefs, and expectations; Regulations, policies, methods, and procedures; Motivation and reward systems; Risk tolerance; View of leadership, hierarchy, and authority relationships; Code of conduct, work ethic, and work hours; and Operating environments.

Organizational culture is the way that things are done in an organization, the unwritten rules that influence individual and group behavior and attitudes. Factors which can influence organizational culture include: the organization's structure, the system and processes by which work is carried out, the behavior and attitudes of employees, the organization's values and traditions, and the management and leadership styles adopted (Chartered Management Institute, 2015).

Martins and Martins (2003) state the general definition of organizational culture as "a system of shared meaning held by members, distinguishing the organization from other organizations". In relation to the above definition, Arnold (2005) indicates that "organizational culture is the distinctive norms, beliefs, principles and ways of behaving that combine to give each organization its distinct character". These two definitions suggest that organizational culture distinguishes one organization from another organization. Therefore, organizational culture is to an organization what personality is to an individual (Johnson, 1990).

Eldridge and Crombie (1974) emphasized the culture of an organization refers to the unique configuration of norms, values, beliefs and ways of behaving that characterize the manner in which groups and individuals combine to get things done.

According to Deal and Kennedy (1982), Culture is a system of informal rules that spells out how people are to behave most of the time.

Culture is the commonly held beliefs, attitudes and values that exist in an organization. Put more simply, culture is 'the way we do things around here' Furnham and Gunter (1993).

Louis (1980) who defines culture as 'a set of common understandings for organizing actions and language and other symbolic vehicles for expressing common understandings'; and Schwartz & Davis (1981) who define culture as 'a pattern of beliefs and expectations shared by the organization's members'.

As it is cited by Hsieh (2021), Turnstall (1983) understands culture as 'a general constellation of beliefs, mores, value systems, behavioural norms and ways of doing business that are unique to each corporation'.

Alvesson (1993) defines culture as 'a shared and learned world of experiences, meanings, values, and understandings which inform people which are expressed, reproduced, and communicated partly in symbolic form'.

Collins and Porras (2000) opine that organizational culture refers to a system of shared meaning held by members that distinguish one organization from other organizations. Organizational culture is as "an informal, shared way of looking at an organization and membership in the organization that binds members together and influences what they think about themselves and their work" (O'Donnel & Boyle, 2008).

Schein (2009) defines organization culture as collective behaviour of people in an organization, while Gathai, Ngugi, Waithaka and Kamingi (2012) look at organizational culture in terms of the "leadership styles and the dominant values and beliefs, both conscious and unconscious, dress codes, job titles, among others in an organization" (as cited in Onyango, 2014).

Maseko (2017) viewed organizational culture as "a company's orientation towards its internal stakeholders, which forms the basic rules that guide employees' behaviours, developed and shared within an organization". Schein (2004) argued that "perhaps the most interesting part of culture as a concept is that it points us to phenomena that below the surface are powerful in their impact but invisible and to a considerable degree, unconscious to people." "Organizational culture is made up of more 'superficial' aspects such as patterns of behaviour and observable symbols and ceremonies, and more deep seated and underlying values, assumptions and beliefs." (O'Donnel & Boyle, 2008)

Although there is no agreement in the literature concerning organizational culture, one authority argued that "there is only one consensus and that is the fact that organizational culture has both tangible and nontangible aspects." (Sokro, 2012), as cited by Hillary Odiakaose (2018).

According to O`Donnel and Boyle(2008), Culture therefore gives organizations a sense of identity and determines, through the organization's legends, rituals, beliefs, meanings, values, norms and language, the way in which 'things are done around here'. An organizations' culture encapsulates what it has been good at and what has worked in the past.

Edgar Schein argue that, the culture of a group can now be defined as "a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems" (Edgar H. Schein, 3rd Edition; Organizational Culture and Leadership).

2.1.3 Characteristics of organizational culture

Robbins and Judge (2017) define Organizational culture as 'a system of shared meaning held by members that distinguishes the organization from other organizations'. They also identified, seven primary characteristics that seem to capture the essence of an organization's culture:

I. **Innovation and risk taking**: the degree to which employees are encouraged to be innovative and take risks.
II. **Attention to detail:** the degree to which employees are expected to exhibit precision, analysis, and attention to detail.
III. **Outcome orientation:** the degree to which management focuses on results or outcomes rather than on the techniques and processes used to achieve them.
IV. **People orientation:** the degree to which management decisions take into consideration the effect of outcomes on people within the organization.
V. **Team orientation:** the degree to which work activities are organized around teams rather than individuals.
VI. **Aggressiveness:** the degree to which people are aggressive and competitive rather than easygoing.
VII. **Stability:** the degree to which organizational activities emphasize maintaining the status quo in contrast to growth

According to Trice and Beyer (2002) cited by Loisch, (2007), and further cited by Himmer, (2013). Some of the characteristics of culture are:

- Collective: It is assumed that cultures are not created by individuals alone, but as a result of collective actions. Belonging to a culture involves believing what the group believes and handling things the way they handle them.

- Emotional: The substance and forms of culture are filled with emotions as well as meanings, which is why they help to manage and overcome anxieties. Members of a group seldom doubt the core values and attitudes of the organizational culture.
- Historic: Cultural phenomena are connected to the history of the organization and its traditions and cannot be separated or changed rapidly.
- Symbolic: Symbols are on the one hand a specific type of cultural form, but on the other hand they are the most general and persuasive form of culture. Furthermore symbols are not directly seizable, but have to be interpreted in order to understand their meaning.
- Dynamic: Even though culture is connected to the organization's history it still is not static, but rather dynamic. Culture changes continually due to several factors.
- Diffuse: The more complex the circumstances are, the more diffuse the elements of organizational culture will get.

Ramezan Jahanian, (2013) emphasizes if culture is a system of common understanding to know the members of an organization, a system is composed of a set of core features that they valued the organization or their values. These 10 properties consist of:

1. Personal creativity: responsibility, freedom and independence of the individual.
2. Risk Disclosure: The amount of money people are encouraged to take initiative, to work and ambition to make risky.
3. Leadership: the extent to which the objectives and functions that are expected to be made clear.
4. Integration: the extent or degree to which units within an organization to act in a coordinated way.
5. Management support: the extent or degree to which managers communicate with their subordinates, they will help and support them.
6. Control of regulation and supervision on the behavior of individuals who direct the managers to apply.
7. Identity: The degree to which individuals or entire organization (not a band or special field or person that has proficiency them) to represent the nation.

8. Reward system: the extent or degree to which the bonus reward allocation practices, and promoting employees based on performance indicators is not based on history, party games and as indicators of the.
9. Conflict reconciliation with the amount or degree to which people are encouraged to build and open conflict are obvious criticisms.
10. Pattern of relation: amount or degree of organizational communication is limited to the formal hierarchy of needs**.**

2.1.4 Importance of Organizational Culture

According to Furnham and Gunter (1993), Culture represents the 'social glue' and generates a 'we-feeling', thus counteracting processes of differentiations that are an unavoidable part of organizational life. Organizational culture offers a shared system of meanings which is the basis for communications and mutual understanding. If these functions are not fulfilled in a satisfactory way, culture may significantly reduce the efficiency of an organization.

Some researchers' findings show that certain kinds of cultures correlate with economic performance (Denison, 1990; Kotter and Heskett, 1992; Sorensen, 2002). Boyne (2003) suggests a link between organizational culture change and public service improvement. Similarly, Ban (1995) in a study of the US Environmental Protection Agency, found that the agency was more adept than other federal agencies in mitigating the effects of centralized federal human resource policy constraints. This was linked to the agency's status as an adhocracy with an open culture, focusing on change and flexibility, and characterized by creative problem solving and risk taking.

O`Donnel and Boyle (2008) emphasized that, understanding of organizational culture and cultural types also helps our understanding of why managerial reforms may impact differently within and between organizations. An organization with a predominantly internal process culture, for example, may be more resistant to reforms aimed at promoting innovation. Zalami (2005) notes that culture can either facilitate or inhibit institutional transformation depending on whether or not the existing culture is aligned with the goals of the proposed change. This is also noted by O'Donnell (2006) in terms of culture facilitating innovative initiatives in the public sector and providing a supportive environment for developing 'enterprising leaders'.

Some researchers have discovered that there are some cultural traits that relates with economic performance (Denison, 1990). “Organizational culture is one of the most important factors that impact on organizational performance” (Ahmed, & Shafiq, 2014). They argued further, that “the notion of organizational performance is affiliated to the endurance and success of any organization.” (Ahmed, & Shafiq, 2014).

According to Divyarajaram (2014), organizational culture is important in promoting code of conduct in employees, facilitates motivation though recognition, promotes self-satisfaction, and acts as a guide to employee thinking and actions. Schein (2011) identified four functions of organizational culture: providing a sense of identity to members; improving the readiness of members and strengthening organizational values; and shaping behaviour through a control mechanism” as cited in (Ahmed, & Shafiq, 2014).

Organizational culture “is not just for a competitive advantage, it has become a sine qua non for organizational success, allowing companies to attract and retain top employees” (Sadri & Lees, 2001) Organizational culture that is “manifested in beliefs and assumptions, values, attitudes and behaviours of its members is a valuable source of firm’s competitive advantage” (Ehtesham, Muhammad, & Muhammad, 2011). “Organizations are social glues that bond employees together, makes them feel as part of the organization thereby bringing out the best in them in terms of efficiency and effectiveness in achieving organizational goal.” (Fakhar, 2005).

Agrawal and Tyagi (2010) note that “a clear understanding of organizational culture is important for all organizational managers and leaders because it influences the way their companies react to the dynamic challenges faced by the business organizations.” In other words, successful managers are those that adhere strictly to the ways things are done in their dynamic organizations. One of the key drivers to a good knowledge management’s strategy is ensuring that an organization embeds rich cultural values into its vision and mission, because knowledge management can be used to develop an innovative culture” (Agrawal, & Tyagi, 2010).

Similarly, Yildiz (2014), writing on the relationship between organizational culture and organizational performance, demonstrated that knowledge management and innovative strategy, which, according to him, are features of organizational culture, have significant impact on organizational performance. However, Kotter and Heskett (2011) assert that even those cultures that work well with a company's strategy and business context may not promote excellent performance in the long run, unless they are backed up with strategies and practices that continuously respond to the dynamic environments.

Employees will experience a higher level of motivation given a good organizational culture. It goes to say therefore that when organizations have a strong culture that appreciates the contributions of employees through monetary and non-monetary rewards, such act will be reciprocated and lead to an increase in motivation and subsequently an increase in performance.

Ahmed and Shafiq (2014) concluded by saying that "organizational culture is the most important variable that influences organizational performance." Awadh and Saad, (2013) state that "culture and performance were considered competitive advantage of an organization, which is attained through strong association and establishment of culture and that organization culture helps in internalizing joint relationship that helps to manage effective organization processes"

According to O'Donnel and Boyle (2008), "an understanding of organizational culture and cultural types helps our understanding of why managerial reforms may impact differently within and between organizations."

Zalami (2005), on the other hand, notes that an existing good culture that is properly aligned with goals and objectives of a transformation agenda will surely be an aid to any major institutional transformation.

Agrawal and Tyagi, (2010), are of the opinion that "culture can be a great attracter for talent, especially those who are professionally qualified." It is important to understand the elements that attract, retain and engage employees. Successful implementation of a positive corporate culture, with strong values can be a powerful human resource strategy, whose importance will be growing continuously.

Jones et al. (2005) demonstrated that organizational culture is a source of knowledge since it enables employees to create, acquire, share and manage knowledge.

Perters and Waterman (1982) in their write up on the relationship between organizational culture and performance, assert that "high performance firms could be distinguished from low performance firms because the former possessed certain cultural traits and 'strong culture" The same view was held by Deal and Kennedy, (1982), who suggested that organizational performance can be enhanced by strong shared value" (as cited by Abu-Jarad, Yusuf, & Nikbin, 2010) as it is cited by Odiakaose Odor (2018).

Within organizational context, the concept of culture is important to society and organization. Culture is organizational instrument that can strengthen business mission, describe values organizational founders want to instill and influence decision making and business strategy (Taneja, 2015). The existence of organizational culture would affect policy and system of human resources management that would lead to employees' attachment and business competitiveness.

The significant role of culture is reflected of many works examining cultural aspects and valuable organization outcomes. Hunt et al. (1989) suggest strong positive association between corporate ethical values as a major dimension of corporate culture (Schein, 1985) and organizational commitment in marketing. Organization need concern to instill and maintain a high level of loyalty in their employees may have to be more than just task directors of their organizations.

The role of organizational culture on business success is clarified by Calori and Sarnin (1991), Linnenluecke and Griffiths (2009), Sadri and Lees (2001), Klein (2011), Flamholtz and Yvonne (2012), Jofreh and Masoumi (2013), Vitel et al. (2009). Organizational culture plays an important role in the success of business unit, and there has been ample evidence of positive correlation between organizational performance and organizational culture. Most Japanese corporations obtain success through organizational culture development and subsequent employees' commitment (Jofreh & Masoumi, 2013).

Culture makes up of basic values, beliefs, and principles that lay grounds for organizational management system, and a set of management practices and behavior that become precedence for later behaviors (Denison & Spreitzer, 1991). Denison et al. (2003) put forward an organizational culture model with its effect on business effectivity. In this model, Denison addresses internal and external factors. Organizations with market focus and opportunistic nature often have problems with internal integration. On the other hand, organizations with capability of integration and control might have difficulty in adaptating to their environments. Organizations with top-down vision often find trouble in focus on empowerment and "bottom-up" movement, while organizations driving for wide participation often find difficulty in determining direction. The effective organizations are those that are able to settle these contradictions without relying on a simple trade-off.

The importance of organizational culture can be attributed to its influence in achieving an organization's desired outcomes as cited by Wee Loong Lee et al (2018). Objectives such as innovation, productivity and financial performance can all be shaped by organizational culture, as it provides a solution to integrating and adapting an organization's members under a common culture, and thus improves the smooth operations of the firm (Blackwell, 2006; Furnham and Gunter, 1993).

2.1.5 Types of organizational culture

As cited by Pathiranage (2019) there are four typs of organizational cuture. The four types of organizational culture include (a) clan culture, (b) adhocracy culture, (c) hierarchy culture, and (d) competition culture (Fiordelisi, 2014; Sok et al., 2014; Wiewiora et al., 2014). Clan or supportive culture contains an employee-oriented leadership, cohesiveness, participation, and teamwork (Han, 2012). Adhocracy or an entrepreneurial culture includes innovative, creative, and adaptable characteristics (Veiseh et al., 2014). Sok et al. (2014) defined hierarchy culture as a combination of rules and regulations to control activities in the organization. Market culture includes competition and organizational goal achievement (Pinho et al., 2014).

Clan Culture

The assumption and values of clan culture include human affiliation, collaboration, attachment, trust, loyalty, and support (Fiordelisi, 2014). In a clan culture, managers need to act in a democratic manner to inspire and motivate employees to establish a culture of excellence in the organization (Miguel, 2015).

An interpersonal relationship is active in the effective organizational culture. Organization members behave appropriately and develop a sense of ownership when they have trust in, loyalty to, and ownership in the organization (Nongo & Ikyanyon, 2012). Clan culture includes teamwork, participation, employee involvement, and open communication (Pinho et al., 2014). In a clan culture, business managers encourage teamwork and employee empowerment (Yirdaw, 2014). The ultimate goal of clan culture is improving employee performance through commitment, sense of ownership, and responsibility (Han, 2012; Murphy et al., 2013).

Research findings in the area of organizational culture showed how clan culture positively relates to organizational performance (Han, 2012; Man & Luvision, 2014; Murphy et al., 2013). By contrast, Givens (2012) argued that clan culture includes employee relation issues instead of improving efficiency and effectiveness in the organization. Kotrba et al. (2012) compromised both views, supporting the clan culture's indirect role in improving performance and they acknowledge the clan culture's direct role in improving efficiency and effectiveness. In a clan culture, business managers encourage employee engagement and commitment to the organization because committed employees may perform their task efficiently and deliver their responsibility effectively (Nongo & Ikyanyon, 2012).

Adhocracy Culture

In adhocracy or an entrepreneurial culture, organization members may require clarification for their job assignments including the importance and impact of the assignment to achieve organizational goals (Veiseh et al., 2014). The values and assumptions of adhocracy culture include (a) growth, (b) risk taking, (c) creativity, (d) diversity, (e) independence, and (f) adaptability (Hartnell et al., 2011).

In adhocracy culture, business managers allocate more resources for research and development, and they encourage employees' involvement in creative and innovative research activities (Sok et al., 2014).

In adhocracy culture, innovation and creativity are important to enhance productivity and to improve services in the organization. The ultimate result of adhocracy culture is innovation and change (Fiordelisi, 2014). Research evidence in the area of organizational culture show the existence of a positive relationship between adhocracy culture and innovative entrepreneurial orientation (Engelen et al., 2014). Other research findings also showed the existence of a positive relationship between adhocracy culture and financial effectiveness in the long-term (Hartnell et al., 2011).

Hierarchy Culture

In hierarchy culture, business managers give priority in establishing effective control systems throughout the organization. In hierarchy culture, organization members follow the rules and regulations, and each activity set with pre-defined procedures and rules (Hartnell et al., 2011). Hierarchy culture includes clear communication channels, stability, consistency, and reinforcement (Fiordelisi, 2014). The final goal of hierarchy culture is efficiency and effectiveness. Han (2012) showed a negative relationship between hierarchy culture and financial performance. Other research findings also showed the existence of a negative relationship between hierarchical culture and customer integration (Cao et al., 2015).

Competition culture

In a competition culture, organizational members have clear objectives to increase their reward through market achievement (Han, 2012). Competition culture includes (a) gathering customer and competitor information, (b) appropriate goal setting, planning and decision-making, and (c) task focus leadership. Competition culture also contains market aggressiveness and achievement.

The competition culture includes open communication, competition, competence, and achievement (Miguel, 2015). In competition culture, business managers focus on external effectiveness through market control and secure competitiveness through market achievement.

Miguel (2015) noted that business managers must have knowledge of their clients and market priority to survive in the competitive market. In a competition culture, business managers must maintain customer-driven leadership because the priority in competition culture is customers' satisfaction (Han, 2012).

2.1.6 Measuring Organizational Culture

According to Center for Evidence Based Management (CEBMa), there is no consensus of how organizational culture can be measured. Although many culture assessment tools are available, most of the underlying research is inadequate to establish their reliability and validity. At best, some of these tools show some predictive validity but their construct validity is less clear.

Researchers have generally acknowledged two main limitations of survey methodologies: their inability to access ''deeper'' cultural elements such as symbolic meaning, semiotics, and fundamental assumptions (Rousseau, 1990; Schein, 1992; Smircich, 1983; Van Maanen, 1988), and their use of a priori content—predefined, standardized questions—which may fail to capture the most relevant aspects of culture in a given situation. In addition, the survey approach also assumes that respondents' perceptions of the culture are meaningful when aggregated to the group level (Sackmann, 2006). Thus, culture surveys are most appropriate when the focus is on the ''observable and measurable manifestations of culture'', such as values and behavioural norms, and when the research purpose calls for making comparisons across organizations using the same set of culture concepts (Ashkanasy et al., 2000).

In her review, Sackmann (2011) describes how the wide variety of survey instruments used makes it difficult to establish clear patterns across studies, instead creating ''a rather broad and colorful picture of the link between different culture dimensions and performance measures''. This diversity is a healthy form of pluralism, but it also represents several challenges.

Yasas L. Pathiranage (2019) in his article emphasized that, using the appropriate measurement method is important because management may use some measurement factors that fail to capture the complexity of culture from different types of organizations (O'Reilly et al., 2014). Hartnell et al. (2011) found the existence of a disagreement and lack of universal standardization to measure an organizational culture effectiveness.

O'Reilly et al. (2014) used the six factors method to measure organizational effectiveness and performance. The six factors include (a) adaptability, (b) integrity, (c) collaborative, (d) result oriented, (e) customer oriented, and (f) detail-oriented factors. Flamholtz and Randle (2012) also identified three evaluation elements to evaluate the organization culture effectiveness. The three elements include (a) cultural alignment, (b) behavioral consistency, and (c) cultural gaps. The six factors of O'Reilly et al. are more detail and suitable to measure the organizational values, beliefs, and norms (as cited in Hacker, 2015). The result from the evaluation may identify cultural gaps that show the difference between the desired values and the actual value in practice.

Fusch and Gillespie (2012) introduced a performance analysis model to determine the gap between the desired performance and the actual results in the organization. Fusch and Gillespie's performance analysis model showed how business managers identify performance gaps by comparing the actual organizational performance to the desired performance. A desired organizational performance includes a detailed analysis of the organization's vision, mission, strategy, and desired results. The actual performance analysis contains a brief discussion of internal and external factors including economic, market, and customer relations. Fusch and Gillespie noted that the importance of identifying performance gaps as a primary approach to deploying effective performance interventions method. Fusch and Gillespie used a work-life approach as a performance intervention to create a positive impact on organizational culture and performance.

Flamholtz and Randle (2012) identified an organizational culture evaluation method, which includes five key dimensions of organizational culture. The five key aspects contain (a) customer orientation, (b) employee orientation, (c) performance standards, (d) commitment to change, and (e) company process orientation as cited by by Pathiranage (2019).

Measures of organizational culture need to unequivocally and specifically measure organizational culture, and developing a unified theory of culture is essential to establishing the construct validity of culture measures. Building upon Schein's (2010) theoretical framework of culture which focuses on assumptions, norms and values, and cultural artifacts, another requirement is that each measure of culture specify the layer it assesses.

Researchers Chatman and Choi (2019) listed the different culture measures and evaluated them focusing on the empirical strengths and weaknesses of each approach, using empirical challenges identified by themselves as criteria.

I. An Illustration of Survey Methods Leveraging Informants

The Organizational Culture Profile (OCP) One of the most face valid ways to assess culture is to directly ask informants, typically those immersed in the culture, to respond to questions that clearly ask for judgments regarding patterns of norms and behavior within their culture. As an illustrative survey approach, we discuss the Organizational Culture Profile (OCP – Chatman et al., 2014; Chatman, 1991; O'Reilly et al., 1991), one of the most heavily used survey methods for assessing culture (for a comprehensive review of the other popular survey methods, please see Chatman and O'Reilly, 2016). The OCP, and its focus on soliciting input from knowledgeable informants, was designed explicitly to assess organizational culture.

The theory underlying the OCP is that organizational culture is a form of social control and the associated normative social influence that results from the behavioral norms arising within organizations. More specifically, culture is a system of shared values that define what is important and norms - socially created standards that help members interpret and evaluate events and actions - that define appropriate attitudes and behaviors for organizational members (O'Reilly & Chatman, 1996).

Chatman and O'Reilly (2016) emphasize the intentional lack of an a priori framework utilized in the construction of the OCP. Instead, they began by identifying a universe of descriptors for culture and then narrowing them down with regards to the categories of generalizability, comprehension, readability, redundancy, and the relative variance expected for a given descriptor across various organizations (Caldwell, Chatman, & O'Reilly, 2008; Chatman, 1991; O'Reilly, et al. 1991).

The OCP measures three aspects of cultural norms: norm content, norm consensus, and norm intensity (Chatman et al., 2014). Previous discussions acknowledged the uneven emphasis placed upon culture content over culture strength (Harrison & Carroll, 2006) or strength over content as seen through the "culture strength index" (Kotter & Heskett, 1992; Sørenson, 2002).

Either way, there had not been a conscious effort to separate these distinct attributes, leading some to conclude that many studies of culture confounded content and strength (Chatman et al., 2014). This raised questions about whether, for example, an innovative culture is the same as a culture in which members do not agree about the relative importance of a comprehensive set of norms within their organization. Parsing culture solves this problem by defining norm content as the substance of the cultural norm, or the appropriate behaviors and attitudes described through the norm. In contrast, norm intensity is the force with which cultural norms are held, or the degree of salience and the degree to which a norm may be identity defining. And norm consensus is the extent to which members agree broadly about an organization's system of cultural norms (Chatman et al., 2014).

The OCP uses the Q-sort methodology (Block, 1978) in which informants must consider 54 norm statements and allocate them into nine categories ranging from "most characteristic" to "least characteristic" of their organization's culture. This approach requires informants to implicitly compare each norm statement to every other norm statement to determine which norms are held most and least intensively, providing information about both norm substance and norm intensity (O'Reilly et al., 1991).

In this way, the OCP avoids social desirability bias, particularly as compared to a Likert-type scale in which informants could mark the highest anchor for an unlimited number of items, and has been found to be free of such biases (Chatman, 1991). It also makes it possible for informants to essentially rank order the comprehensive set of norm statements reliably (Chatman, 1991). Agreement in how similarly members prioritize the 54 items is also assessed, and provides a metric for the level of consensus across the comprehensive set of cultural norms (Chatman et al., 2014). Though the range is not infinite, the number of possible configurations of the 54 items is extremely high (Chatman, 1991).

II. Computational Linguistics as a Measure of Organizational Culture

One of the fastest-growing methods of assessing culture is the computational linguistics approach. It has been enabled by major increases in computing capacity and the existence of huge amounts of potentially relevant digital data, which can be used to measure cultural variables such as norms, cultural fit, and enculturation trajectories (e.g., Popadak, 2013; Srivastava, Goldberg, Manian, & Potts, 2017).

The computational approach enables analyses that have eluded prior researchers by being, at once, granular, rich, and dynamic. The approach analyzes language use which, unlike surveys, is unobtrusive and more behaviorally-oriented (e.g., Lu et al., 2019), and makes it feasible to track the micro-dynamics of person-culture fit and culture change. Though such tracking was possible using survey methods, it has been significantly more cumbersome because of the frequency with which informants would have to be asked to report on the culture.

Researchers using computational linguistics make a credible claim that language is a useful signal of cultural alignment. Indeed, economists have long viewed language accommodation as a key indicator of cultural assimilation (e.g., Crémer, 1993). Language represents conventions and brings meaning to the surface, at the behavioral level. Organizations develop idiosyncratic conventions that are inevitably embedded in language use among members. Further, language convergence can reflect social distance. These arguments, presented in a variety of papers (e.g., Goldberg, Srivastava, Manian, Monroe, & Potts, 2016; Lu et al., 2019; Srivastava et al., 2017) are helping to build theory that differentiates between cognition and behavior mostly pertaining to person-culture fit (enculturation).

III. Computer Simulations and Laboratory Experiments Manipulating Aspects of Organizational Culture

Another influential approach to studying organizational culture is computer simulations and computational modeling (Harrison & Carroll, 1991; Carroll & Harrison, 1998; Srivastava, et al., 2017). This method has been less focused on norm content, and more on norm agreement and intensity. For example, researchers have investigated simulated organizations experiencing demographic changes to examine how norm agreement and intensity, and specifically the transmission of culture is influenced by member churn (employee entry and departure) (e.g., Harrison & Carroll, 1991). Harrison and Carroll (2006) proposed that research relying on surveys to assess culture could be complemented by the use of a formal model that theorizes the link between observable factors such as rates of employee entry and turnover. Through the use of a formal model, it becomes possible to better understand the underlying theoretical processes without being constrained by selection bias or identification issues.

Through a model consisting of a hiring function, socialization function, and a turnover function, a computer simulation is able to show several characteristics about cultural systems, such as its equilibrium, robustness, and strength during various stages (Harrison & Carroll, 1991).

IV. Experimental Approaches to Measuring Culture

Researchers have examined organizational culture by experimentally manipulating its content (e.g., Chatman, Greer, Sherman, & Doerr, 2019; Chatman, Polzer, Barsade, & Neale, 1998) or focusing on agreement levels about various norms (e.g., Weber & Camerer, 2003). For example, Chatman and colleagues (1998) simulated cultures that either emphasized individualism or collectivism, found that members of collectivistic cultures were more productive and creative when they also represented diverse demographic attributes. And Chatman and colleagues (2019) showed that experimentally manipulated collectivistic cultures caused members to blur demographic differences among them, affecting the quality of group decisions. Weber and Camerer (2003) considered norm consensus to be observed through higher efficiency among newly merged groups.

And, in what can be considered a quasi-field experiment, Martinez, Beaulieu, Gibbons, Pronovost, and Wang (2015) observed an organizational intervention in which both a technical and a culture change solution were used to solve a significant safety issue in a hospital; central line-associated blood stream (CLABS) infections, which are a very serious threat to patients. Martinez and her colleagues (2015) suggested how to conduct analyses that would isolate the effects of culture on measured reductions in CLABS, such as whether a reduction of CLABS was associated with changes in survey-based self-reported norms among employees. By manipulating culture and using random assignment, such experiments (and interventions) can generate enormous causal insight into how culture influences behavior and organizational performance. These designs need not be complex, but empirical analyses must be able to control for alternative explanations of any behavioral change.

Jennifer A. Chatman and Andrew Choi (2019) had made clear that, the only way of addressing the inherent weaknesses of each method is to cross-validate them with the other methods. Organizational culture is a central topic in organizational research and it is viewed as immensely important to managers (Graham, Harvey, Popadak, & Rajgopal, 2017).

2.1.7 Models of Organizational Culture

As it is cited by Ana Belen (2021), models for the study of organizational culture were designed by (1) Denison (1984, 1990, 1996, 2003); (Denison et al. 1995, 2006, 2015), including four dominant characteristics to measure the organizational culture, involvement, consistency, adaptability, and mission; (2) Schein (1988), using artifacts/signs/symbols, values, and basic assumptions (Schein 1988), (3) Hofstede (1983, 1999, 2011); Hofstede et al. (2010), identifying six dimensions of cultural grouping that affect the behavior of societies and organizations (Hofstede 1983, 2011; Hofstede e tal. 2010; De Mooij and Hofstede 2011); (4) O'Reilly et al. (1991), measuring the association between the values of the worker and the values of the firm (O'Reilly et al. 1991); and (5) Cameron and Quinn (2006), introducing four dominant types of culture (clan, adhocracy, hierarchy, and market) that influence organizational performance (Cameron and Quinn 2006).

Leigh Zwaan (2006) presented the different organizational culture models as discussed below.

2.1.7.1 Schein's Model of Organizational Culture

Schein (1985) discusses three levels of culture, namely, artefacts and creations, values and norms, and beliefs and basic assumptions.

- Artefacts and Creations

According to Du Toit (2002), artefacts are visible, obvious expressions of culture. They are tangible and audible demonstrations of behaviour supported by organizational norms, values and assumptions. They range from aspects such as architecture, office design, language, rituals and celebrations.

- Values and Norms

According to Schein (1985), values represent the principles and standards valued by the organization's employees. Values form the basis as to what is acceptable and what is not acceptable. They indicate that which is considered right and wrong and forms an ethical code of the organization. Du Toit (2002) states that norms relate to values in that they indicate what the expectations are amongst the organization's employees. Norms provide the organization with unwritten rules that indicate the expectations in terms of actions relevant to certain situations. Norms and values support the artefacts of a culture (Du Toit, 2002).

- Assumptions and Beliefs

At the basis of an organization's culture are the assumptions and beliefs. Assumptions are unconscious and are often taken for granted, but are the basis for how the organization's employees feel. Basic assumptions become taken for granted to the extent that there is little variation within the cultural unit. They guide behaviour and tell people how to think, feel and perceive work, performance goals, relationships and performance of colleagues (Du Toit, 2002).

One of Schein's key assertions is that the changes in culture flow from the higher to the lower levels, with the "basic underlying assumptions" being the highest level. In Schein's model, the higher levels drive the lower levels and introducing change at a high level can bring transformative change throughout all the lower levels (Unwin, 2002).

2.1.7.2. Kotter and Heskett's Model of Organizational Culture

Kotter and Heskett (1992) concur with Schein's model and also define culture as norms of behaviour and shared values amongst a group of people. The authors describe culture as having two levels which differ in terms of their visibility and their resistance to change. The deeper, less visible level, refers to values that are shared by the people in a group and that persist over time, even when the group membership changes. At this level, culture can be difficult to change, partly because group members are unaware of the values that bind them together. The more visible level represents behaviour patterns or style of an organization that new employees are automatically encouraged to follow. Culture is not something that an individual can directly manipulate.

Kotter and Heskett's (1992) study of organizational culture and performance concluded that organizations with performance enhancing cultures seem to be driven by a value system that stresses meeting the legitimate needs of all constituencies, including shareholders, customers and employees.

2.1.7.3. Hofstede's Model of Organizational Culture

Hofstede developed a cultural model for the relationship between organizational cultures and their local cultures. It has four main levels which encompass the lower level, as it depends on the lower level, or is a result of the lower level (Hofstede, 1985). The four main levels are: symbols, heroes, rituals and values.

- Symbols

Symbols are the most overt element of culture and are the gestures, objects or words recognized by those who are part of the same organizational culture (Denison, 1990). Symbols carry a particular meaning within a culture (Davidson, 2004).

- Heroes

Heroes are individuals who are seen to possess characteristics that are highly prized and are often the "winners" in an organization (Davidson, 2004). They serve as models of behaviour within a particular organization (Hofstede, 1985).

- Rituals

Rituals are collective activities that are superfluous but are considered socially essential within a culture. Symbols, heroes and rituals can be termed as practices because they are visible to the observer (Hofstede, 1985).

- Values

Hofstede stipulates that the core of culture is formed by values, which are broad tendencies to prefer certain states to others and are the deepest level of culture (Denison, 1990).

2.1.7.4. The Denison Organizational Culture Model

According to Denison Consulting (2009), Denison identifies four basic views of organizational culture that can be translated into hypotheses focusing on the cultural traits, namely, that of involvement, consistency, adaptability and mission.

- **Involvement**

This trait mainly focus on, building human capability and creating a shared sense of ownership and responsibility throughout the organization (Denison Consulting, 2009).

According to Wesemann (2001), involvement encompasses the importance that the organization places on building the capability of its professional and administrative employees. The value that the organization places on team orientation as opposed to individual accomplishment, and the ownership that people feel in the organization, is created by a high level of involvement. High involvement organizations rely on informal, voluntary and implicit control systems, rather than formal, explicit, bureaucratic control systems. Low involvement scores usually indicate an organization in which employees are disconnected from their work, unaware of its importance and its connection to the rest of the organization, unwilling to accept greater responsibility, and are hesitant about working with people outside of their immediate circle (Denison et al., 2006).

In the model, involvement is measured with three indices:

(i) Empowerment

Empowerment celebrates that individuals have the authority, initiative and ability to manage their own work. This creates a sense of ownership and responsibility toward the organization (Denison et al., 2006). This index investigate whether employees feel informed and involved in their work or not. Also, it answers the questions, "Do they feel they can have a positive impact on the organization?" (Denison Consulting, 2009).

(ii) Team Orientation

Value is placed on working collaboratively toward common goals for which all employees feel mutually accountable. The organization relies on team effort to get work done (Denison et al., 2006). This index assess whether teamwork is encouraged and practiced in the organization how employees value collaboration and feel mutually accountable for common goals. (Denison Consulting, 2009)

(iii) Capability Development

The organization continuously invests in the development of employee skills in order to stay competitive and meet on-going business needs (Denison et al., 2006). This index measure how employees are being invested in and that their skills are improving, also it investigates the improvements of the organization's bench strength.

Furthermore, it looks deep down whether the organization have the skills it needs to be competitive today and into the future or not (Denison Consulting, 2009).

- **Consistency**

This trait is mainly concerned on defining the values and systems that are the basis of the culture. The consistency hypothesis states that, in consistent cultures, communication is a more reliable process for exchanging information because there is overall agreement on the meaning of words, actions and other symbols. Furthermore, Denison posits that a common perspective, shared beliefs and communal values among the organization's members will enhance internal co-ordination and promote meaning and a sense of identification on the part of its members (Denison, 1990).

Consistent organizations develop a mindset and create organizational systems that build an internal system of governance based on consensual support. This type of consistency is a powerful source of stability and internal integration. In the model, consistency is measured with three indices:

(i) Core Values

Employees of the organization share a set of values which create a sense of identity and a clear set of expectations (Denison et al., 2006). According to Denison Consulting this culture index will questions like "Do employees share a set of values that create a strong sense of identity and a clear set of expectations? Do leaders model and reinforce those values?" (Denison Consulting, 2009).

(ii) Agreement

Agreement occurs when employees of the organization are able to reach consensus on critical issues. This includes both the underlying level of agreement and the ability to reconcile differences as they occur (Denison et al., 2006). This index will investigate, whether an organization is able to reach agreement on critical issues or not, also assess how employees reconcile differences in a constructive way when problems arise (Denison Consulting, 2009).

(iii) Co-ordination and Integration

Various functions and units of the organization are able to work together to achieve common goals and organizational boundaries do not interfere with getting work done (Denison et al., 2006).

Do employees from different parts of the organization share a common perspective that allows them to work effectively across organizational boundaries? Do they work to eliminate 'silos' and promote actions that are in the best interest of the organization as a whole? These questions will directly implicate the coordination and integration in an organization (Denison Consulting, 2009).

Adaptability

The adaptability hypothesis states that a culture that allows an organization to adapt to changing demands and circumstances, will promote effectiveness. Adaptability allows an organization to recognize and respond to its external environment and internal constituencies. In response to either internal or external stimuli, it requires the capacity to restructure behaviours and processes, as appropriate (Denison, 1990).

Despite some of the advantages of well-integrated organizations they can also be the least adaptive and most difficult to change as internal integration and external adaptation can be at odds.

Organizations that are strong in adaptability usually experience sales growth and increased market share (Denison & Mishra, 1995). Organizations with low adaptability scores usually have an inward focus and have difficulty responding to competitors, customers and employees with new ideas. Low adaptability organizations run on inertia and their past achievements could create barriers for future success. Top managers in these organizations usually spend their time responding to results of standard operating procedures, controlling the organization and managing short-term performance, rather than leading change or long-term thinking (Denison et al., 2006).

In the model, adaptability is measured by three indices:

(i) Creating Change

Can employees read the external environment and react to trends and changes? Do employees constantly look for new and improved ways to do their work? This cultural index will answer these questions (Denison Consulting, 2009). It helps to assess the organization under study is able to create adaptive ways to meet changing needs, able to read the business environment, react quickly to trends and anticipate future changes (Denison et al., 2006).

(ii) Customer Focus

Customer Focus reflects the degree to which the organization is driven by a concern to satisfy their customers. The organization understands and reacts to their customers and anticipates their future needs (Denison et al., 2006). "Do we understand the needs of our customers? Are employees committed to responding to their ever-changing needs? Is customer focus a primary concern throughout the organization?" these questions will be answered under this index. (Denison Consulting, 2009)

(iii) Organizational Learning

The organization receives, translates and interprets signals from the environment into opportunities. These opportunities are used for encouraging innovation, gaining knowledge and developing capabilities (Denison et al., 2006). This index was mainly focused on answering, "Is importance placed on learning in the workplace? Do we create an environment where reasonable risk taking and innovation can occur? Do we share knowledge across the organization?" (Denison Consulting, 2009).

- **Mission**

According Mission means, defining a meaningful long-term direction for the organization. In the model, mission is measured by three indices (Denison Consulting, 2009):

(i) Strategic Direction and Intent

Clear strategy intentions relay the organization's purpose and make it clear how everyone can contribute and "make their mark" in the industry (Denison et al., 2006). Baker (2002) posits that strategic planning and identification are crucial for maintaining organizational culture. This index was mainly concerned on answering "Do employees understand the strategies identified by the organization and do they think the strategies will work?" (Denison Consulting, 2009).

(ii) Goals and Objectives

A clear set of goals and objectives can be linked to the mission, vision and strategy, and provide a clear direction in employees' work (Denison et al., 2006). Are there short-term goals that help link what employees do on a day-to-day basis to the strategy and vision of the organization? Do employees understand how their job fits in? Questions like this will be answered under this index (Denison Consulting, 2009).

(iii) Vision

The organization has a shared view of a desired future state and it embodies core values and captures the hearts and minds of the organization's people, while providing guidance and direction (Denison et al., 2006). This index will answer the question, "Do employees share a common desired future state for the organization? Do they understand the vision? Does it motivate and excite them? (Denison Consulting, 2009).

2.1.8 Organizational Performance

According to Cascio (2014) organizational performance is the degree of attainment of work mission as measured in terms of work outcome, intangible assets, customer link, and quality services. Kaplan and Norton (2001) defined organizational performance as the organization`s capacity to accomplish its goals effectively and efficiently using available human and physical resources. This definition provides the justification for organizations to be guided by objective performance criteria when evaluating employees‟ work based performance. This is also helpful in evaluating the achievement of the organizational goals as well as when developing strategic plans for the organizations‟ future performance (Ittner & Larcker, 2012).

According to Daft (2000), organizational performance is the organization`s ability to attain its goals by using resources in an efficient and effective manner. Quite similar to Daft (2000), Richardo (2001) defined organizational performance as the ability of the organization to achieve its goals and objectives.

Construction project performance has been reported by literature with the following critical problems being found: poor quality, over budget, missing timeliness, unsafe construction and client dissatisfaction. The factors that potentially influence the success or failure of construction projects must be identified to improve project performance (Luong Hai Nguyen et al., 2017).

Researchers utilize the terminology of organizational effectiveness and organizational performance interchangeably. Organizational performance is related to the economy, efficiency, and effectiveness of a certain program or activity (Javier, 2002). It is the ability of the organizations to achieve its goals and objectives by utilizing resources effectively and efficiently (Karanja, 2014). Performance is a very significant concept as it is a measure of the success of organizations. Organizations should know about the performance indicators to measure, manage, and compare performance.

Noora Ashehhi et al. (2021) argue that, measuring performance starts with the identification of performance indicators that allow for a detailed specification of process performance. Performance indicators are described as physical values that are used to measure, compare, and manage organizational performance. There are various categories of performance indicators for different approaches of performance measurement; however, there are two main categories of indicators that are used to determine organizational performance. One category is financial or cost-based measures of performance and the other is the non-financial or non-cost-based measures of performance (Bhatti et al., 2014).

As cited by Akpa Victoria et al. (2021), the profitability of an organization is an important financial indicator to reflect the efficiency of the organization and the owners/managers ability to increase sales while keeping the variable costs down (Davis et al., 2000). Profit margin, return on assets, return on equity, return on investment, and return on sales are considered to be the common measures of financial profitability (Robinson, 1982; Galbraith & Schendel, 1983).

Non-financial measures include job satisfaction, organizational commitment, and employee turnover (Mowday, Porter & Steers, 1982; Mayer & Schoorman, 1992; Hosmer, 1995; Rich, 1997; Zulkifli & Jamaluddin, 2000).

As cited by Noora Ashehhi et al. (2021), financial performance indicators are one of the most important indicators to evaluate the organization's performance in any industry. The financial dimension refers to whether the organization's strategy, implementation, and execution are contributing to bottom-line improvement (Kaplan & Norton, 1992). The financial goals have to do with shareholder value, revenue growth, profitability, and sales volume.

On the other hand, there are other organizational non-financial specific measures of performance that may reflect the success of the organization. They include measures such as customer satisfaction, internal business processes, quality, innovation and learning, job satisfaction, organizational commitment, and employee turnover (Mayer & Schoorman, 1992). The main objectives of the customer dimension are customer satisfaction and loyalty. Obtaining continuous feedback from customers, satisfying their requirements, improving customer service, and developing innovative products tailored to their needs help increase customer satisfaction and loyalty. The outcome would eventually improve the organizational performance.

Furthermore, the internal business processes dimension is very important as it focuses on the internal operations of the organization to satisfy customer requirements. Organizations would attempt to identify and measure its core factors such as quality, cost, time, employee skills, productivity, and technologies, etc., to ensure customer satisfaction and continued market leadership.

Quality plays a significant role in the success of all organizations. It is one of the dimensions that the organization uses to measure its performance. One of the main objectives and challenges of organizations is to provide quality products to customers that are produced at a lower cost. Organizations aim to deliver quality products and services with optimum utilization of resources to their customers which will consequently increase its performance (Badri et al. 1994).

Innovation and learning dimension is also very significant as global competition requires organizations to make continuous improvements to their existing and new products and processes. It is very important to enhance training programs for employees on quality, time, cost management, and new technological advancements. In addition, encouraging employees to be risk-takers, developing innovative ideas, and launching them into the market would create more value for the customers and increase organizational performance. As a result, the organization becomes able to innovate, learn and improve ties directly to the organization's value (Kaplan & Norton, 1992).

Job satisfaction dimension can be defined as one's attitude towards his/her job. Job satisfaction is related to five main dimensions: task identity, task significance, skill variety, autonomy, and feedback from the job that leads to satisfaction with supervision, co-workers, work, pay, and promotion. Hence, job satisfaction is a very important factor that employees may possess which as a result may affect the organization's performance (Hackman & Oldham, 1975).

Organizational commitment is related to the level of desire employees are willing to put efforts in order to achieve the organizational goals and objectives. Furthermore, it reflects the nature and the quality of linkage between employees and management (Oliver, 1990). Job satisfaction and organizational commitment have a direct relationship with employees' turnover. Employees with low organizational commitment and job satisfaction tend to be less motivated which may lead them to leave their job and thus increase the turnover rate. It is important to note that sometimes a certain identifier can be considered as Organizational Culture in some studies and as a performance indicator in other studies.

2.2. Conceptual Framework

The primary conceptual frame work used in this study was Denison`s organizational culture model. The Denison`s organizational culture model was composed of four cultural traits and twelve indices, as shown on Figure 1 of Chapter One. To be more specific related to the research objective, the researcher prepared a simple conceptual framework based on Denison`s organizational culture model. The conceptual framework illustrate the independent variable organizational culture and the dependent variable organizational performance. Furthermore, the effect of organizational culture on organizational performance.

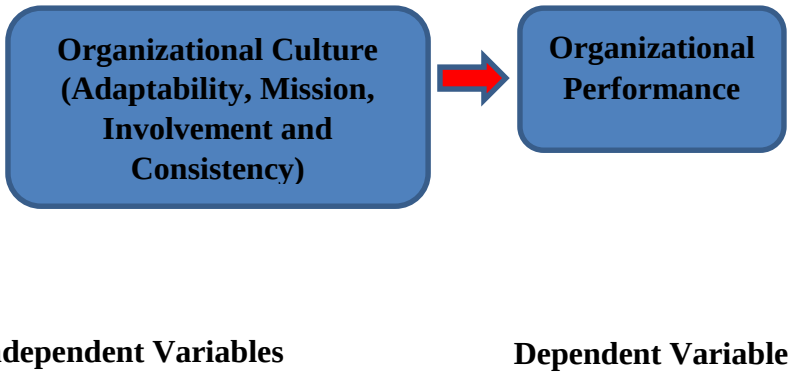


Figure 2.1: Simplified Conceptual framework based on Denison Model (Developed by the researcher based on the concept from different literatures)

2.3. Empirical Review

There are a number of empirical challenges that have stalled research on organizational culture. Some arise from the nature of the construct itself, while others are derived from weaknesses in popular approaches to assessing culture. Empirical Challenges Arising from the Nature of the Construct. Four distinctive features of organizational culture make it challenging to measure.

First, organizational culture, identified in terms of patterns of norms that are shared, represents a large set of interrelated attributes (Chatman, 1991; O'Reilly, Chatman, & Caldwell, 1991). The resulting measurement challenges include creating an approach that informants can use to reliably profile their organization's culture – one that enables an evaluation of the full set of relevant norms and how each relates to the other in relative importance, since culture influences how members of organizations react to competing priorities (Chatman, 1989).

Second, assessing culture via shared norms requires parsing these norms into both the content that characterizes the organization but also the structural properties of culture – the extent to which members agree on the relative importance of each norm, and the level of intensity with which each norm is collectively held (Chatman, Caldwell, O'Reilly, & Doerr, 2014).

Third, culture exists on many levels – at the national level (Gelfand et al., 2011), the industry level (Chatman & Jehn, 1994), and the group level (e.g., Chatman & Flynn, 2001), but organizational culture requires assessment at the organizational level. Collecting culture data one organization at a time is extremely time consuming and this challenge has surely stifled culture data collection efforts to-date.

Finally, assessing culture can be subject to a set of biases. A primary concern are biases (e.g., social desirability, retrospective rationality) that arise from members of an organization being motivated to make their organization look good to outsiders and themselves when asked to assess their own culture (Chatman, Bell, & Staw, 1986). A second challenge is selection bias since those who choose to respond to culture assessments or comment on their organization's culture may be different from those who choose not to respond. And, finally, beyond attempts to intentionally bias culture assessments, organizational members or outside informants (e.g., Kotter & Heskett, 1992), may have biases that they are unaware of as they assess an organization's culture, such as a lack of information based on their vantage point – by function, tenure, geographic location, or level.

Empirical Challenges also arise from weaknesses in Approaches to Assessing Culture. The primary weakness of existing scales measuring culture is a lack of construct validity. Chatman and O'Reilly (2016) offer a detailed analysis of the most popular culture assessments and show how many were not originally designed to assess culture specifically and are more likely assessing the murkier construct of organizational effectiveness. This is a problem because the scales may still generate predictive validity (e.g., organizational effectiveness predicts organizational effectiveness), without construct validity (e.g., that culture is causing observed levels of effectiveness).

Being considerate of all the above empirical challenges, I have presented below some of the studies related to the topic of my research.

A Doctoral Study by Tewodros Bayeh Tedla (2016), titled "The Impact of Organizational Culture on Corporate Performance", the purpose of the qualitative exploratory single-case study was to explore successful strategies that senior company managers use to establish an effective organizational culture to improve performance using Denison Cultural Model as conceptual frame work.

The target population of the study were senior company managers with successful strategies in establishing an effective organizational culture in the corporate group from Ethiopia. The result of the study have showed that, well-defined mission and vision, core corporate values and employee-focused leadership as a successful strategy to establish an effective organizational culture and to improve performance in the corporate group. From the four traits of Denison`s model the consistency theme was found to be an essential strategy.

Mehmet Kiziloglu (2021) conducted a research about the effect of organizational culture on organizational performance and the mediating role of intrapreneurship. The research aimed to examine the effect of organizational culture on organizational performance in the context of the hospitality industry in the UK. Organizational culture was studied based on the Denison model. The study reveals that organizational culture significantly affects organizational performance. Moreover, it is found that adaptability and mission are two key elements of organizational culture that significantly affect organizational performance.

Khedher Yahya Almathami (2020) has conducted a research about Organizational Culture and Productivity of the Construction Industry in The Kingdom of Saudi Arabia, he used Denison Organizational Culture Survey (DOCS) with other survey instruments. The result of the study confirmed that Organizational Culture directly affects Organizational Performance also it directly affects Productivity Barriers and Productivity Strategy.

A study in the Ecuadorian service sector by Tulcanaza-Prieto et al. (2021), titled Organizational Culture and Corporate Performance in the Ecuadorian Environment. The purpose of the study was to identify the relationship between organizational culture and corporate performance in the Ecuadorian service sector. The Denison model was used for the measurement and evaluation of behavior patterns that expressed the cultural characters presented in the Ecuadorian environment. The findings reveal a statistically positive relationship between organizational culture and firm performance. Moreover, involvement, adaptability, consistency, and mission affect the non-financial performance of the Ecuadorian service sector. Involvement is the critical determinant of the influence of organizational culture on corporate performance, while training shows the strongest association with organizational culture.

Boyce et al. (2015) have collected data from ninety-five automobile dealers over six years in order to find out whether culture influences performance or whether the direction of the relationship is the other way around. Their results show ‘that culture “comes first”; in other words he found out culture influences performance (Boyce et al. 2015).

Muhammad Imran and Fadillah Ismail (2021) had researched on the Dimensions of Organizational Culture Influence on Organizational Performance in Pakistan's Public Banking Sector. The researchers used Denison`s four traits of organizational culture were used in the analysis and the results show that organizational culture dimensions such as; involvement culture, consistency culture, adaptability culture, and mission culture were significantly related to organizational performance in Pakistan's public banking sector.

Oberföll, K., et al. (2018) assessed the relationship between organizational culture and performance among German multinational companies in Mexico empirically, and the result of the research confirm that organizational culture has a significant influence on performance.

A research by C.O. Miruka et al. (2020) aiming to investigate and ascertain the relationship that exists between the corporate culture and performance of South African construction firms, have confirmed that a positive correlation exists between corporate culture and business performance. However, in the context of South African construction firms, the magnitude of the influence of corporate culture on business performance is inversely proportional to the size of the firms.

A study conducted by Mohammed Sani Abdullahia et al. (2021) using Denison`s cultural traits, aiming to investigate the effect of organizational culture (OC) on employee engagement (EE) and employee performance (EP) among academic staff of Malaysian Private Universities (MPU), revealed that Organizational Culture has a significant effect on employee performance (EP) while employee engagement (EE) partially mediates the relationship between Organizational Culture and employee performance. The findings categorically showed that OC and EE are the most essential and key factors to actualized EP. In addition, from such outcomes, we infer that OC does not only improve EP behaviours but also decreases negative behaviours through the partial mediating role of attitudes of employees in workplace.

A study which was conducted by Chau Thi Le Duyen et al. (2021) titled "Study on corporate culture of Vietnamese enterprises: An approach of Denison's model" that mainly focused on identifying the elements that constitute corporate culture, by applying Denison's organizational culture (DOC) model. The results show that the studied enterprises achieve consistency when building a long-term vision and mission, and stable objectives. In relation to that sub-indexes which are core values, agreement, coordination and integration are also significantly promoted in the studied enterprises' corporate culture.

A study on Construction Firms in Nigeria by Bamgbade et al. (2020), aiming to determine the organizational culture characterization of construction firms in Nigeria to improve the organizational culture power to drive organizational performance of the firms, confirmed that the organizational culture is a vital aspect of construction firms and each firm should improve on their culture to better their organizational performances.

Ingosi, J. M., & Juma, D. (2020) have studied, Influence of organizational culture on project performance. a case of nongovernmental organizations in Nairobi county, Kenya. The results of the study had shown that there was a significant positive correlation between decision making culture and project performance and between leadership culture and project performance whereas there was negative correlation between shared values and project performance and power distance culture and project performance respectively.

Wee Loong Lee (2018) conducted a study about Organizational culture and performance of Malaysian manufacturing firms, using the eight dimensions by Hogan and Coote (2014). The result of this research strongly suggest that implementing means to encourage and foster organizational culture are likely to result in the achievement of superior firm performance.

Eddah Jepkorir et al. (2017) researched the effect of organizational culture on job performance in commercial banks in Kenya using Denison`s Model of culture. The main objective of the study was to assess the effect of organizational culture on employee performance in selected commercial banks in Kenya. The findings of the study showed that "team orientation", which is under the involvement trait, should be considered as the first option, since it is clearly best to ensure job performance. Executives, managers, and employees should be committed to their work and feel that they own a piece of the organization.

Xiajie Xing & Ruhua Yuan (2016) have conducted a research on "Adaptation Analysis of Denison Corporation Culture Model in State-owned Corporations—an Example of Corporation Culture Evaluation in a State-owned Electric Power Enterprise". The aim of the study is to carry out corporate culture evaluation in order to draw relevant conclusions in State-owned enterprise. The result of the study had indicated that Denison cultural model causes a positive effect on the construction of company's culture. What's more, it can foster the sustained development of the corporations in long-term.

A case study by Irena Kokina and Inta Ostrovska (2013) titled as "The Analysis of Organizational Culture with the Denison Model: The Case Study of Latvian Municipality", aiming the analysis of organizational culture with the Denison Model in the specified company, have revealed results which are significant for the empirical review of studies related to Denison Model. The results obtained from the questionnaire survey of the study area of municipality showed that the most influential factors affecting the organizational culture are to be related to such factors as constant employment of new, improved methods, accessibility to the information necessary for each employee. Whereas factors that affect organizational culture least of all relate to customers' viewpoint and to the fact that the organization relies more on the horizontal control and coordination rather than on the position in hierarchy.

Denison et al. (2006) validated the four traits and 12 indices model by presenting a validation test on the effect of these traits on organizational effectiveness. For this validation they used the data gathered from a diverse sample of more than 35,000 individuals from 160 organizations. In another research Denison et al. (2014) compared nine different culture effectiveness profiling instruments. They could demonstrate that there are still gaps and problems in these tools, meanwhile they could show that DOCS (Denison Organizational Cultural Survey) "is the most well researched effectiveness instrument to date".

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter deals with research design of the study, population of the study, sampling technique, sources of data, tools and procedures of data collection and method of data analysis.

3.2 Research Method

The research approach that was used in this paper is Quantitative Method. The type of research applied was an Explanatory Research. Explanatory research is used to investigate how or why a phenomenon takes place. Explanatory research helps you analyze these patterns, formulating hypotheses that can guide future endeavors. Structured Questionnaire was used as a research instrument (See Appendix A).

3.3 Population of the Study

Since the study is case study, it focuses on a specific group. For this research the population of the study were employees in Ethiopian Construction Works Corporation (ECWC), specifically in the Building and Housing Construction Sector (BHCS).

3.4 Sample size, Sampling Technique and Participants

The sample size was determined using statistical formula put hereunder considering the population and confidence level so as to estimate the number of questionnaires to be distributed to respondents. The formula used for Sample size determination for finite population was suggested by C.R. Kohtari (2004):

$$n = \frac{(z^2 * p * q * N)}{(e^2 * (N-1) + z^2 * p * q)} \quad \ldots\ldots\ldots \text{Equation 1}$$

Where n and N represent the sample size and the available population respectively.

Where, z=the statistical value for the confidence level used i.e. 2.575, 1.96 and 1.645 for 99%, 95% and 90% confidence level respectively, taken from a table showing areas of a standard normal distribution.

p=the value of the population proportion that is determined, take a conservative value of 0.5 (Snitch et al, 2002)

q= 1-p

e = the sampling error = 1 - confidence level.

For this study the least educational level was set by the researcher as Diploma. So that the population which will be part of the research need to have the least educational level Diploma and above. Based on that, the number of employees who have the least educational level Diploma and above were **174**, where the data was taken from ECWC Head Office at the time of study (April 2022).

Following that, the sample size was calculated by the above formula taking a 95% confidence level, so that **z** will be 1.96 as per Areas of a standard normal distribution and As suggested by C.R. Kothari (2004), to get the most conservative sample size we take the degree of variability p=0.5. and N = 174,

q = 1-p = 1 - 0.5 = 0.5

e = 1- confidence level = 1 – 0.95 = 0.05

$$n = \frac{(z^2 * \ p * q * N)}{(e^2 * (N - 1) + \ z^2 * p * q)}$$

$$n = \frac{(1.96^2 * \ 0.5 * 0.5 * 174)}{(0.05^2 * (174 - 1) + \ 1.96^2 * 0.5 * 0.5)} = 120$$

So, according to the above formula, the sample size of the research from the total population, will be 120 employees. The sampling technique used is Simple Random Sampling Method. All the participants of the study were employees who work in Head Office and in Building Construction projects under ECWC, BHCS, having the least educational level Diploma. Based on the data taken from Head office of ECWC, there are 21 active construction projects in Addis Ababa, 9 of them are renovation and the rest 12 were Construction projects.

Following the sample size calculated by the formula, the researcher selected a total of 12 construction projects (out of 21 active projects) which are nearby to home and work place of the researcher, where 7 of them were construction projects (out of a total of 12 construction projects), while 5 of them were renovation projects (out of a total of 9 renovation projects). Considering the gap on response rate and the usable response of the questionnaire, the researcher took a sample size of 137, which is higher than the expected sample size by the above formula. The data collection was conducted at Head Office and 12 selected building construction projects of ECWC, BHCS, which are located in Addis Ababa.

Table 3.1: Data instrument distribution

No	**Place where quest. Distributed**		**No. Distributed**
	Head office, ECWC BHCS		34
No	**Place where quest. Distributed**	**Project Type**	**No. Distributed**
1	Project 4B+G+21	Construction	30
2	Addis Ababa Police Commission	Renovation	10
3	Ministry of Revenue	Renovation	11
4	Kolfe Qeranio General Hospital	Construction	10
5	Nifas Silk Sub City	Renovation	4
6	Haile Garment vegetable market	Construction	12
7	National Examination Agency	Renovation	4
8	Ministry of Trade and Industry	Construction	1
9	Nifas Silk General Hospital	Construction	3
10	Jemo Public Service	Construction	5
11	House of People representatives	Renovation	6
12	Akaki Public Service	Construction	7
Total Questionnaire Distributed			**137**

Source: Own Survey, May 2022

3.5 Source of data

Both Primary and Secondary data was used for the data collection; Primary data was collected through questionnaire, while Secondary data was taken from different literatures, i.e. related books, journals, research articles and also from ECWC, BHCS`s recent and past documents where the research was undertaken.

3.6 Procedures of data collection

The researcher has prepared 137 questionnaires and distributed at Head Office and 12 selected construction projects under ECWC, BHCS which are relatively nearby to home and work place of the researcher. Questionnaires were distributed and administered face to face in person by the researcher. The questionnaire have three parts; the first part will cover demography of the respondents; and the second part will have 48 questions regarding organizational culture and the third part will have 18 questions related to organizational performance, all measured by 1-5 Likert Scale except the demography of the respondents.

3.7 Methods of Data Analysis

Quantitative Data analysis was applied to analyze the data. In the statistical analysis both descriptive and inferential statistics were applied. Correlation analysis, Analysis of Variance, Linear and Multiple regression analysis was applied in the inferential analysis. The overall statistical analysis was conducted using SPSS V26.

3.8 Validity and Reliability

The Questionnaire used in the study was a standard questionnaire which was developed based on a 25 years research on culture. According to Daniel et al. (2012), this instrument was the most well-researched culture instrument. Both internal consistency reliability and second-order confirmatory factor analysis were done to test the tool's validity and reliability. The results of the internal consistency reliability of the indices as 5-item subscales show they are at an acceptable level of internal consistency. Also the performance indicators questions related to organizational performance were taken from different empirical studies. The reliability of the questionnaires was checked using Cronbach's alpha coefficient and the result was shown in Table 3.2 below. The Cronobach`s alpha for the overall instrument was found to be **0.942**, which indicate the questionnaire have an Excellent internal consistency or it is very reliable.

Table 3.2: Cronobach`s alpha for all the variables

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.942	.942	5

In order to have clear image of internal consistency of the instrument used, Cronobach`s alpha for each of the independent and dependent variables as shown in Table 3.3 below.

Table 3.3: Cronbach`s Alpha for each variable

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Involvement	14.1869	8.247	.807	.684	.935
Consistency	14.3918	7.664	.847	.757	.927
Adaptability	14.3044	7.724	.884	.793	.921
Mission	14.1282	7.840	.816	.730	.933
Organizational_Performance	14.3347	7.360	.865	.794	.924

Source: Own Survey, May 2022

The SPPS output of Cronbach`s Alpha for each variable in the table above, shows the instrument was very reliable to test the research hypothesis. According to Cronbach`s level of reliability shown in Table 3.4 below, all the values lie between 0.80 and 1.00 which infer the questionnaire was **"Very Reliable"**.

Table 3.4: Cronbach`s Alpha Level of Reliability

Cronbach`s Alpha(α) Score	**Level of Reliability**
0.00 – 0.20	Less Reliable
>0.20 – 0.40	Rather Reliable
>0.40 – 0.60	Quite Reliable
>0.60 – 0.80	Reliable
>0.80 – 1.00	Very Reliable

Source: Atina Ahdika (2017)

3.9 Ethical Considerations

The researcher had followed ethically acceptable processes throughout the research process. Permission was already obtained from the concerned authorities in ECWC, BHCS where the research was under taken. The participants were informed, the purpose of the study before the information is collected from them in order to insure voluntary and informed consent. In addition, all of the response in the survey were recorded anonymously. Personal information revealing identity was not asked in any way. The researcher further considered that all the sources used in this research report will be properly recognized and acknowledged as in-text citation and reference list.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter focuses on data analysis and discussion results and findings about the Effect of Organizational Culture on Organizational Performance; the case of Ethiopian Construction Works Corporation Building Housing and Construction Sector, based on the data collected from employees of the selected organization using questionnaires.

4.2 Response Rate

It indicates the number of respondents/employees who participated in the survey and those who actually responded to the questions and who declined to do so.

Table 4.1: Response Rate

No.	Place where quest. distributed	No. Distributed	No. responded	No. rejected due to missed data	Usable response
1	Head office	34	32	2	30
2	Project 4B+G+21	30	30	2	28
3	Addis Ababa Police Commission	10	9	1	8
4	Ministry of Revenue	11	10	1	9
5	Kolfe Qeranio General Hospital	10	9	0	9
6	Nifas Silk Sub City	4	4	0	4
7	Haile Garment veg. market	12	11	0	11
8	National Examination Agency	4	4	0	4
9	Ministry of Trade and Industry	1	1	0	1
10	Nifas Silk General Hospital	3	3	0	3
11	Jemo Public Service	5	5	0	5
12	House of People representatives	6	4	0	4
13	Akaki Public Service	7	7	1	6
	Total	**137**	**129**	**7**	**122**
	Response Rate in %	**94.16%**			

Source: Own Survey, May 2022

4.3 Demographic Characteristics of Respondents

For this study Age, Gender, educational qualification, experience of work, place of work, Team and Profession were considered. The descriptive analysis on SPSS was presented below.

Age

The analysis shows, 68% of the respondents were between the age 21 – 30, 28.7% were between the age 31 to 40 and the rest 3.3% were between the age 41 to 50.

Table 4.2: Age- Demographic Characteristics

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21 - 30	83	68.0	68.0	68.0
	31 - 40	35	28.7	28.7	96.7
	41 - 50	4	3.3	3.3	100.0
	Total	122	100.0	100.0	

Source: Own Survey, May 2022

Gender

Most of the respondents who took the survey were Male, which 61.5% of the usable response. The rest 38.5 % were female. There were no discretion made by the researcher based on Gender at the time questionnaires were administered.

Table 4.3: Gender- Demographic Characteristics

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	75	61.5	61.5	61.5
	Female	47	38.5	38.5	100.0
	Total	122	100.0	100.0	

Source: Own Survey, May 2022

Educational Qualification

Regarding Educational qualification, most of the respondents are First degree holders. The analysis show, 71.3% of the respondents have first degree, 23.8% of the respondents have Masters` degree, while the rest 4.9% have Diploma.

Table 4.4: Educational Qualification- Demographic Characteristics

Educational Qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	6	4.9	4.9	4.9
	First Degree	87	71.3	71.3	76.2
	Masters Degree	29	23.8	23.8	100.0
	Total	122	100.0	100.0	

Source: Own Survey, May 2022

Experience of Work

Respondents with work experience below 5 years comprise 50.8% of the total respondents. 32 % of the respondents have work experience from 6 to 10 years. Respondents who have 11 to 15 years of experience took 16.4% of the total, the rest 0.8% was given to a respondent have 16 and plus years of experience.

Table 4.5: Experience of Work- Demographic Characteristics

Experience of work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 5 Yrs	62	50.8	50.8	50.8
	6 - 10 Yrs	39	32.0	32.0	82.8
	11 - 15 Yrs	20	16.4	16.4	99.2
	16 and Above	1	.8	.8	100.0
	Total	122	100.0	100.0	

Source: Own Survey, May 2022

Place of work

75.4 % of the respondents work on construction projects, where the researcher collected most of the data. The rest 24.6% were working in Head office under Building and Housing Construction Sector.

Table 4.6: Place of work- Demographic Characteristics

Place of work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Head Office	30	24.6	24.6	24.6
	Project	92	75.4	75.4	100.0
	Total	122	100.0	100.0	

Source: Own Survey, May 2022

Team

34.4% of the respondents work under the Office Engineering Team and 27.05% of the respondents work under the Engineering Execution Team, which was responsible for the execution of works on site. 27.05% of the respondents work under the support team, being responsible in administration and logistics works in support of the engineering teams. The rest 11 % works under other teams like counterpart engineering and other teams, which are not main division of work in our study.

Table 4.7: Team- Demographic Characteristics

Your Team

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Office Engineering Team	42	34.4	34.4	34.4
	Engineering Execution Team	33	27.0	27.0	61.5
	Support Team	33	27.0	27.0	88.5
	Other	14	11.5	11.5	100.0
	Total	122	100.0	100.0	

Source: Own Survey, May 2022

Profession

Since the study area is a construction project, most of the respondents were expected to be under engineering profession. The analysis also shows 65.6 % of the respondents have Engineering profession. 17.2 % were under Accounting & Finance profession and 9% were under Human Resource Management profession. 2.5% were purchasers and the rest have other profession.

Table 4.8: Place of work- Demographic Characteristics

Profession

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Engineering	80	65.6	65.6	65.6
	HRM	11	9.0	9.0	74.6
	Purchasing	3	2.5	2.5	77.0
	Accounting & Finance	21	17.2	17.2	94.3
	Other	7	5.7	5.7	100.0
	Total	122	100.0	100.0	

Source: Own Survey, May 2022

4.4 Descriptive Statistical Analysis

4.4.1 The Dominant Cultural Trait and Index

Hypothesis One: Mission is dominant trait, among the four Denison`s cultural traits in ECWC, BHCS.

Denison`s culture model have four cultural traits, i.e. Involvement, Consistency, Adaptability, and Mission. Each of these traits have 3 indexes under them. In order to identify which cultural trait is dominant in ECWC, BHCS, the researcher has under gone a descriptive analysis calculated the Mean and Standard Deviation of those organizational culture traits and the result was shown in the table below. From the four cultural traits Mission trait have the largest mean which is 3.71, the next biggest mean was 3.65 for involvement, 3.53 for adaptability and 3.44 for Consistency, in descending order.

Based on this we can conclude **Mission** is the **dominant cultural trait** in ECWC, BHCS for this specific study.

Table 4.9: Mean and Standard deviation of the four culture traits

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Involvement	122	1.58	5.00	3.6496	.69655
Consistency	122	1.42	5.00	3.4447	.78515
Adaptability	122	1.33	5.00	3.5321	.74869
Mission	122	1.75	5.00	3.7083	.77185
Valid N (listwise)	122				

Source: Own Survey, May 2022

Furthermore, one can identify the dominant Denison`s cultural index from the 12 indexes by comparing the mean result of the descriptive analysis of the indexes as shown in the table below.

Table 4.10: Mean and Standard deviation of the twelve culture indexes

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Empowerment	122	1.50	5.00	3.6168	.79655
Team_Orientation	122	1.75	5.00	3.7951	.76535
Capability_Development	122	1.25	5.00	3.5369	.81671
Core_Values	122	1.00	5.00	3.3668	.89025
Agreement	122	1.25	5.00	3.5164	.82368
Coordination_and_Intergration	122	1.00	5.00	3.4508	.89802
Creating_Change	122	1.00	5.00	3.4652	.92168
Customer_Focus	122	1.00	5.00	3.5123	.80664
Organizational_Learning	122	1.00	5.00	3.6189	.83147
Strategic_Direction_and_Intent	122	1.25	5.00	3.7910	.82219
Goals_and_Objectives	122	1.75	5.00	3.6844	.81299
Vision	122	1.25	5.00	3.6496	.88646
Valid N (listwise)	122				

Source: Own Survey, May 2022

The result shows, under the cultural trait Involvement there are three indexes namely Empowerment, Team Orientation and Capability Development, with a mean value 3.62, 3.80 and 3.54 respectively. **The Cultural Index** under **Involvement trait** which have the biggest mean was **Team Orientation** which is **3.80**.

Consistency have three indexes namely Core values, Agreement and Coordination and Integration, with a mean value 3.36, 3.52, and 3.45 respectively. **The Cultural Index** under **Consistency trait** which have the biggest mean was **Agreement** which is **3.52**.

Adaptability have three indexes namely creating change, customer focus and organizational learning, with a mean value 3.46, 3.51 and 3.61 respectively. **The Cultural Index** under **Adaptability trait** which have the biggest mean was **Organizational Learning** which is **3.61**.

Mission have three indexes namely Strategic Direction and Intent, Goals and Objectives and Vision, with a mean value 3.79, 3.68 and 3.65 respectively. **The Cultural Index** under **Mission trait** which have the biggest mean was **Strategic Direction and Intent** which is **3.79**.

Considering all these results the **Dominant Cultural Index** was **Team Orientation** with a mean value of **3.80**.

4.5 Correlation Analysis

Hypothesis Two: There is statistically significant relationships between the four Denison Cultural traits.

The second objective of the research is to study the relationship between Denison`s cultural traits (Involvement, Mission, Consistency and Adaptability) in the case of ECWC, BHCS. In order to evaluate this relationship, a Pearson Correlation Coefficient is conducted with the result shown in the matrix below. As per Saunder (2009), a correlation coefficient enables to quantify the strength of the linear relationship between variables. This coefficient is usually represented by ‘r’ and can take only the value from -1 to +1.

As shown in Table 4.11 below, there is a **strong positive significant relationship between all the cultural traits**, having a strong correlation coefficient between 0.50 and 1.00. Involvement and Consistency have a significant relationship ($P<0.05$) with $r=0.793$. Involvement and Adaptability have a significant relationship ($P<0.05$) with $r=0.779$. Involvement and Mission have a significant relationship ($P<0.05$) with $r=0.682$. Consistency and Adaptability have a significant relationship ($P<0.05$) with $r=0.835$. Consistency and Mission have a significant relationship ($P<0.05$) with $r=0.694$. Adaptability and Mission have a significant relationship ($P<0.05$) with $r=0.750$.

Even though the result shows there is a strong relationships between all cultural traits, the relationship between Consistency and Adaptability is the strongest one, with a correlation coefficient of r=0. 835.

Table 4.11: Correlation Analysis Matrix

Correlations

		Involvement	Consistency	Adaptability	Mission	Organizational_ Performance
Involvement	Pearson Correlation	1	.793**	.779**	.682**	.704**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	122	122	122	122	122
Consistency	Pearson Correlation	.793**	1	.835**	.694**	.758**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	122	122	122	122	122
Adaptability	Pearson Correlation	.779**	.835**	1	.750**	.815**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	122	122	122	122	122
Mission	Pearson Correlation	.682**	.694**	.750**	1	.844**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	122	122	122	122	122
Organizational_Performance	Pearson Correlation	.704**	.758**	.815**	.844**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	122	122	122	122	122

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

Source: Own Survey, May 2022

Hypothesis Three: Mission is the impacting cultural trait on the organizational performance of ECWC, BHCS.

The correlation table above reveals that the predictor Mission have a strong positive relationship with the dependent variable Organizational performance with r=0.844; Adaptability Consistency and Involvement follow Mission in descending order having a strong positive relationship with organizational performance with r=0.815, r=0.758 and r=0.704 respectively. According to R. Lyman Ott, Michael Longnecker (2010), a correlation measures the strength of the linear relation between dependent and independent variables.

The stronger the correlation, the better the independent variable predicts the dependent variable. We can infer from this, **Mission trait have a significant impact on Organizational Performance**. To further check the impacting cultural trait on organizational performance, regression analysis need to be conducted.

4.6. Regression Analysis

In the application of regression analysis, the first step is to check assumption in order to ensure the appropriateness of data for a regression analysis.

4.6.1 Checking the Assumption

4.6.1.1. Normality and Linearity Test

Normality is the degree to which the distribution of the sample data corresponds to a normal distribution (Hair et al., 2010). In order to make valid inferences from your regression, the residuals of the regression should follow a normal distribution. The residuals are simply the error terms, or the differences between the observed value of the dependent variable and the predicted value. If we examine a normal Predicted Probability (P-P) plot, we can determine if the residuals are normally distributed. If they are, they will conform to the diagonal normality line indicated in the plot.

According to Hair et al. (2010), Linearity is used to express the concept that the model possesses the properties of additivity and homogeneity. It predicts values that fall in a straight line by having a constant unit change of the dependent variable for a constant unit change of the independent variable. To check normality of the variables, The Kolmogorov-Smirnov test is used to test the null hypothesis that a set of data comes from a Normal distribution. In addition to that Normal probability plots of the regression residual through SPSS software was used.

4.6.1.1.1 The Kolmogorov-Smirnov test

Since the sample size or collected data was more than 100, Kolmogorov-Smirnov test was preferred than Shapiro-Wilk test. The null hypothesis is the set of data comes from a normal distribution.

Table 4.12: Correlation Analysis Matrix

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Involvement	.063	122	.200*	.981	122	.086
Consistency	.087	122	.025	.983	122	.138
Adaptability	.091	122	.015	.973	122	.013
Mission	.105	122	.002	.962	122	.002
Organizational_Performance	.065	122	.200*	.974	122	.018

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

As it is shown in the table above, the P value in Kolmogorov-Smirnov test for involvement (independent variable) and organizational performance (dependent variable) is > 0.05; which leads to accepting the null hypothesis, which is the variables follow a normal distribution. While Consistency, Adaptability and Mission traits have a P value < 0.05, that lead to rejecting the null hypothesis such that those variable have non normal distribution.

4.6.1.1.2 Graphical methods

To further test the normality Q – Q plot was conducted and the output for each variable was presented as follows:

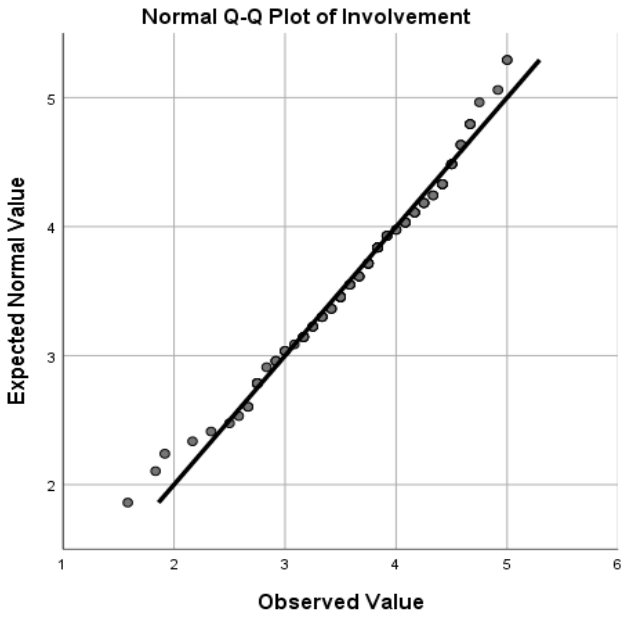


Figure 4.1: Q-Q plot for Involvement variable (Source: Own survey: May 2022)

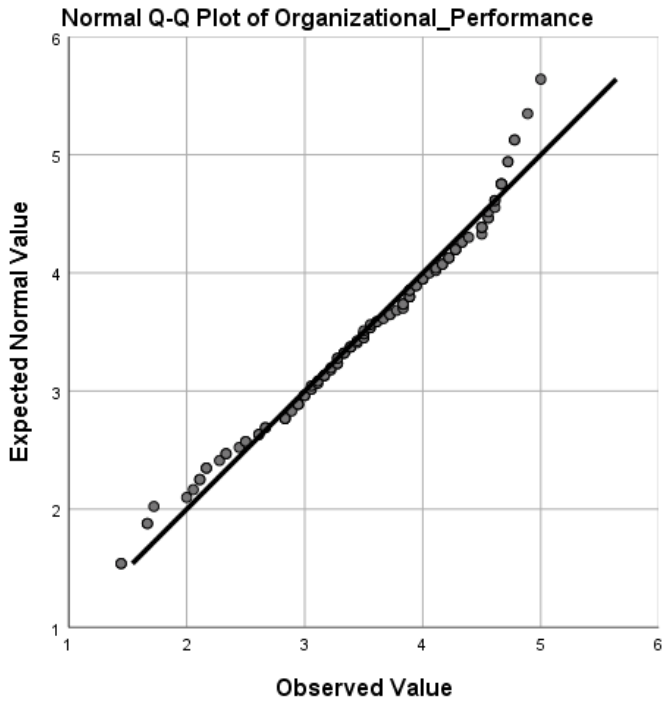


Figure 4.2: Q-Q plot for Organizational performance (Source: Own survey: May 2022)

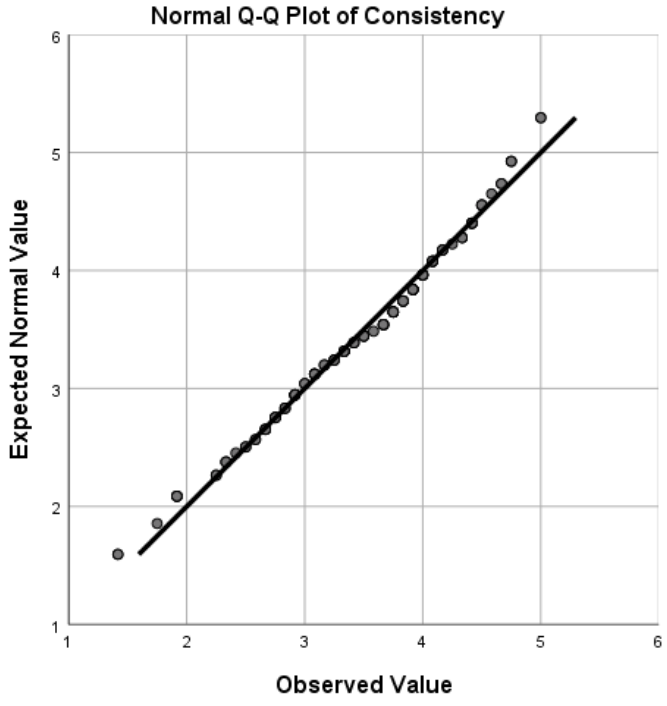


Figure 4.3: Q-Q plot for Consistency (Source: Own survey: May 2022)

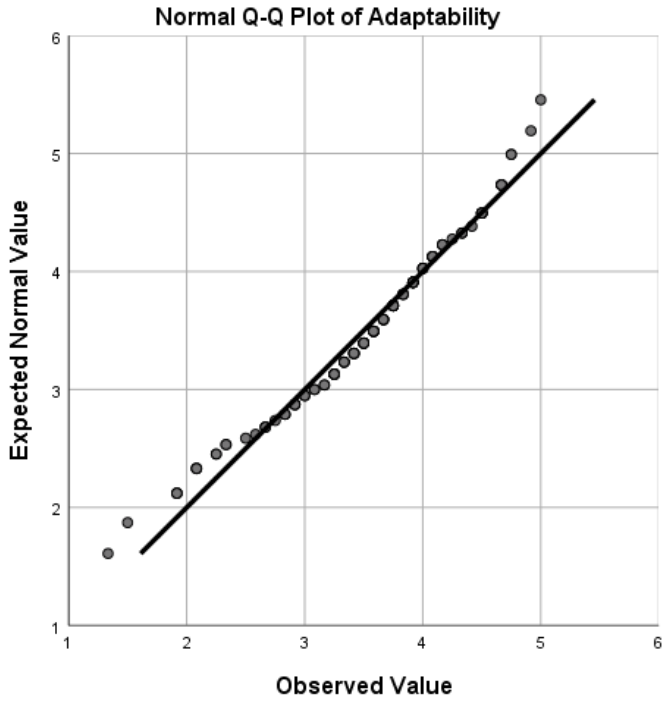


Figure 4.4: Q-Q plot for Adaptability (Source: Own survey: May 2022)

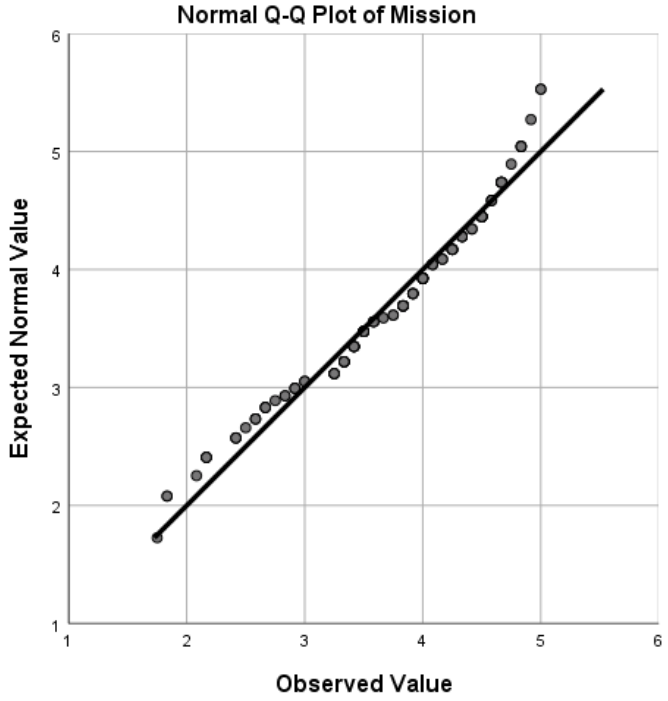


Figure 4.5: Q-Q plot for Mission (Source: Own survey: May 2022)

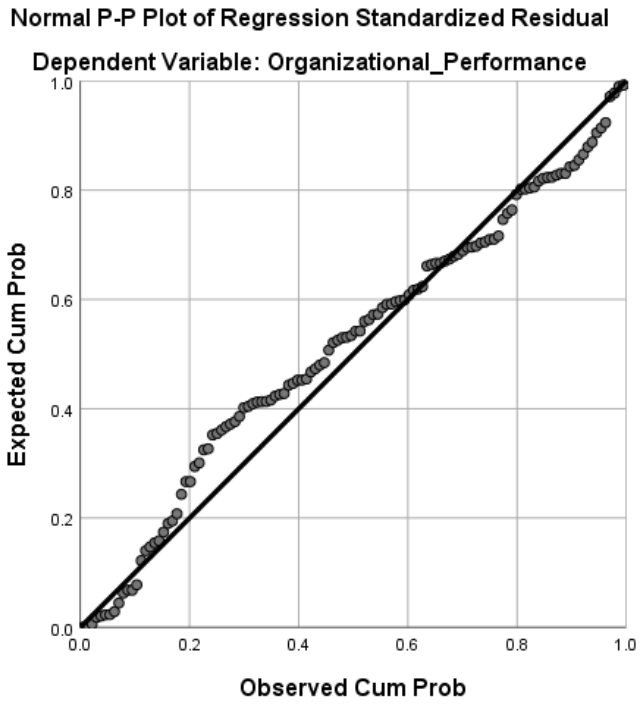


Figure 4.6: cumulative P-P plot for all variables (Source: Own survey: May 2022)

The graphical method for normality test, i.e. Q-Q plots didn`t show a significant deviation from the normal line. On the other hand the statistical test Kolmogorov-Smirnov reveal that the residuals of the three variables consistency, adaptability and mission are not normally distributed. The reason behind was that, as the sample size increases, the probabilities decrease. In other words, it gets harder to meet the normality assumption as the sample size increases since even small departures from normality are detected.

Considering, the Q-Q plot of residuals for each variable and the cumulative P-P plot shows no larger difference or drastic deviations in the spread of the residual from the normal line, **the researcher decided to do both Linear and Ordinal regression. For the linear regression referring the Q-Q plots, normality was assumed to proceed with the parametric tests**.

4.6.1.2. Homoscedasticity

When the variance of the error terms (*e*) appears constant over a single range of predictor variables, the data are said to be homoscedastic. When the error (*e*) have increasing or modulating variance the data are said to be heteroscedastic (Hair et al. 2010).

A data is said to be homoscedastic if it looks somewhat like a shotgun blast of randomly distributed data. The opposite of homoscedasticity is heteroscedasticity, where one might find a cone or fan shape in the data. One can check this assumption by plotting the predicted values and residuals on a scatterplot.

As shown in the figure below, the data is randomly distributed, which infer there is no heteroscedasticity, in other words the data is said to be homoscedastic.

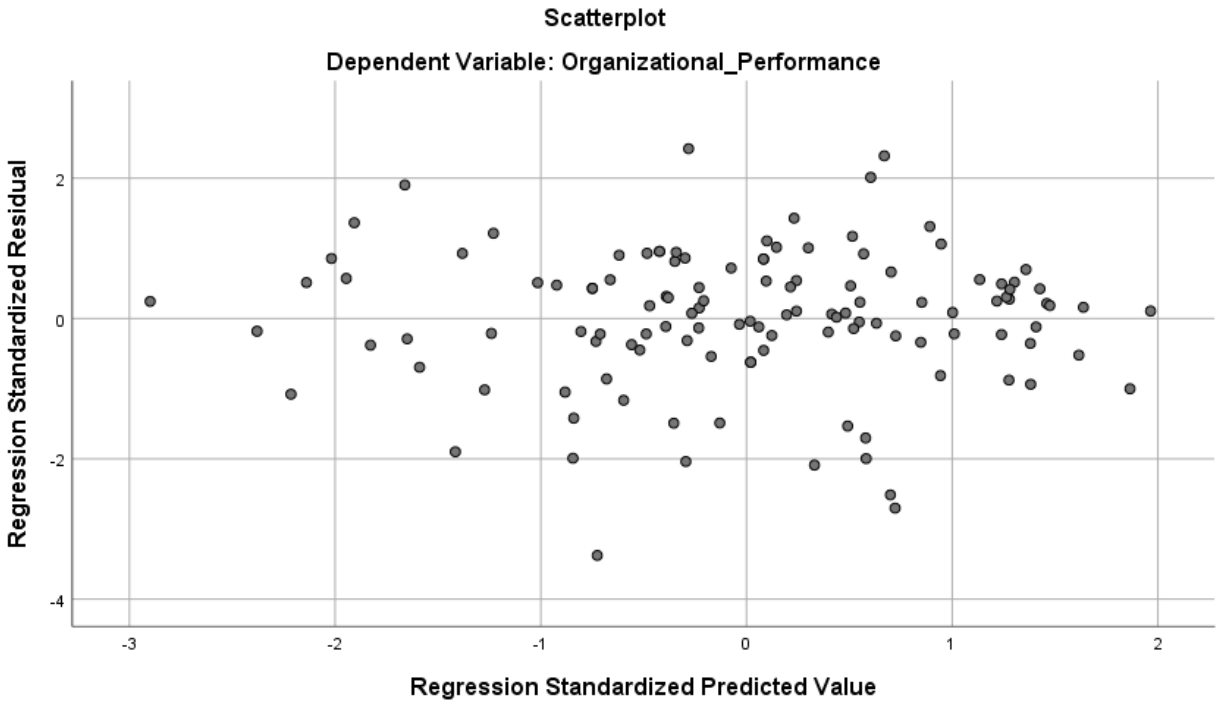


Figure 4.7: Scatter Plot checking Homoscedasticity ((Source: Own survey: May 2022))

4.6.1.3. Multicollinearity

Since there are multiple predictor variables, multiple linear regression analysis was employed for this specific study. If multiple linear regression is applied multicollinearity must be checked first. Multicollinearity refers to when your predictor variables are highly correlated with each other. This is an issue, as your regression model will not be able to accurately associate variance in your outcome variable with the correct predictor variable, leading to muddled results and incorrect inferences. This will be tested using VIF/Variance Inflation Factor and tolerance.

Table 4.13. Multicollinearity Diagnosis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	-.288	.196		-1.471	.144		
	Involvement	-.003	.089	-.002	-.032	.975	.316	3.161
	Consistency	.151	.089	.142	1.690	.094	.249	4.022
	Adaptability	.352	.097	.317	3.630	.000	.231	4.332
	Mission	.549	.071	.509	7.769	.000	.409	2.443

a. Dependent Variable: Organizational_Performance

Source: Own survey: May 2022

The SPSS output shows the tolerance and VIF value for each predictor. The tolerance values range between 0.231 and 0.409 and the VIF values range between 2.44 and 4.33. As cited by Yusuf Tanko (2019), according to Hair Jr. et al. (2010) and Pallant (2007), the use of tolerance and Variance Inflation Factor (VIF) in examining multicollinearity problem with cut-off points of more than 0.1 and not exceeding 10 respectively is recommended. Following that, tolerance of this study is above 0.10, also the VIF value is less than 10, which infer multicollinearity is not a significant problem in the analysis.

4.6.2 Linear Regression Analysis

4.6.2.1 Analysis of Variance (ANOVA)

The key purpose of ANOVA test is to show whether the model is significantly better at predicting the dependent variable, organizational performance or using the means.

Table 4.14 Overall Model Fit of the Regression Model (ANOVA)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.592	4	16.648	112.898	.000[b]
	Residual	17.253	117	.147		
	Total	83.845	121			

a. Dependent Variable: Organizational_Performance

b. Predictors: (Constant), Mission, Involvement, Consistency, Adaptability

Source: Own Survey, May 2022

The overall statistical acceptability or significance of the model was proved as indicated in the above ANOVA table. Accordingly, the findings in the above table established the independent variables significantly predict the dependent variables, F=112.898, p value is 0.000, i.e. p<0.05 inferring the model was significant. It can be concluded that the independent variables together predict organizational performance, accepting at least one of the cultural dimensions (i.e. involvement or consistency or adaptability or mission) had a significant influential relationship on Organizational Performance. In order to see the effect of each independent variable, multiple linear regression analysis will be conducted.

4.6.3 Multiple Linear Regression Analysis

Multiple regression models attempt to determine whether a group of variables together predict a given dependent variable. A multiple regression model separates each individual variable from the rest allowing each to have its own coefficient describing its relationship to the dependent variable. Multiple regression models were used to determine the causal relationship between organizational culture and Organizational Performance.

4.6.3.1 Coefficient of Determination

Table 4.15: Coefficient of Determination for the four predictors

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.891[a]	.794	.787	.38401

a. Predictors: (Constant), Mission, Involvement, Consistency, Adaptability

b. Dependent Variable: Organizational_Performance

Source: Own survey: May 2022

In the above table, R Square is the coefficient of determination of the two variables which shows the percentage of total variation of the dependent variable explained by the independent variable. **The analysis shows, R^2 = 0.794 (79.4%), it clearly implies that 79.4% variation in organizational performance are explained by organization culture (Involvement, Consistency, Adaptability and Mission).** The remaining 20.6% of changes in organizational performance are explained by factors that are not explained in the model.

4.6.3.2 Regression Coefficients

Table 4.16: Regression Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.288	.196		-1.471	.144		
	Involvement	-.003	.089	-.002	-.032	.975	.316	3.161
	Consistency	.151	.089	.142	1.690	.094	.249	4.022
	Adaptability	.352	.097	.317	3.630	.000	.231	4.332
	Mission	.549	.071	.509	7.769	.000	.409	2.443

a. Dependent Variable: Organizational_Performance

Source: Own survey: May 2022

The regression coefficients in the table above demonstrate that the relative extent of the influence that each independent variable has on the dependent variable and through which the most contributing predictor/independent variable is revealed. Standardized beta coefficient was considered to compare the strength of each predictor/independent variable influence on the criterion organizational performance.

The result reveals when the independent variables (involvement, consistency and mission culture) are constant at zero, the regression constant would be -0.288. For every unit increase in involvement trait, organizational performance will decrease by 0.003. For every unit increase in consistency trait, organizational performance will increase by 0.151. For every unit increase in adaptability trait, organizational performance will increase by 0.352. For every unit increase in mission trait, organizational performance will increase by 0.549.

The above table describes Adaptability and Mission had significant contribution in predicting organizational performance (β=0.317, P<0.05) and (β=0.509, P<0.05) respectively. The P value of Adaptability and Mission is less than 0.05, which is an indication of statistical significance.

Thus, Mission is the most contributing organizational culture dimension in the prediction of organizational performance with beta value 0.509, followed by Adaptability, where beta value is 0.317. For every unit increase in mission trait, organizational performance will increase by 0.549. Hence, the overall result indicate that **Mission cultural dimension have the greater rate of influence (impact) than the other predictors** considered in this study.

On the other hand, the P value for involvement and consistency is 0.975 and 0.094 respectively, which is greater than 0.05. This implies both involvement and consistency variables have statistically insignificant impact in predicting organizational performance as per this study.

4.6.3.3 Stepwise regression

As described above Adaptability and Mission had significant contribution in predicting organizational performance. In order to further evaluate the individual influences of each cultural trait on organizational performance, a stepwise regression analysis was conducted.

Table 4.17: Model Summary for Stepwise regression

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.844[a]	.712	.710	.44856
2	.888[b]	.788	.785	.38611

a. Predictors: (Constant), Mission

b. Predictors: (Constant), Mission, Adaptability

c. Dependent Variable: Organizational_Performance

Source: Own survey: May 2022

Table 4.18: Beta Coefficients for stepwise regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.127	.200		.635	.527		
	Mission	.910	.053	.844	17.225	.000	1.000	1.000
2	(Constant)	-.261	.182		-1.432	.155		
	Mission	.572	.069	.531	8.330	.000	.438	2.283
	Adaptability	.464	.071	.418	6.554	.000	.438	2.283

Source: Own survey: May 2022

The result from the SPSS output shows, in the first step of the regression the highest correlated dimension, i.e. mission, is used to regress organizational performance and beta becomes 0.844 with P<0.05; for every unit increase in mission cultural trait, organizational performance will increase in 0.910. The R^2 in the Model Summary table shows, mission predict or explain 71.2% of changes in organizational performance.

The second step of the regression, used both mission and adaptability to regress organizational performance, the result revealed mission and adaptability had significant contribution in predicting organizational performance (β=0.531, P<0.05) and (β=0.418, P<0.05) respectively. For every unit increase in mission cultural trait, organizational performance will increase in 0.572 and for every unit increase in adaptability cultural trait, organizational performance will increase in 0.464. The R^2 for the stepwise regression in the Model Summary table shows, **both mission and adaptability together predict or explain 78.8% of changes in organizational performance**.

The ANOVA table below also clearly shows the independent variables predict the dependent variable, and the P value for both steps of the regression are P< 0.05, which declare the model was significant.

Table 4.19: ANOVA for stepwise regression

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.700	1	59.700	296.709	.000[b]
	Residual	24.145	120	.201		
	Total	83.845	121			
2	Regression	66.105	2	33.052	221.706	.000[c]
	Residual	17.741	119	.149		
	Total	83.845	121			

a. Dependent Variable: Organizational_Performance

b. Predictors: (Constant), Mission

c. Predictors: (Constant), Mission, Adaptability

Source: Own survey: May 2022

4.6.4. Bivariate regression

Even if Involvement and Consistency have a significant correlation with organizational performance, both are not significant in predicting organizational performance in the multiple regression analysis. But, this doesn`t mean involvement and adaptability didn`t influence organizational performance at all, because the researcher had found, there is a significant relationship between the predictors(involvement and consistency) and organizational performance, this is checked by applying bivariate regression for each of them individually.

Table 4.20: Bivariate regression for involvement

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.430	.288		1.494	.138		
	Involvement	.842	.077	.704	10.869	.000	1.000	1.000

a. Dependent Variable: Organizational_Performance

Table 4.21: R^2 for the bivariate regression of involvement

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.704[a]	.496	.492	.59337

a. Predictors: (Constant), Involvement

b. Dependent Variable: Organizational_Performance

Source: Own survey: May 2022

As shown in the table above, β=0.704, P<0.05, which is significant and for every increase in every unit increase in involvement trait, organizational performance increase by 0.842. The value of R^2 is 0.496; which tells involvement trait explain 49.6% of changes in organizational performance in the bivariate regression.

Table 4.22: Bivariate regression for consistency

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.733	.223		3.287	.001		
	Consistency	.804	.063	.758	12.739	.000	1.000	1.000

a. Dependent Variable: Organizational_Performance

Table 4.23: R^2 for the bivariate regression of consistency

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.758[a]	.575	.571	.54501

a. Predictors: (Constant), Consistency

b. Dependent Variable: Organizational_Performance

As shown in Table 4.24 above, β=0.758, P<0.05, which is significant and for every increase in every unit increase in consistency trait, organizational performance increase by 0.804. The value of R^2 is 0.575; which indicates, consistency trait explain 57.5% of changes in organizational performance in the bivariate regression.

So, the researcher believes that, **the reason involvement and consistency failed to predict organizational performance in the multiple linear regression was, the correlation between the predictors (independent variables) was so strong**. As it was shown in the correlation and multiple regression analysis, Mission trait have a higher correlation value and predicting power on organizational performance, the strong correlation between mission and the two traits (involvement and consistency) might led to some degree of multicollinearity, even if multicollinearity was checked using tolerance and Variance Inflation Factor (VIF) and found to be in the permissible limit. This permissible multicollinearity might have devalued the influence and power of the two traits (involvement and consistency) in the multiple regression analysis.

This can be checked by comparing the two R^2 values, i.e. R^2 with the presence of all four independent variables and R^2 without the predictors, involvement and consistency, which is 0.794 and 0.788 respectively. One can see the difference between these values is very small such that 0.006. Based on this, the researcher believe, both involvement and consistency can explain organizational performance but due to the strong correlation between the independent variables the influence of those dimensions were already incorporated in Mission and Adaptability traits.

4.6.5. Ordinal Regression

The researcher incorporated all independent variables, involvement, consistency, adaptability and mission in the ordinal regression analysis.

4.6.5.1 Model fitting information

In order to check the model fit, the null hypothesis is “there is no difference between baseline model and final model”, where baseline model is without independent variables while the final model is with all variables. The SPSS output for this study gives the below fitting information.

Table 4.24: Model fitting-ordinal regression

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	983.931			
Final	790.203	193.727	4	.000

Link function: Logit.

Since the p-value is less than 0.001 the null hypothesis is rejected, indicating there is a significant difference between the baseline model and the final model, due to the inclusion of the independent variables. The result shows the model fits the data.

4.6.5.2 Goodness of fit

Here goodness of fit was checked, the null hypothesis was "the observed data is having goodness of fit with the fitted model". The result from the SPSS was given below.

Table 4.25: Goodness of fit-ordinal regression

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	5948.080	7430	1.000
Deviance	788.817	7430	1.000

Link function: Logit.

The P value is 1.00, which is > 0.05; indicating the null hypothesis is not statistically significant, so we accept the null hypothesis. The observed data have goodness fit with the fitted model.

4.6.5.3 Pseudo Coefficient of determination

R^2 indicates the proportion of the variance explained by the independent variables on the dependent variables in the regression model.

Table 4.26: Pseudo R-Square-ordinal regression

Pseudo R-Square

Cox and Snell	.796
Nagelkerke	.796
McFadden	.197

Link function: Logit.

Taking the Nagelkerke coefficient of determination **R^2= 0.796**; which indicates the independent variables explain **79.6 %** of the change in the dependent variable. **[Recall: In the linear regression R^2= 0.794; which is nearly the same]. Hypothesis Accepted!**

4.6.5.4 Parameter Estimates

Parameter estimates show, the contribution of each independent variable in explaining the dependent variable.

Table 4.27: Parameter Estimates-Ordinal regression

Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
	[Organizational Performance = 4.89]	27.295	2.378	131.743	1	.000	22.634	31.956
Location	Involvement	.426	.407	1.096	1	.295	-.371	1.223
	Consistency	.557	.408	1.861	1	.172	-.243	1.356
	Adaptability	1.629	.461	12.491	1	.000	.725	2.532
	Mission	2.602	.381	46.652	1	.000	1.856	3.349

Link function: Logit.

The output of SPSS show, for every unit increase in **involvement trait** there is 0.426 increase in organizational performance, but P=0.295, which is >0.05, indicating the variable involvement doesn`t have any statistically significant impact on the dependent variable, organizational performance. For every increase in **consistency trait**, there is 0.557 increase in organizational performance, but P=0.172, which is >0.05, indicating the variable consistency doesn`t have any statistically significant impact on the dependent variable, organizational performance.

For every increase in **adaptability trait**, there is 1.629 increase in organizational performance, and P=0.000, which is <0.05, indicating adaptability significantly impact organizational performance. For every increase in **Mission trait**, there is 2.602 increase in organizational performance, and P=0.000, which is <0.05, indicating **Mission significantly impact organizational performance.**

The overall ordinal regression indicate adaptability and mission significantly affect organizational performance, but **Mission is the impacting variable on organizational performance**. **[Recall that the same result was discussed on the linear regression]**

4.7. Culture and Key Organizational Performance Metrics of Denison`s Model

Hypothesis Four: There is a positive link between the four Denison`s Cultural traits and Key Organizational Performance Metrics of Denison`s Model in the case of ECWC, BHCS.

According to Denison consulting, the Denison Model of organizational culture highlights four key traits that an organization should master in order to be effective. The four traits of the Denison Model, Mission, Adaptability, Involvement, and Consistency, measure the behaviors driven by these beliefs and assumptions that create an organization's culture. These traits are organized by color and are designed to answer key questions about an organization’s culture. The results of Denison model were presented by Circumplex. The Circumplex have four quartiles each quartile have a value of 25%, the four quartiles will give 100% measurement.

Denison Consulting generates an organization’s results by comparing them to those of over 1000 other organizations in global normative database. The percentile scores that will be given on the Circumplex indicate how well an organization ranks in comparison to the other organizations in the database [Online; Denison Consulting.com]. Unlike other organizational assessment tools which can be used for free and available publicly, DOCS(Denison`s Organizational Culture Survey) is a proprietary organizational assessment tool which can be “purchased” from Denison Consulting or their accredited consultants or business partners around the world (Florencio Kabigting et al. 2019).

The researcher had contacted Denison consulting through email and confirmed the cost for an organization to take Denison Culture Survey which is **2,900 USD per 100 respondents**.

Taking the cost implication in consideration, for this study the researcher had tried to show the link or the implication of the four Denison`s Cultural traits towards Key Organizational Performance Metrics of Denison`s Model locally (without the global database). This means the percentiles that were used in this study are organization wise, and calculated by dividing the mean by the highest likert scale value by using the formula on Equation 2. It should also be noted again that the **percentile calculated by the researcher didn`t conform to the global database, it will only be used by the organization under study for internal assessment**.

The percentile for Denison`s culture index for local purpose is calculated as:

$$\text{Percentile} = \left(\frac{\text{Mean Score}}{5}\right) * 100\% \quad \ldots\ldots\ldots \text{Equation 2}$$

Table 4.28: Mean and Percentile for Denison`s Culture Indexes

Culture Traits	Denison`s Culture Index	Mean		Percentile (%)	Standard Deviation
Involvement	Empowerment	3.62	3.65	72.34	0.80
	Team Orientation	3.80		75.90	0.77
	Capability Development	3.54		70.74	0.82
Consistency	Core Values	3.37	3.44	67.34	0.89
	Agreement	3.52		70.33	0.82
	Coordination and Integration	3.45		69.02	0.90
Adaptability	Creating Change	3.47	3.53	69.30	0.92
	Customer Focus	3.51		70.25	0.81
	Organizational Learning	3.62		72.38	0.83
Mission	Strategic Direction and Intent	3.79	3.71	75.82	0.82
	Goals and Objectives	3.68		73.69	0.81
	Vision	3.65		72.99	0.89

Source: Own Survey, May 2022

Based on the percentile calculated the researcher developed Circumplex chart using Excel Syntax as shown in the figure below. **The chart shows a positive relationship between the four cultural traits and key performance metrics of the Denison Model**, which will be discussed in the next pages briefly. Following this the **fourth hypothesis was also accepted**.

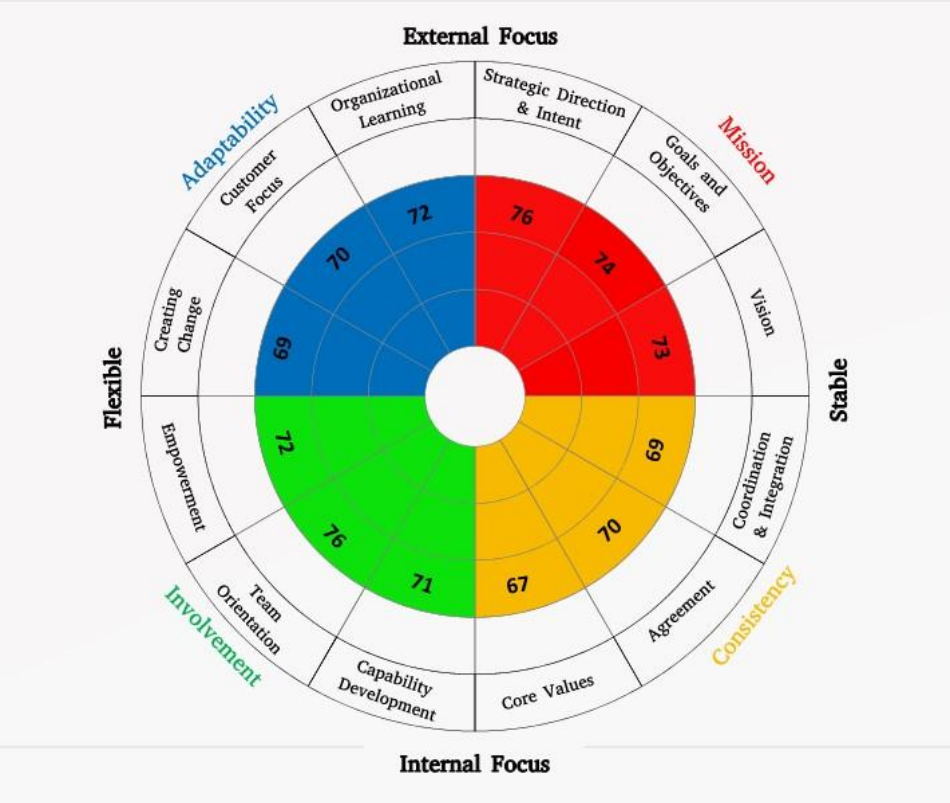


Figure 4.8: Circumplex chart based on the mean scores (Own Survey, May 2022)

The Circumplex shows that the percentile of all traits falls into the third quartile. According to Denison (2009), the culture assessment result of successful organizations shows a well-rounded profile and it have strengths across all four traits of the Denison model.

Mission trait have the higher mean score than the other cultural traits, i.e. 3.71 (74.2%), recall that this is well supported by the regression analysis of this study. Involvement have the second higher mean score which is 3.65 (73%). Adaptability took the third ranking, having a mean score of 3.53 (70.64%). **The least mean score was for Consistency which is 3.44 (68.8%).**

When looking the cultural indexes**, Team Orientation have the highest score with Mean=3.80; SD=0.77, percentile of 75.9%** and Core values index have the lowest mean score with Mean=3.37; SD=0.89, percentile 67.34%.

4.7.1 Implication of the Culture Indexes

Mission

In this study the results revealed mission is the dominant cultural trait with a Mean=3.71 & SD=0.77. Under this cultural trait there are three indexes named **"Strategic Direction & Intent"**, **"Goals and Objectives"**, & **"Vision"**, each scoring Mean=3.79; Percentile=75.82%; Mean=3.68; Percentile=73.69% and Mean=3.65; Percentile =72.99% respectively. "**Strategic Direction & Intent"** Index have **the highest score** among the indexes under mission trait. According to Denison Model, the scores of the three indexes fall in the third quartile, which is an indication to a good level of performance.

A good score in **"Strategic Direction & Intent"** index is an indication that employees understand the strategies identified by the organization and they think the strategies will work.

A good score in **"Goals & Objectives"** index is an indication that there are short-term goals that help link what employees do on a day-to-day basis to the strategy and vision of the organization. Also tells that employees understand how their job fits in.

A good score in **"Vision"** index is an indication that employees understand the vision of the organization, and they are motivated and excited by it. Also it tells employees share a common desired future state for the organization.

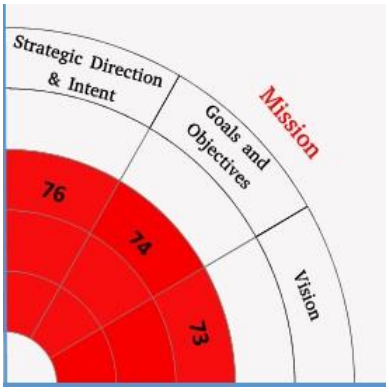


Figure 4.9: Circumplex chart – Mission Trait (Own Survey, May 2022)

Adaptability

Adaptability is a cultural trait having a positive impact on organizational performance with a Mean=3.53 & SD=0.75. Under this cultural trait there are three indexes named **"Creating change"**, **"Customer focus"**, & **"Organizational learning"**, each scoring Mean=3.47; Percentile=69.3%; Mean=3.51; Percentile=70.25% and Mean=3.62; Percentile=72.38% respectively. "**Organizational Learning"** Index have **the highest score** among the indexes under adaptability trait. According to Denison Model, the scores of the three indexes fall in the third quartile, which is an indication to a good level of performance.

A good score in **"Creating Change"** index is an indication that employees read the external environment and react to trends and changes. Also they look for new and improved ways to do their work.

A good score in **"Customer focus"** index is an indication that employees understand the needs of their customers and they are committed to responding to their ever-changing needs. Also it is an indication customer focus a primary concern throughout the organization.

A good score in **"Organizational learning"** index is an indication of a good knowledge sharing across the organization. Also it indicate there is an environment where reasonable risk taking and innovation can occur.

Figure 4.10: Circumplex chart – Adaptability Trait (Own Survey, May 2022)

Involvement

The study revealed involvement is a cultural trait having a positive impact on organizational performance with a Mean=3.65 & SD=0.70. Under this cultural trait there are three indexes named **"Empowerment"**, **"Team Orientation"**, & **"Capability Development"**, each scoring Mean=3.62; Percentile=72.34%; Mean=3.80; Percentile=75.90% and Mean=3.54; Percentile=70.74% respectively. "**Team Orientation"** Index have **the highest score** among the indexes under involvement trait. According to Denison Model, the scores of the three indexes fall in the third quartile, which is an indication to a good level of performance.

A good score in **"Empowerment"** index is an indication that employees feel they can have a positive impact on the organization and they feel informed and involved in the work that they do.

A good score in **"Team Orientation"** index is an indication that employees value collaboration and feel mutually accountable for common goals. Also teamwork encouraged and practiced in the organization

A good score in **"Capability Development"** index is an indication that employees believe that they are being invested in and that their skills are improving. Moreover, it indicates the organization have the skills it needs to be competitive today and into the future.

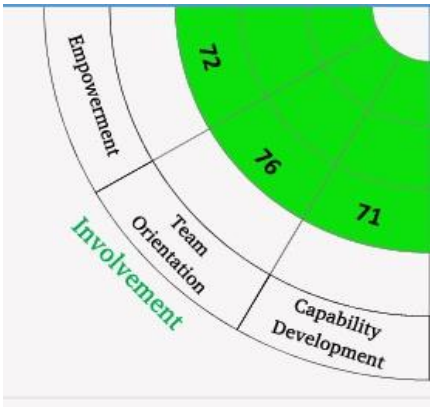


Figure 4.11: Circumplex chart – Involvement Trait (Own Survey, May 2022)

Consistency

Consistency is a cultural trait having the least score but with positive impact on organizational performance with a Mean=3.44 & SD=0.78. Under this cultural trait there are three indexes named **"Core Values"**, **"Agreement"**, & **"Coordination & Integration"**, each scoring Mean=3.37; Percentile=67.34%; Mean=3.52; Percentile=70.33% and Mean=3.45; Percentile=69.02% respectively. "**Agreement"** Index have **the highest score** among the indexes under consistency trait. According to Denison Model, the scores of the three indexes fall in the third quartile, which is an indication to a good level of performance.

A good score in **"Core Values"** index is an indication that employees share a set of values that create a strong sense of identity and a clear set of expectations. Also leaders model and reinforce those values.

A good score in **"Agreement"** index is an indication that employees reconcile differences in a constructive way when problems arise. The organization was also capable of reaching agreement on critical issues.

A good score in **"Coordination & Integration"** index is an indication that employees from different parts of the organization share a common perspective that allows them to work effectively across organizational boundaries.

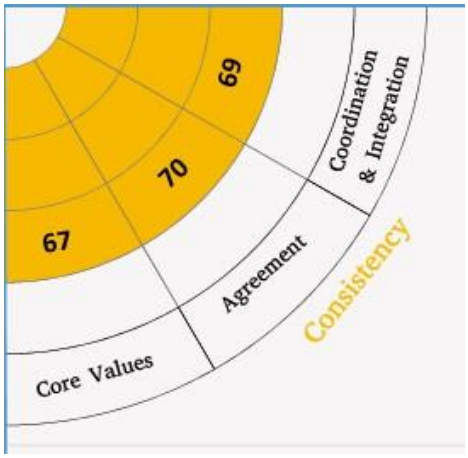


Figure 4.12: Circumplex chart – Consistency Trait (Own Survey, May 2022)

4.7.2 External and Internal Focus

Figure 4.13: Circumplex chart – External Focus (Own Survey, May 2022)

According to Denison (2009), the two traits Adaptability and Mission on the top quadrant, indicate the level of **External Focus** of organization under assessment. In the case ECWC, BHCS, as shown in the figure above all the score fall in the third quartile, nearly almost all of the indexes score near & above 70% which indicates ECWC, BHCS have an eye towards the market and is able to adapt and change in response to what it sees. Which enable it the ability to grow by meeting the current and future needs of the marketplace.

Based on the local assessment (without any measurement relative to other organizations), the Model indicates ECWC, BHCS have a good **External Focus**. Referring Key organizational performance metrics of the Denison model, **a good External focus is tend to be more strongly related to overall growth and market share**.

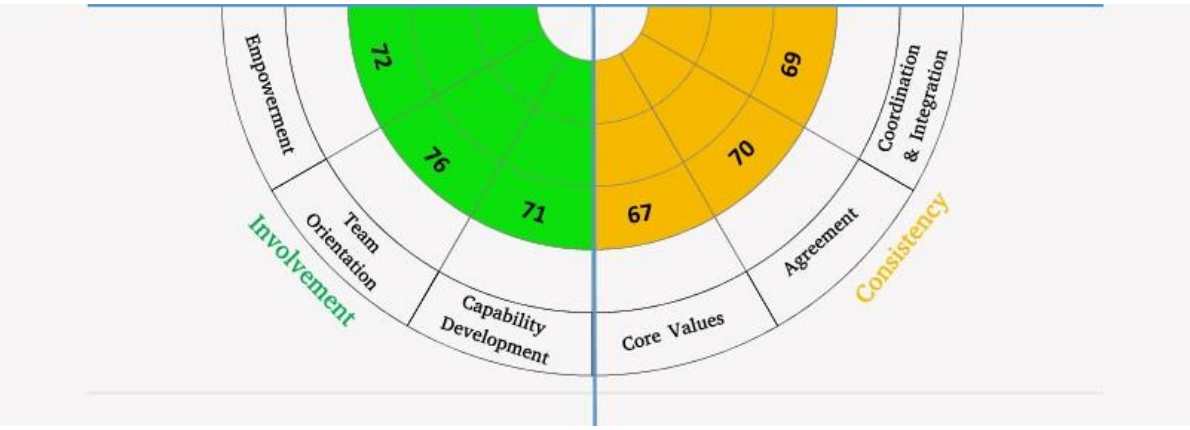
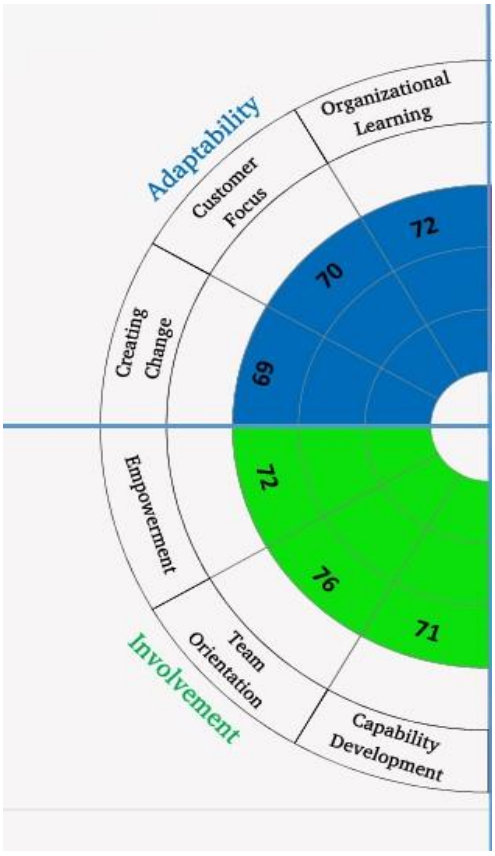


Figure 4.14: Circumplex chart – Internal Focus (Own Survey, May 2022)

The two traits **Involvement and Consistency** on the lower quadrant of the Circumplex, **indicate the level of Internal Focus** of organization under assessment. In the case ECWC, BHCS, as shown in the figure above all the scores fall in the third quartile, all of the indexes scores near or above 70% which indicates ECWC, BHCS have focus on the alignment of internal systems, processes and people of the organization.

Based on the local assessment, the Model indicates ECWC, BHCS have a good **Internal Focus**. According to Denison`s Model, a good Internal focus is tend to be more strongly associated with performance measures such as **operating performance, quality and employee satisfaction**.

4.7.3 Flexibility and Stability



The two traits Adaptability and Involvement, which left quadrants of the Circumplex, **indicate the level of Flexibility** of organization under assessment. In the case ECWC, BHCS, as shown in the figure above all the scores fall in the third quartile, all of the indexes scores are above 70%.

According to Denison Model, scores that fall within the third and fourth quartiles, typically indicates higher levels of product and service innovation and creativity, as well as a fast response to customers' and employees' changing needs (Denison Consulting, 2009).

Figure 4.15: Circumplex chart - Flexibility (Own Survey, May 2022)

The two traits **Mission and Consistency** on the right quadrant of the Circumplex, **indicate the level of Stability** of organization under assessment. In the case ECWC, BHCS, as shown in the figure above all the scores fall in the third quartile, all of the indexes scores near or above 70%.

According to Denison Model, scores that fall within the third and fourth quartiles of the Stable side, tend to have the strongest relationship to measures of profitability. It is indicator of **high returns on assets, investments and sales, and operational strength.**

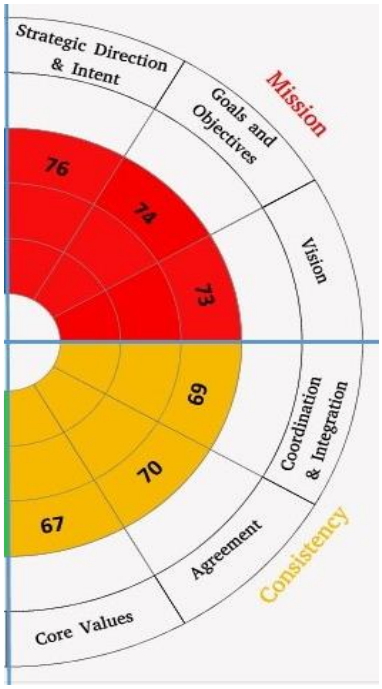


Figure 4.16: Circumplex chart - Stability (Own Survey, May 2022)

4.7.4 Cross Patterns

Top-down; Bottom-up alignment (Mission – Involvement)

According to Denison Consulting (2009) Organizations must have a balance between the Mission (top-down) and employee Involvement (bottom-up). They need to learn how to link the purpose and strategies of the organization to the shared sense of responsibility, ownership and commitment of the employees.

In the case of ECWC, BHCS, the cross pattern relationship between mission and involvement is balanced as shown in the figure below. The indexes score of both Mission and Involvement traits fall in the third quartile, which is balanced. The **balance between these traits, indicate effective two-way communication and an engaged, focused workforce**.

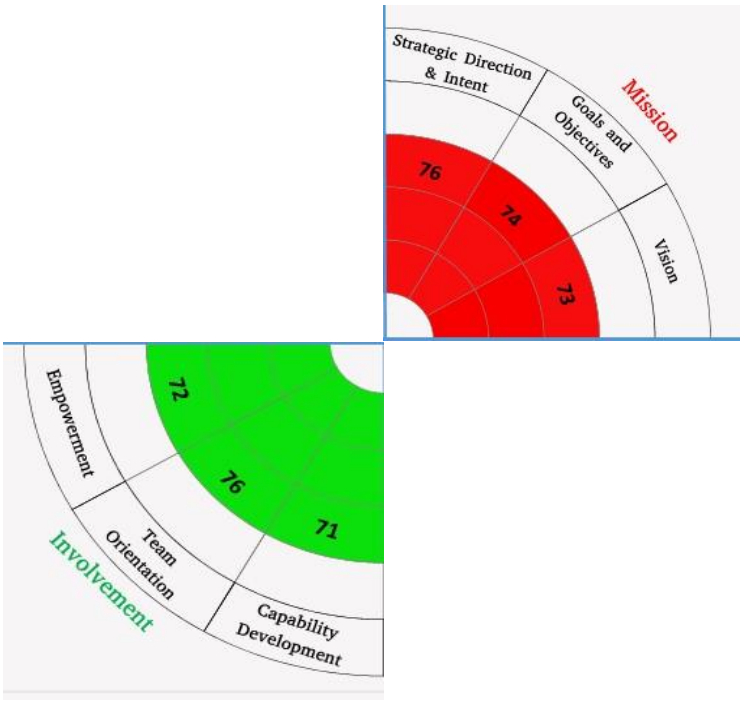


Figure 4.17: Circumplex chart - Top-down; Bottom-up alignment (Own Survey, May 2022)

Customer Value Chain (Adaptability – Consistency)

The cross pattern relationship between Adaptability and Consistency indicate the tension created between Adaptability, which is largely concerned with the market, and Consistency, which looks at the internal values, systems and processes.

In the case of ECWC, BHCS, the cross pattern relationship between adaptability and consistency is balanced as shown in the figure below. The indexes score of both adaptability and consistency traits fall in the third quartile, which is balanced. According to Denison Model, the **balance between these traits, indicate the organization was able adapt & respond to the market & develop processes that allow them to execute in a way that produces quality products and services.**

Figure 4.18: Circumplex chart - Customer Value Chain (Own Survey, May 2022)

4.8. Summary of Findings

The research was mainly concerned on showing the effect of organization culture on organizational performance using the Denison Model in the case of ECWC, BHCS.

For this specific research, the recommended sample size from the population was 120 but, for contingency the researcher had administered 137 questionnaires, out of that 129 was responded i.e. the response rate was **94.16%.** The researcher collected the data from 12 construction projects, out of the existing 21 projects under ECWC, BHCS.

The data collected was analyzed using SPSS V.26 statistical software. Referring the output of descriptive analysis; 68% of the respondents are between the ages 21 to 30. Most of the respondents were male, which is 61.5% of the total. Regarding educational qualification 71.3% of the respondents have degree, 23.8% have Master`s degree, which is a good proportion. 50.8% of the respondents have below 5 years' experience, 32% have 6 to 10 years' experience and 16.4% of the respondents have 10 to 15 years` experience. Most of the respondents who participated in this study work in project sites, i.e. 75.4% of the sample, the rest 24.6% work in Head Office.

Different professionals were part of the study, 65.6% of the respondents have engineering profession, but the rest have different professions, which is useful for the study.

On the descriptive statistics, the mean scores of the four cultural traits(independent variables) with their respective indexes was calculated, and found **Mission is the dominant cultural trait** in the case of ECWC, BHCS, with a mean score of 3.71 and SD=0.77. From the 12 cultural indexes, **Team Orientation was found to be the dominant cultural index**, in the case of ECWC, BHCS, with a mean score of 3.80 and SD=0.76. **Here the results show, Hypothesis one is fully accepted.**

Correlation analysis was conducted and the result revealed **there is a strong positive relationship between all cultural traits**. Moreover, the relationship between consistency and adaptability was the strongest one, with a Pearson correlation coefficient of r=0. 835. **Here the result show, Hypothesis two is fully accepted.**

According to R. Lyman Ott, Michael Longnecker (2010), a correlation measures the strength of the linear relation between dependent and independent variables. The correlation between independent variables and the dependent variable was one of the output of SPSS, it shows **Mission have the highest correlation coefficient** than the other cultural traits, i.e. r=0.844.

Different regression analysis were conducted in the study, in order to apply linear regression normality test was done. Normality was checked by statistical and graphical methods, considering the sample was >100, the Kolmogorov-Smirnov test was chosen, the test indicates, consistency, adaptability and mission are not normally distributed. While the graphical method i.e. Q-Q plot for each variable and the cumulative P-P plot shows no larger difference or drastic deviations from the normal line. Due to that, the researcher applied both Linear and Ordinal regression.

Heteroscedasticity and multicollinearity was checked before the application of linear regression, and the result shows the data distribution was homoscedastic and multicollinearity was in the permissible limit. Since there are multiple independent variables, multiple regression was conducted. The ANOVA analysis confirmed that the model was significant in predicting the dependent variable, i.e. $P<0.05$.

Coefficient of Determination (R^2), revealed that the independent variables can explain the changes in the dependent variable organizational performance, with R^2=0.794; which indicate 79.4% change on organizational performance was explained by the independent variables in the model.

The regression coefficients showed, influence of each variable on the prediction of the dependent variable. In this regard, Adaptability and Mission had significant contribution in predicting organizational performance (β=0.317, P<0.05) and (β=0.509, P<0.05) respectively. But involvement and consistency are not statistically significant to predict organizational performance. To identify, the most impacting cultural trait from adaptability and mission stepwise regression was conducted and the result revealed Mission explain 71.2% (R^2=0.712) of any change in organizational performance. The linear regression revealed, **Mission trait have significant impact on the organizational performance of ECWC, BHCS.**

Ordinal regression was conducted, goodness fit and model fit was checked and the result was accepted, the pseudo coefficient of determination (R^2) of Nagelkerke becomes 0.796; which indicate independent variables explain **79.6 %** of the change in the dependent variable.[Recall we have nearly the same result on the linear regression]. To further check the influence of each variable in explaining the changes on the dependent variable, parameter estimates was checked. The result shows mission and adaptability significantly predict the dependent variable, furthermore the result of the ordinal regression revealed, **Mission trait is the impacting variable on organizational performance**. **[Recall that the same result was discussed on the linear regression].** Both the linear and ordinal regression have almost nearly the same output, both confirm Mission trait was the impacting variable on organizational performance. **Here the results show, Hypothesis three is fully accepted.**

The last analysis was a process of linking organizational culture with key organizational performance metrics of the Denison Model. The researcher developed the Circumplex chart on Excel using excel syntax. The Circumplex chart shows, a well-rounded distribution of scores, the percentile of all the four traits falls into the third quartile (which is above moderate level). According to Denison (2009), the culture assessment result of successful organizations shows a well-rounded profile and it have strengths across all four traits of the Denison model. With this regard, **the last research hypothesis was also accepted and addressed well.**

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The findings of this study, it can be concluded, organizational culture affects organizational performance significantly. This result of the study was supported by many studies, for instance Khedher Yahya Almathami (2020) has conducted a research about Organizational Culture and Productivity of the Construction Industry in The Kingdom of Saudi Arabia, and he used Denison Organizational Culture Survey (DOCS) with other survey instruments. The result of the study confirmed that Organizational Culture directly affects Organizational Performance also it directly affects Productivity Barriers and Productivity Strategy.

Also, a study on Construction Firms in Nigeria by Bamgbade et al. (2020), aiming to determine the organizational culture characterization of construction firms in Nigeria to improve the organizational culture power to drive organizational performance of the firms, confirmed that the organizational culture is a vital aspect of construction firms and each firm should improve on their culture to better their organizational performances.

From the finding of this study we can conclude that Mission was the dominant cultural trait, while Team orientation was the dominant cultural index, in Ethiopian Construction Works Corporation, Building and Housing Construction Sector. The study also found, there is a strong correlation between the organizational cultural traits. Not only that Organizational cultural traits have a strong relationship with Organizational Performance, in the case of ECWC, BHCS.

All the inferential statistics reveal that, Mission and Adaptability have a significant impact on Organizational performance. Especially Mission trait is the impacting cultural trait on organizational performance, in the case of ECWC, BHCS. This is supported by another study conducted by Mehmet Kiziloglu (2021), about the effect of organizational culture on organizational performance and the mediating role of intrapreneurship. The study reveals that organizational culture significantly affects organizational performance. Moreover, it is found that adaptability and mission are two key elements of organizational culture that significantly affect organizational performance.

The finding of a study by Bethelhem H/Gebriel (2017) and another study by Woinishet Kebede (2020), reveal that Mission was the impacting cultural trait on employee performance.

A Doctoral Study by Tewodros Bayeh Tedla (2016), titled "The Impact of Organizational Culture on Corporate Performance", confirmed that, well-defined Mission and vision, core corporate values and employee-focused leadership as a successful strategy to establish an effective organizational culture and to improve performance in the corporate group.

The other point was that, the link between organizational culture and organizational performance, was also shown by using Circumplex chart. The overall score of ECWC, BHCS, fall on the third quartile of Circumplex, which implicate positive growth, profitability, innovation, customer satisfaction, better quality, and a good operating performance.

The study also found there are impacting indexes under each traits. From the three indexes under **Mission** trait, **Strategic Direction & Intent** was the one which have the higher score (Mean=3.79; Percentile=75.82%),

According to Denison Model, this indicate employees in ECWC, BHCS understand the strategies identified by the organization and they think the strategies will work.

In the **Adaptability** trait There are three indexes, **Organizational learning** was the one which have the higher score (Mean=3.62; Percentile=72.38%), According to Denison Model, this indicate there is a good knowledge sharing across employees in ECWC, BHCS. Also it indicate there is an environment where reasonable risk taking and innovation can occur.

From the three indexes under **Involvement** trait, **Team Orientation** was the one which have the higher score (Mean=3.80; Percentile=75.90%), According to Denison Model this indicates that employees of ECWC, BHCS, value collaboration and feel mutually accountable for common goals. Also teamwork was encouraged and practiced in the organization.

In the **Consistency** trait, **Agreement** was the one which have the higher score (Mean=3.62; Percentile=72.38%), According to Denison Model this imply, employees of ECWC, BHCS reconcile differences in a constructive way when problems arise. It also indicate that ECWC, BHCS was capable of reaching agreement on critical issues.

5.2 Recommendations

As it is shown in the results of the study, organizational culture significantly affect the organizational performance of ECWC, BHCS. Even if all organizational cultural traits have a mean value score which is above moderate, there are relatively some lower mean scores under Involvement and Consistency. The researcher intend to give recommendations on measurements under those traits and indexes which have a higher & a lesser mean score (See, Appendix B), which can be useful, to accelerate the good driving forces and to minimize the retarding factors in the case of ECWC, BHCS. Recommendations were given based on the findings of the study, and by referring Denison`s Levers for change.

5.2.1 Recommendations to ECWC, BHCS

- Mission trait have the highest mean score and it is the impacting trait in this study, this indicates ECWC, BHCS have a long term purpose and direction with a clear strategy for the future. It implies managers and leaders have a long term view point. In order to keep the good achievements in mission trait, ECWC BHCS was recommended to:
    - Evaluate potential strategies against their contribution to the Vision;
    - Continually remind employees of the vision and how it links to their current activities;
    - Link proposed training and skill development programs to the strategies of the organization;
    - Align reward systems so that they support goal achievement. Also to meet with employees on a regular basis to assess progress against stated goals.
- Adaptability trait have the third higher mean score but, it was the second impacting trait on performance. According to Denison Model, this is an indicator that ECWC, BHCS was adopting new and improved ways to do work, which is true on ground that the corporation was under project management reform. Also it indicates the sector was flexible to adapt any positive change in business environment. To keep the good achievement with this regard, ECWC, BCHS was recommended to:
    - Offer skills, tools and guidance to employees to help them throughout any change process in the sector;

  - Develop tools for customers to provide regular feedback and a process for evaluating/utilizing that feedback;
  - Develop reward systems that recognize innovative ideas and actions.
- Consistency trait have the least aggregated mean score (the 4th ranked trait) that need major improvement in the case of ECWC, BHCS, under this trait:
  - Core values index have the minimum mean value score of all indexes. **Measurements under this index need a critical improvement.** Under core values index, there is also a gap in holding the responsible body accountable when core values were ignored, based on Denison levers for change, the researcher recommend ECWC, BHCS need to call out behaviors and actions that are inconsistent with the Core Values, so that to take managerial decisions and actions.
  - Mean scores under the Agreement index show that there is a gap in having clearly defined culture. To fill this gap Sharing goals and objectives throughout the organization so that employees at every level understand the key areas of focus is very useful.
  - Under the Coordination and Integration index, there is a gap in coordinating projects across different parts of the organization, this can be resolved by engaging timely discussions with project managers and leaders to assess how well the coordinating unit is meeting their needs and how well they are meeting the need of the coordinating unit. Also to create a system that includes regular feedback, assessment and evaluation is very useful.
- Involvement trait, have the second higher aggregated mean score, but results show it does not significantly impact organization performance relative to the other traits.
  - Under empowerment index, there is a gap in involving everyone in the business planning process. To solve this problem, conducting regular meetings to check-in with the employee on a number of issues including their ongoing development and utilizing multiple communication avenues to share and disseminate information to create a common understanding of key business issues is very useful.
  - Under the capability index the result shows a gap in investing in the skills of employees continuously. To solve this, establishing projects and assignments that stretch the individuals' capabilities is crucial.

Also creating opportunity for employees to work with colleagues from other parts of the organization to expand their understanding of the organization is a solution. Trainings and capability development programs are also helpful to fill the gap.

The researchers' final recommendation to ECWC, BHCS was, the application of the Denison Model in this research was in local terms. The researcher cannot scale, ECWC, BHCS as low, medium or high performing organization, this is because according to the Denison model (Denison consulting, 2009), in order to scale an organization as low, medium or high performing, the mean scores of the organization under study must be compared with more than 1000 organizations in Denison`s global normative database. As it is discussed earlier, DOCS is a proprietary organizational assessment tool, and the cost to take the online culture survey was too much for an individual. So, the researcher calculated the percentiles relative to the collected data only (organization wise), just to show the indication of the mean scores and the percentiles related to key organization performance metrics of the Denison Model.

Here, the researcher have shown a glimpse, about how the current culture of ECWC, BHCS have effect in its organizational performance. If ECWC, BHCS wants to know its performance level relative to the global data base, the researcher recommend, the organization to take Denison Online Culture Survey.

5.2.1 Recommendations for future studies

- Even if the study had showed the Effect of OC on OP, but it only focused on a single Construction Company. So, the researcher recommend other researchers to further study the effect of OC on OP in other organizations, sector wise or country wise in a broader sense.
- Organizational Performance can be affected by many factors other than organizational culture. Considering that other researchers can broaden this study involving the different factors.
- As it is well known there are different culture measuring models, this research was conducted using Denison` s Culture Model. For future studies other researchers can apply other culture measuring models to further investigate the effect of OC on OP.

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Appendix A: Questionnaire

Addis Ababa University

College of Business and Economics

School of Commerce

The Effect of Organizational Culture on Organizational Performance with the Denison Model: The case of Ethiopian Construction Works Corporation, Building and Housing Construction Sector

Dear respondents,

I am a post graduate student in Addis Ababa University School of Commerce, undertaking a thesis titled **"The Effect of Organizational Culture on Organizational Performance with the Denison Model: The case of Ethiopian Construction Works Corporation, Building and Housing Construction Sector"** in partial fulfillment of the Requirements for the Degree of Master of Arts in Project Management. The study is conducted for academic purpose, and your responses will be kept confidential.

The objective of this study is to assess the organizational culture of ECWC by identifying employees feeling towards it. Accordingly, this questionnaire is designed to collect relevant data based on four cultural traits, using Five Point Likert Scale as a way of survey. The soundness and validity of findings highly depend on your honest and thoughtful responses. Therefore, I kindly request you to fill the questionnaire carefully and return at your earliest convenience.

N.B.: If you have any comments, questions, or concerns with regards to the survey, the questions, or the purpose of the study, please contact.

Email: **derejedinku@gmail.com**

Thank you in advance for your kind cooperation!

Dereje Dinku

Part I: Demographic Information (Please put (√) mark in the box that best describes you)

1. Age ☐ 21-30 ☐ 31-40 ☐ 41-50 ☐ 51 & above
2. Gender: ☐ Male ☐ Female
3. Educational Qualification: ☐ Diploma ☐ First Degree ☐ Master's Degree ☐ PhD
4. Experience:

   ☐ Below 5 Yrs ☐ 6 – 10 Yrs ☐ 11 – 15 Yrs ☐ 16 and above

5. Place of work ☐ Head Office ☐ Project
6. Your team: ☐ Office Engineering Team ☐ Engineering Execution Team ☐ Support Team ☐ Other: _____
7. Profession: ☐ Engineering ☐ HRM ☐ Purchasing ☐ Accounting & Finance ☐ Other: _____

Part II: Questions related to Organizational Culture of ECWC*

Please indicate the degree of your agreement/disagreement with the following statements associated with Denison's four traits of organizational culture: **Involvement**, **Consistency**, **Adaptability** and **Mission** each with their respective three indexes, ECWC, BHCS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral or Undecided	Agree	Strongly Agree

Please put (√) on the alternative choice that best describes your view using the five Point Likert Scale. Also don't forget **"1"** imply **Strong Disagreement** and **"5"** stands for **Strong Agreement.**

	I. Involvement	1	2	3	4	5
	Empowerment					
1.	Decisions are usually made at the level where the best information available					
2.	Information is widely shared so that everyone can get the information he or she needs when it's needed.					
3.	Everyone believes that he or she can have a positive impact.					
4.	Business planning is ongoing and involves everyone in the process to some degree					
	Team Orientation					
5.	Cooperation across different parts of the organization is actively encouraged.					
6.	People work like they are part of a team					
7.	Teamwork is used to get work done, rather than hierarchy.					
8.	Work is organized so that each person can see the relationship between his or her job and the goals of the organization					
	Capability Development					
9.	Authority is delegated so that people can act on their own					
10.	The capability of people is constantly improving.					
11.	There is continuous investment in the skills of employees.					
12.	The capabilities of people are viewed as an important source of competitive advantage.					

	II. Consistency	1	2	3	4	5
	Core Values					
13.	The leaders and managers "practice what they preach".					
14.	There is a clear and consistent set of values that govern the way we do business.					
15.	When people ignore our core values, they are held accountable.					
16.	There is an ethical code that guides our behavior and tells us right from wrong.					
	Agreement					
17.	When disagreements occur, we work hard to achieve "win-win" solutions.					
18.	There is a clearly defined culture.					
19.	It is easy to reach consensus, even on difficult issues.					
20.	There is a clear agreement about the right way and the wrong way to do things.					
	Coordination and Integration					
21.	Our approach to doing business is very consistent and predictable.					
22.	People from different parts of the organization share a common perspective.					
23.	It is easy to coordinate projects across different parts of the organization.					
24.	There is good alignment of goals across levels.					

III. Adaptability		1	2	3	4	5
Creating Change						
25.	The way things are done is very flexible and easy to change.					
26.	We respond well to competitors and other changes in the business environment.					
27.	New and improved ways to do work are continually adopted.					
28.	Different parts of the organization often cooperate to create change.					
Customer Focus						
29.	Customer comments and recommendations often lead to changes.					
30.	Customer input directly influences our decisions.					
31.	All members have a deep understanding of customer wants and needs.					
32.	We encourage direct contact with customers by our people.					
Organizational Learning						
33.	We view failure as an opportunity for learning and improvement.					
34.	Innovation and risk taking are encouraged and rewarded.					
35.	Learning is an important objective in our day-to-day work.					
36.	We make certain that everyone is informed about what is going on across the organization.					

IV. Mission		1	2	3	4	5
`	**Strategic Direction & Intent**					
37.	There is a long-term purpose and direction.					
38.	Our strategy leads other organizations to change the way they compete in the industry.					
39.	There is a clear mission that gives meaning and direction to our work.					
40.	There is a clear strategy for the future.					
	Goals & Objectives					
41.	There is widespread agreement about goals.					
42.	Leaders set goals that are ambitious, but realistic.					
43.	The leadership has clearly stated the objectives we are trying to meet.					
44.	We continuously track our progress against our stated goals.					
	Vision					
45.	We have a shared vision of what the organization will be like in the future.					
46.	Leaders have a long term viewpoint.					
47.	Our vision creates excitement and motivation for our employees.					
48.	We are able to meet short-term demands without compromising our long-term vision.					

Part III: Questions related to Organizational Performance of ECWC BHCS**

Performance Indicators		1	2	3	4	5
`	**Customer**					
1	Obtaining continuous customer's feedback					
2	Continuous improvement of customer service					
3	Reducing number of customer's complaints					
	Internal Business Process					
4	There is a good control of time and cost					
5	There are significant productivity improvements in the organization					
6	Enhancing continuous improvement in employee skills and technologies to ensure continued market leadership					
	Quality					
7	There is a practice of achieving quality products and services with optimum utilization of resources					
8	There is continuous improvement in processes					
9	Employees are committed to quality					
	Innovation and Learning					
10	Employees develop innovative ideas					
11	Employees are risk-takers and transform innovative ideas to decisions					
12	There are training programs for employees and managers					
	Job Satisfaction					
13	Employees are satisfied with their job					
14	Employees are independent and self-control					
15	Obtaining continuous feedback from employees about the job					
	Organizational Commitment					
16	Employees are committed to the organization					
17	There is a good linkage between employees and management					
18	There are incentives for better accomplishment					

Thank you for your time!!!

Appendix B: SPSS Output

- **Mean Score of the 48 organizational culture measurements**

Descriptive Statistics

		N	Minimum	Maximum	Mean	Std. Deviation
1	Decisions are usually made at the level where the best information available	122	1.00	5.00	3.6230	1.03115
2	Information is widely shared so that everyone can get the information he or she needs when it's needed.	122	1.00	5.00	3.5164	1.15160
3	Everyone believes that he or she can have a positive impact.	122	1.00	5.00	3.8607	.84614
4	Business planning is ongoing and involves everyone in the process to some degree	122	1.00	5.00	3.4672	1.06937
5	Cooperation across different parts of the organization is actively encouraged.	122	1.00	5.00	3.6885	.93669
6	People work like they are part of a team	122	1.00	5.00	3.8525	.93307
7	Teamwork is used to get work done, rather than hierarchy.	122	1.00	5.00	3.9590	.94823
8	Work is organized so that each person can see the relationship between his or her job and the goals of the organization	122	1.00	5.00	3.6803	1.11538
9	Authority is delegated so that people can act on their own	122	1.00	5.00	3.4590	1.01352
10	The capability of people is constantly improving.	122	1.00	5.00	3.5574	1.04486

11	There is continuous investment in the skills of employees.	122	1.00	5.00	3.4098	1.09661
12	The capabilities of people are viewed as an important source of competitive advantage.	122	1.00	5.00	3.7213	.99803
13	The leaders and managers “practice what they preach”.	122	1.00	5.00	3.3934	1.11753
14	There is a clear and consistent set of values that govern the way we do business.	122	1.00	5.00	3.3770	1.18061
15	When people ignore our core values, they are held accountable.	122	1.00	5.00	3.0902	1.15711
16	There is an ethical code that guides our behavior and tells us right from wrong.	122	1.00	5.00	3.6066	1.07224
17	When disagreements occur, we work hard to achieve “win-win” solutions.	122	1.00	5.00	3.6639	1.04138
18	There is a clearly defined culture.	122	1.00	5.00	3.2459	1.10828
19	It is easy to reach consensus, even on difficult issues.	122	1.00	5.00	3.4590	1.02165
20	There is a clear agreement about the right way and the wrong way to do things.	122	1.00	5.00	3.6967	.96970
21	Our approach to doing business is very consistent and predictable.	122	1.00	5.00	3.4180	1.14155
22	People from different parts of the organization share a common perspective.	122	1.00	5.00	3.4754	1.08493
23	It is easy to coordinate projects across different parts of the organization.	122	1.00	5.00	3.2951	1.11850
24	There is good alignment of goals across levels.	122	1.00	5.00	3.6148	.95733

25	The way things are done is very flexible and easy to change.	122	1.00	5.00	3.2459	1.20132
26	We respond well to competitors and other changes in the business environment.	122	1.00	5.00	3.5492	1.04528
27	New and improved ways to do work are continually adopted.	122	1.00	5.00	3.4836	1.08509
28	Different parts of the organization often cooperate to create change.	122	1.00	5.00	3.5820	1.06670
29	Customer comments and recommendations often lead to changes.	122	1.00	5.00	3.5902	1.00210
30	Customer input directly influences our decisions.	122	1.00	5.00	3.5820	1.06670
31	All members have a deep understanding of customer wants and needs.	122	1.00	5.00	3.2951	1.13318
32	We encourage direct contact with customers by our people.	122	1.00	5.00	3.5820	1.07442
33	We view failure as an opportunity for learning and improvement.	122	1.00	5.00	3.4754	1.06183
34	Innovation and risk taking are encouraged and rewarded.	122	1.00	5.00	3.5984	1.05752
35	Learning is an important objective in our day-to-day work.	122	1.00	5.00	3.9180	.96715
36	We make certain that everyone is informed about what is going on across the organization.	122	1.00	5.00	3.4836	1.11514
37	There is a long-term purpose and direction.	122	1.00	5.00	3.7951	.97012
38	Our strategy leads other organizations to change the way they compete in the industry.	122	1.00	5.00	3.5574	1.10632

39	There is a clear mission that gives meaning and direction to our work.	122	2.00	5.00	3.9344	.92475
40	There is a clear strategy for the future.	122	1.00	5.00	3.8770	.97555
41	There is widespread agreement about goals.	122	1.00	5.00	3.7951	.92655
42	Leaders set goals that are ambitious, but realistic.	122	1.00	5.00	3.6311	.99752
43	The leadership has clearly stated the objectives we are trying to meet.	122	1.00	5.00	3.6721	1.06362
44	We continuously track our progress against our stated goals.	122	1.00	5.00	3.6393	.97967
45	We have a shared vision of what the organization will be like in the future.	122	1.00	5.00	3.7459	.99221
46	Leaders have a long term viewpoint.	122	1.00	5.00	3.7049	1.04200
47	Our vision creates excitement and motivation for our employees.	122	1.00	5.00	3.6066	1.05672
48	We are able to meet short-term demands without compromising our long-term vision.	122	1.00	5.00	3.5410	1.05351
	Valid N (listwise)	122				

Appendix C: Letters Issued for the research

NB: The title I first chose to do the research was “Assessment of Organizational Culture with the Denison Model; The case of Ethiopian Construction Works Corporation Building and Housing Construction Sector (ECWC, BHCS)”, but based on my advisor`s fruitful comment I changed it to “Effect of Organizational Culture on Organizational Performance with the Denison Model; The case of Ethiopian Construction Works Corporation Building and Housing Construction Sector (ECWC, BHCS)”. In order to facilitate my study as quick as possible, I issued the support letter from Addis Ababa University School of Commerce to the organization I conducted the research i.e. ECWC, before the title change. Following this the first letter from ECWC written on December refer the first title. The other letter was written referencing the letter written on December, due to this all the enclosed letters here after were written referring my first title, even if the research was conducted by the updated title.

Letter One: Support Letter from Addis Ababa University School of Commerce

አዲስ አበባ ዩኒቨርስቲ የንግድ ሥራ ት/ቤት
ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE

ስልክ Tel
ማዞሪያ PBX 011 - 551 - 80 - 20/23
ሬጅስትራር Registrar 011 - 515 - 37 - 11
ፋክስ FAX 251-1-51 57 86

ፖ.ሳ.ቁ P.O.BOX 3131
አዲስ አበባ ኢትዮጲያ
ADDIS ABABA, ETHIOPIA

Date 08/ 12/2021

To whom it may concern

As per the request made by **Mr. Dereje Dinku** **IDNO:- GSD/6082/11** in the department of **PM** in the **3rd Year**, we hereby certify that he is a student of Addis Ababa University School of Commerce in Distance Program. 2021/2022 Academic Year. Currently Mr. Dereje Dinku is working on his final research paper any co-operation to him is much appreciated.

With Regards

Dr. Moshesha Legesse

Program Office Coordinator

Letter Two: Permission to collect data from ECWC`s Human Resource division

	Company Name: የኢትዮጵያኮንስትራክሽንሥራዎችኮርፖሬሽን ETHIOPIAN CONSTRUCTION WORKS CORPORATION	Document No.: OF/ECWC/006
Issue No: 4	Document Title: የውስጥመጻጻፊያ INTER OFFICE MEMO	Page No.: Page 1 of 1

ቀን:-ታህሳስ 4/2014 ዓ.ም

ለ:- ሰው ኃብት አስተዳደር መምሪያ

ከ:- ሰው ኃብት ልማት መምሪያ

ጉዳዩ:- የድህረ ምርቃ ተማሪ የመመረቂያ ጽሁፋቸውን እንዲሰሩ ስለመሳክ፤

አዲስ አበባ ዩኒቨርስቲ የንግድ ስራ ጽ/ቤት በህዳር 29 ቀን 2014 ዓ.ም በተጻፈ ደረጀ ድንቁ አዲስ አበባ ዩኒቨርስቲ የንግድ ስራ ጽ/ቤት የፕሮጀክት ማኔጅመንት(Project Management) ማስተር ዲግሪ ተማሪ መሆናቸውን እና የመመረቂያ ጽሁፍ ለመስራት ጠይቀዋል።

በመሆኑም ከላይ ስማቸው የተለገጸው ተማሪ በAssessment of Organiziational Culture with the Denison Model:- The Case of Ethiopian Construction Work Corporation,Buliding and Housing Construction Sector(ECWC,BHCS) በሚል ርዕስ የመመረቂያ ሲኩፋቸውን ለመስራት እና የሠራተኛ መረጃ ስለፈለጉ በእናንተ በኩል አስፈላጊው ትብብር እንዲደረግላቸው እየጠየቅን፤ ለመረጃ ይረዳችሁ ዘንድ ከዩኒቨርሲቲው የተላከውን ደብዳቤ 01 ገጽ ኮፒ አባሪ አድርገን የላክን መሆኑን እንገልጻለን።

ከሠላምታ ጋር

ካሣሁን ወ/ጊዮርጊስ
የሰው ኃብት ልማት መምሪያ
ሥራ አስኪያጅ

ግልባጭ//

➢ ለፋይል

Letter Three: Permission to collect data from construction projects (ECWC, BHCS)

Company Name: የኢትዮጵያኮንስትራክሽንሥራዎችኮርፖሬሽን ETHIOPIAN CONSTRUCTION WORKS CORPORATION		Document No.: OF/ECWC/006
Issue No: 4	Document Title: የውስጥመጻጻፊያ INTER OFFICE MEMO 466	Page No.: Page 1 of 1

ቀን:- ሚያዝያ 12 /2014 ዓ.ም

ለ:- ህንፃና ቤቶች ኮንስትራክሽን ዘርፍ

ከ:- ሰው ኃብት ልማት መምሪያ

ጉዳዩ:- የድህረ ምርቃ ተማሪ የመመረቂያ ጽሁፋቸውን እንዲሰሩ ስለመላክ፤

አዲስ አበባ ዩኒቨርስቲ የንግድ ስራ ጽ/ቤት በህዳር 29 ቀን 2014 ዓ.ም በተጻፈ ደረጀ ድንቁ አዲስ አበባ ዩኒቨርስቲ የንግድ ስራ ጽ/ቤት የፕሮጀክት ማኔጅመንት(Project Management) ማስተር ዲግሪ ተማሪ መሆናቸውን እና የመመረቂያ ጽሁፍ ለመስራት ጠይቀዋል።

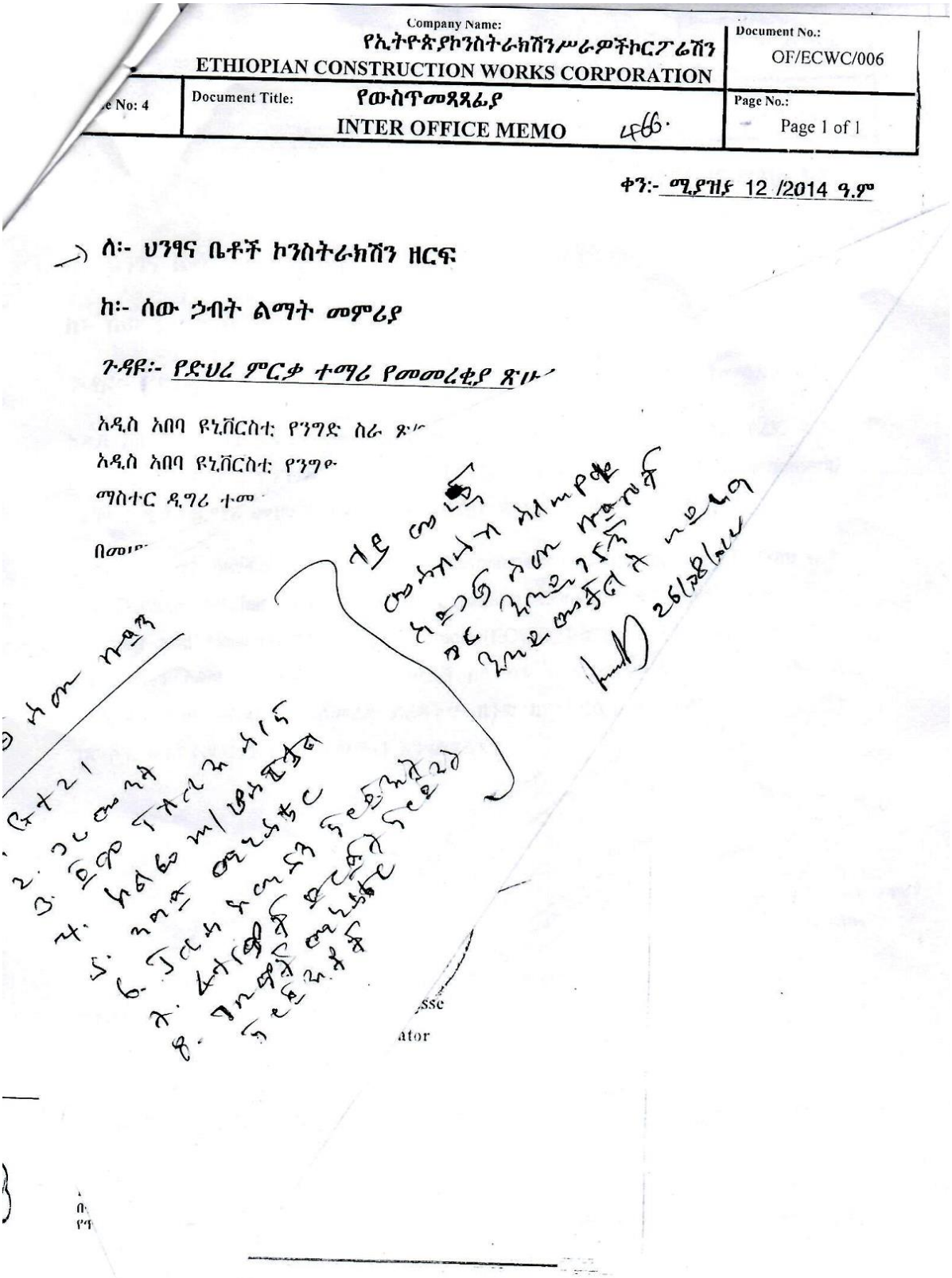
በመሆኑም ከላይ ስማቸው የተለገጸው ተማሪ Assessment of Organizational Culture with the Denison Model:- The Case of Ethiopian Construction Work Corporation, Building and Housing Construction Sector(ECWC,BHCS) በሚል ርዕስ የመመረቂያ ፅሑፋቸውን ለመስራት እና የሠራተኛ መረጃ ስለፈለጉ በአናንተ በኩል አስፈላጊው ትብብር እንዲደረግላቸው እየጠየቅን፤ ለመረጃ ይረዳችሁ ዘንድ ከዩኒቨርሲቲው የተላለፈውን ደብዳቤ 01 ገጽ ኮፒ አባሪ አድርገን የላክን መሆኑን እንገልጻለን።

ከሠላምታ ጋር
ሰው ኃብት ልማት መምሪያ
ሥራ አስኪያጅ

ግልባጭ//

➢ ለፋይል

Continued from Letter Three



Company Name:
የኢትዮጵያኮንስትራክሽንሥራዎችኮርፖሬሽን
ETHIOPIAN CONSTRUCTION WORKS CORPORATION

Document No.: OF/ECWC/006

Document Title: የውስጥመጻጻፊያ
INTER OFFICE MEMO

Page No.: Page 1 of 1

ቀን:- ሚያዝያ 12 /2014 ዓ.ም

ለ:- ህንፃና ቤቶች ኮንስትራክሽን ዘርፍ

ከ:- ሰው ኃብት ልማት መምሪያ

ጉዳዩ:- የድህረ ምርቃ ተማሪ የመመረቂያ ጽሁ

አዲስ አበባ ዩኒቨርስቲ: የንግድ ስራ ጽ

አዲስ አበባ ዩኒቨርስቲ: የንግ

ማስተር ዲግሪ ተመ

በመሠ