ADDIS ABABA UNIVERSITY

COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCES

SCHOOL OF INFORMATION SCIENCE

INVESTIGATING THE EFFECT OF ORGANIZATIONAL CULTURE ON KNOWLEDGE MANAGEMENT PROCESS

By

SAMSON DEBELA AYANA

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A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in Partial Fulfilment of the Requirements for the Degree of Master of Science in Information Science and Systems (*Information Science*)

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Addis Ababa, Ethiopia

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Declaration

I, the undersigned, declare that this thesis entitled "***The Effect of Organizational Culture on knowledge management process***" is carried out by me under the supervision of Dr. Getachew Hailemariam at Addis Ababa University, Department of Information Science, as part of the MSc program. I further declare that this thesis is my original work and has not been submitted to Addis Ababa University or any other university for the award of any degree. All sources were noted, referenced, and included in the list of references.

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This thesis has been submitted for examination with my approval as university advisor.

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Dedication

Dedicating my thesis to my beloved mother, who tirelessly supported and encouraged me throughout her life. Her unwavering love and devotion inspired me to pursue my dreams and achieve my goals. Her endless prayers for my success and well-being will forever be cherished in my heart. Although she is no longer with me, I know that she is watching over me from above and guiding me every step of the way. I hope that this achievement will make her proud and serve as a tribute to her unwavering love and selflessness. Thank you, Mom, for everything. This is for you.

I would also like to dedicate this thesis work to the late Oromo singer and human rights defender, Artist Hachalu Hundessa, and Ebissa Adugna, who was tragically assassinated. Their courage and commitment to justice and equality have been an inspiration to me, and I hope that this thesis will contribute in some small way to the causes they fought for.

Abstract

Nowadays, knowledge is seen as a crucial competitive advantage. It is not only recognized as the basis for steady development, but it is also the source of an organization's competitive mindset, which is a benefit for the organization. Culture's double position as both a barrier and an empowering part of knowledge management initiatives increases its relevance in efficient management of knowledge management. Effective knowledge management is a cornerstone of every successful organization, particularly one that wants to minimize ambiguity regarding its culture and how it should be represented in the activities of its employees. This study aimed to investigate the effect of organizational culture on knowledge management process in Awash Bank. In this study, the competing value framework and the Newman and Conrad model where utilized. To gather data, a closed-ended questionnaire was used and 142 participants were randomly selected across seven different departments in the bank using a simple random sampling technique. To screen the data, descriptive statistics such as standard deviation, mean, and median was generated using SPSS V.25. The data was analyzed using SmartPLS V.3, which revealed that organizational culture significantly affected knowledge management at Awash Bank. In particular, the study found that clan culture and adhocracy culture had the strongest positive impact on knowledge management, while market culture had no significant impact. Hierarchy culture had a weaker positive impact on knowledge management. These findings suggest that a supportive and collaborative organizational culture that values knowledge creation, retention, transferring, and utilization is crucial for effective knowledge management in Awash Bank. The results of this research have the potential to be extremely valuable to organizations as they prepare to implement knowledge management initiatives. Organizations that understand their organizational culture may plan strategically and make informed judgments about knowledge management. This study also contributes to the existing literature on knowledge management and provides valuable insights for managers and leaders in the banking industry on how to create a culture that supports effective knowledge management practices. The study will also shed light on the unique challenges and opportunities faced by Awash Bank in managing its knowledge resources effectively.

Keywords: *Organizational Culture, Knowledge Management, Competitive Values Framework, Newman and Conrad Model, Organizational Culture Assessment Instrument (OCAI)*

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List of Acronyms

AC: Adhocracy Culture

AVE: Average Variance Extracted

CC: Clan Culture

CVF: Competing Value Framework

CS: Criteria of Success

DC: Dominant Characteristics

FOC: Flexible Organizational Culture

HC: Hierarchy Culture

KC: Knowledge Creation

KR: Knowledge Retention

KT: Knowledge Transfer

KU: Knowledge Utilization

KM: Knowledge Management

MC: Market Culture

ME: Management of Employees

OC: Organizational Culture

OCAI: Organizational Culture Assessment Instrument

OG: Organizational Glue

OL: Organizational leadership

ROC: Rigid Organizational Culture

SE: Strategic Emphasis

SECI: Socialization, Externalization, Combination, and Internalization

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CHAPTER ONE

INTRODUCTION

1.1 Research Background

Hofstede (2005) defines culture as a collective phenomenon that is shared between people within the same social environment. Organizational culture is shared meaning, assumption, beliefs, expectations, experiences and common values (what is important and not important), norms (what is right and what is wrong), and understanding between organization members that separates one organization from another (Alvesson & Sveningsson, 2015; Ahmady et al., 2016; Nasif, 2022). Organizational culture also includes strategies, policies shared vision, procedures, rules and, regulations of the organization. Organizational culture is widely shared and strongly held across an organization starts from dressing code of the employee to how leaders and managers embrace or discourage innovation.

According to Pathiranage (2018), companies need to manage and analyze the increasing amount of information to remain competitive in the market economy and to create knowledge. Knowledge is data collected with understanding, practice, learning, interaction, and evidence that is used for modern public and private organizations (Alkatheeri, 2018). Information in an organization brings low benefits if not properly managed (Davenport, 2007). According to Davenport (2007), organizational knowledge like tacit knowledge and explicit knowledge can be considered an asset only if they are governed properly.

Knowledge management involves using all available information and knowledge to support customers and organizations (Sheikhalizadeh & Piralaiy, 2017). It is the process of acquiring, organizing, sustaining, using, sharing, storing, and renewing employees' tacit and explicit knowledge to enhance organizational performance and create value (Girard, 2015). Farooq (2016) also emphasized knowledge management includes knowledge creation, codification, sharing, and application. Knowledge is a valuable asset in an organization that enables sustainable competitive advantage (Sheikhalizadeh and Piralaiy, 2017; Ahmady et al., 2016; Othman, 2016; Puryantini et al., 2018; Rezaei., 2021; Dash & Padhy,2021). According to these authors, the organization has a competitive advantage if they utilize knowledge perfectly to achieve its objectives. The most

successful companies in the world are those that align their company culture with their knowledge-based strategy. Awash Bank is one of the leading private commercial banks in Ethiopia that manages more than 900 branches with more than 20,000 employees throughout the country. The bank has a vision "To be the first-choice world-class bank". Towards achieving this goal, the awash bank is gearing itself for the transformation into a knowledge-based bank. Therefore, in an organization like Awash Bank, it is necessary to investigate the effect of the organizational culture on the knowledge management of the organization.

1.2 Research Motivation

In Ethiopia, Financial institutions evaluate their performance annually based on their profit, services, customer satisfaction, and growth of their company (Mir, 2015). Behind the success of those organizations, there are stakeholders such as strong leaders, good culture, strong employees, shareholders, and customers. Organizational culture is said to be strong when values and beliefs are strongly shared within the organization (Thokozani & Maseko, 2017). According to those authors, organizational culture becomes weak if companies' values and principles are not accepted or shared by employees.

The lack of strong relationship and communication between the bank members are one of the main reasons that negatively impact knowledge management in the banks. Knowledge practices mainly depend on individuals' relationships or networks rather than formal or systematic ways. Lack of motivation from senior managers can be a significant barrier to knowledge creation, sharing, and codification among employees. If the organization operates in a highly competitive environment, managers may see knowledge as a source of competitive advantage and may be hesitant to share it with others, including employees within the organization. As a result, knowledge is lost once employees leave a company, retired, or moved across departments. According to Thokozani & Maseko (2017), "motivated members of an organization are likely to be persistent, creative and productive whereas non-motivated members are inefficient and costly". Organizational cultures such as relationship, communication, motivation, satisfaction, and trust are the cultures that influence knowledge management and attracts the attention of researchers for the last thirty years (Mir 2015). The researcher of this study has five years of experience in Awash Bank and has observed culture-related impacts on knowledge management that motivate the researcher to investigate the issue.

1.3 Statement of the Problem

Managing the changing global market and increasing customer demand is a great challenge for many financial institutions in a developing country. The reason for this problem is the daily changes in technology, globalization, and competitive intensity (Lei et al.,2021). Like other developing countries, Ethiopia is a country where many financial institutions are competing with each other to attract customers because of its rapid growth. According to Gebeyehu (2018, p. 3), the national bank of Ethiopia (2020/2021, p. 39) reports: Banks, insurance, and microfinance institutions are the major financial institutions operating in Ethiopia, in which the banking sector plays the dominant role. As stated in the NBE (2022, p.3) report quarterly bulletin, "the number of banks operating in Ethiopia reached 21, including 19 private and 2 state-owned banks". These banks are competing with each other to improve efficiency and promote their organization. As stated by Erena et al. (2022), many developing countries like Ethiopia have based their innovation strategies on knowledge.

Many previous studies have shown that organizational performance is closely related to knowledge management (Adhikari, 2020) as well as organizational culture (Dash & Padhy, 2021). According to Susilo, Subagja, and Samosir (2022, p. 18), "financial institutions' organizational commitment and performance are influenced by organizational culture". According to Valentina and Ileana's (2017) research, organizations that have a strong organizational culture are far better able to increase performance by more fully incorporating team members. The study states that corporate culture has a significant impact on both how happy workers are at work and how likely they are to stay there. Employees that work in a strong culture have the flexibility and power to be inventive, start their initiatives, adapt, and provide real-time solutions that benefit their teams, the company, and the consumer (Saad & Abbas, 2018). Nasif et al. (2022) further explain that the culture of an organization plays an important role in its success or failure. It impacts the relationship between the employee, the board of directors, shareholders, stakeholders, vendors, clients, and partners. Alvesson & Sveningsson (2015) assert that when there is a connection between an organization's culture and performance, it is crucial to investigate it to enhance operations.

According to Saad & Abbas (2018), organizational culture influences employees' dedication to their jobs as well as individual and group knowledge and competence development processes. It results from underlying assumptions, beliefs, norms, values, and emotions. A good corporate

culture has a favourable impact on employees' working attitudes, feelings, energies, and excitement. It also inspires employees to recruit new employees. According to Berberoglu (2018), there is a considerable link between employee organizational commitment and organizational performance, as well as an impact on both. Lastly, it has been discovered that organizational commitment and individual employee performance are associated.

Denison (2015) also suggests that having a strong culture plays an important role in achieving knowledge management in an organization (as cited in Ngungi, 2019). Ahmady et al. (2016) described that organisational culture has a link with KM by playing an important role in establishing relationships between organizational knowledge and people, by identifying how knowledge is to be used (Brahma et al., 2022), and by processes of making, legitimating, and spreading knowledge in an organization. As stated by Prystupa-Rządca (2017) "Organizational culture regulates two important roles from the perspective of KM: readiness to collaborate and trust between employees". Dash & Padhy (2021) emphasized that "organisational culture is a critical thing to KM success, and it plays an important role in shaping knowledge management". As stated by Chin-Loy (2003), culture impacts the style of management, how decisions are made, and relationships and behaviour in an organization. Knowledge is the biggest resource in the banking industry (Assefa et al., 2012; Öhan, 2019; Rezaei et al., 2021) that helps organizations meet their goals. According to Assefa et al. (2012, p. 3), "Ethiopian banking businesses can grow if they use knowledge as their strategic resource". Many organizations are implementing effective knowledge management to achieve organizational performance and handle complex, volatile markets.

Gebreegziabher & Beshah (2014) stated that "in today's world, the existence of an organization is highly dependent on its intelligent use of the knowledge resources it has". As stated by Farooq (2016), many organizations fail due to a lack of proper knowledge management. Nonaka (1994) argued that the adoption of knowledge management is the last competitive advantage in an economy where the only certainty is not guaranteed. Knowledge management in an organization can be impacted by different factors such as organizational culture, organizational structure, people's resistance to change, strategy and leadership, technological infrastructure, and measurement (Stylianou & Savva, 2016). According to Hossein, Abdollahi, and Mohseni (2016), the major challenge of knowledge management in an organization is organizational culture. This

culture impacts knowledge management in positive or negative ways and encourages employees to create, share, and document knowledge in the workplace. Therefore, this study will explicitly focus on the impact of this organizational culture on knowledge management.

According to Ozigbo (2013), many financial institutions are giving priority to aligning their corporate culture and knowledge. The researcher found that Ethiopian banking faces challenges and risks that threaten to prevent it from achieving its goals and objectives. The reason is that the culture of that bank is not as compatible with managing their knowledge as required. According to Stylianou & Savva (2016), communication quality, trust, motivated staff members, knowledge sharing, organizational learning, role clarity, appropriate leadership, and positive atmospheres are the major knowledge management enabling cultures in organizations. Communication and relationships between members of staff are two of the cultures that impact knowledge management in the bank. If there is no strong communication and cooperation between members of the organization, there is no strong knowledge-sharing behavior between each member. Lack of strong communication may be due to cultural clashes, language differences, and intellectual conflicts in the organization. If we look at the banks in our country, there is not beautiful culture that encourages employees to share, create and apply their knowledge.

Occasionally, the bank's senior employees want to be experts in what they know rather than sharing all their knowledge with other employees. As stated by Chin-Loy (2003), this hoarding mentality relates to both organizational culture and knowledge management and to the idea that "knowledge is power". According to the awash bank, documents are occasionally placed on a system called SharePoint Portal. According to Sandy (2011, p. 135), this platform is used to connect employees from different departments and nurture corporate culture. It also allows employees to share their knowledge in a secure environment. However, an intranet is not open to employees, and the leaders of the bank do not exert the necessary pressure to get knowledgeable employees to share their knowledge on the platform. There is also not sufficient awareness about the importance of knowledge sharing for the company. On the other hand, the trust between staff members and senior staff is not as high as expected. According to al-Askari (2013), trust increases the productivity of an organization and creates good conditions for its success. Additionally, job satisfaction has several positive contributions, such as innovation, creativity, service improvement, turnover minimization, and improvement of the mental and physical health of employees (Lei et al., 2021). Employee satisfaction is important in business organizations to attract customers to the bank.

Forbes (2017) reported that workplace happiness increases the productivity of employees by 20% and benefits the employees, organization, shareholders, and customers. The bank uses different traditional incentive payments, such as salary increments and bonuses, to make its employees happy. According to the Awash Bank Annual Report (2020/21, p. 16), one of the achievements is the implementation of the performance management system. According to the report and a message from the CEO, the system was developed internally for planning, capacity development, reward, and staff motivation. However, the bank has still been able to accommodate many problems, such as an employee leaving and a loss of interest in work.

Much of the previous research on organizational culture and knowledge management focused on the relationship between organizational culture and knowledge management. The findings from many researchers show that "there is a positive relationship between organizational culture and KM in organizations" (Chin-Loy & Mujtaba, 2011; Rezvani et al., 2013; Rezaei, Khalilzadeh, & Soleimani, 2013; Ghorbani, Karimi, & Mohammadi, 2013; Lotfikia & Ghadim, 2022). Orwa (2021) investigates the effect of organizational practices on KM, and the result shows that "collaboration, openness, trust, and continuous learning are ideal cultures that are desirable in the implementation of knowledge management". Jofreh & Shirzad (2015) also found that "there is a relationship between the variables of the members of the organization, team, ambition, creativity, and risk-taking, and attention to detail with knowledge management". Al-Abdulat & Dababneh (2018) assessed the relationship between OC and KM by using job satisfaction as a mediating effect in Jordan's banking sector. The findings show that there is no stable and efficient organizational culture to support KM in the Jordanian banking sector. Ghorbani, Karimi, and Mohammadi (2013) also investigate the role of OC in KM, and the result indicates that "the organizational culture of individual creativity is most correlated with knowledge management". Based on previous literature, most past studies have been conducted on non-financial organizations like higher education, the health sector, and other governmental and non-governmental organizations. The researcher attempted to infer that the impact of organizational culture on knowledge management in financial sectors such as banking had not been studied in depth.

Many local studies have been made related to the impact of organizational culture in our country's context. The studies include the impact of organizational culture on IS implementation success (Besha et al., 2009), organizational culture impact on employee commitment (Samson,2015; Bizuneh, 2016; Lakew,2019), employee job performance (Tewodros, 2019; Desta, 2019; Embilo,

2020; Tesfaye, 2020; Bekele, 2021), business performance (Laike, 2017; Zewdie, 2019; Tezera, 2021), employee satisfaction (Abraha, 2020 ; Begna, 2021), customer satisfaction (Begna, 2014), organizational effectiveness (Rahma, 2016; Tigist, 2020; Saed and Hassan, 2000), organizational culture practices in promoting organizational development (Radia, 2014) and project performance (Beyene, 2021).

However, there have been a few studies conducted related to the effect of organizational culture on knowledge management in the Ethiopian context. Assefa et al. (2012) investigate the impact of organizational culture on knowledge sharing at the Commercial Bank of Ethiopia. According to the authors, risk avoidance in investigations is a critical organizational cultural factor that fosters information sharing in CBE. Worku (2021) also studied the effect of organizational culture on knowledge transfer at public organizations in Bahirdar. His findings show that knowledge transfer is significantly influenced by collaboration, learning and development, management support, trust, and shared vision, while management support has the highest effect on knowledge sharing. As the researcher observed, those authors focus primarily on knowledge sharing and do not consider other attributes of knowledge management, such as knowledge creation and codification. Another study conducted by Bogale (2014) explained "the pragmatic relationship between organizational culture and knowledge management in UNECA." Bogale (2014) examined the relationship between organizational culture and knowledge management initiatives based on the Competitive Value Framework (CVF) of organizational culture and the SECI Model of knowledge management. The author is not more focused on how much those dimensions affect knowledge management. As per the researcher's review, there are no systematic studies on the impact of organizational culture on knowledge management in the Ethiopian banking industry. Therefore, these studies intend to fill this gap by investigating the effect of organizational culture on knowledge management in Awash Bank based on the Competing Values Framework and Newman and Conrad’s model.

1.4 Research Question

The following research question will be addressed in this study.

- What is the effect of organizational culture on knowledge management process?
- Which organizational culture dimension has more effect on knowledge management process?

1.5 Objective

1.5.1. General Objective

The general objective of this study was to investigate the effect of organizational culture on knowledge management process at the Awash Bank of Ethiopia.

1.5.2. Specific Objective

- To identify the potential cultural dimensions that affect knowledge management process.
- To examine the relationship between organizational culture dimensions and knowledge management process at Awash Bank.
- To increase the understanding of how organizational culture effects on knowledge management process in the Awash Bank.
- To investigate the role of organizational culture in improving knowledge management in the Awash Bank.

1.6 Scope of the Study

The scope of this study is limited to the effect of organizational culture on knowledge management process in the awash bank by mapping the links between organizational culture dimensions and knowledge management process. Awash Bank is the leading private bank in the country and is playing an important role in the country's economic development. Therefore, investigating the culture of this bank helps solve the problems of other banking sectors. The study will be limited to the head office of a bank due to time constraints and budget allocation.

1.7 Significance of the Study

This study on the effect of organizational culture on knowledge management process has several important contributions. It adds to the existing literature by providing empirical evidence on how different dimensions of organizational culture affect knowledge management process. The study has practical implications for managers and practitioners in organizations, particularly in the banking sector, by highlighting the importance of aligning organizational culture and knowledge management in appropriate manner. The findings of this study increase awareness among Awash Bank's senior management to actively grasp and work on the link between organizational culture and KM. The study can help policymakers create policies and programs that promote effective knowledge management, enhance decision-making, and increase innovation. Finally, the study

contributes to the methodology of using the Competing Value Framework and Newman and Conrad Model in investigating the effect of organizational culture on knowledge management process. Overall, this study provides valuable insights into the importance of organizational culture in knowledge management and its practical and policy implications for the banking sector.

1.8 The Study Organization

This thesis is organized in to five chapters. Chapter one provides an overview of the organizational culture and knowledge management, the study background, research motivation, the statement of the problem, research question, objectives of the research, the scope and significance of the study. Chapter two discusses the relevant literatures on the topics pertaining to organizational culture and knowledge management. Chapter three presents research methodology such as research approaches, research design, research strategies, research processes, study area, sampling frame, sampling size, sampling technique, data collection and data analysis techniques, data reliability and validity. Chapter four provides the presentation, analysis, and interpretation of the collected data. The final chapter five presents summary of findings, conclusions, the study limitation, recommendations and future work

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this section, the concept of both organizational culture and knowledge management and their models, the influence of organizational culture on knowledge management process and the importance of the organizational culture and knowledge management will be considered. The chapter will state both a theoretical background and empirical review.

2.2 The Literature review process

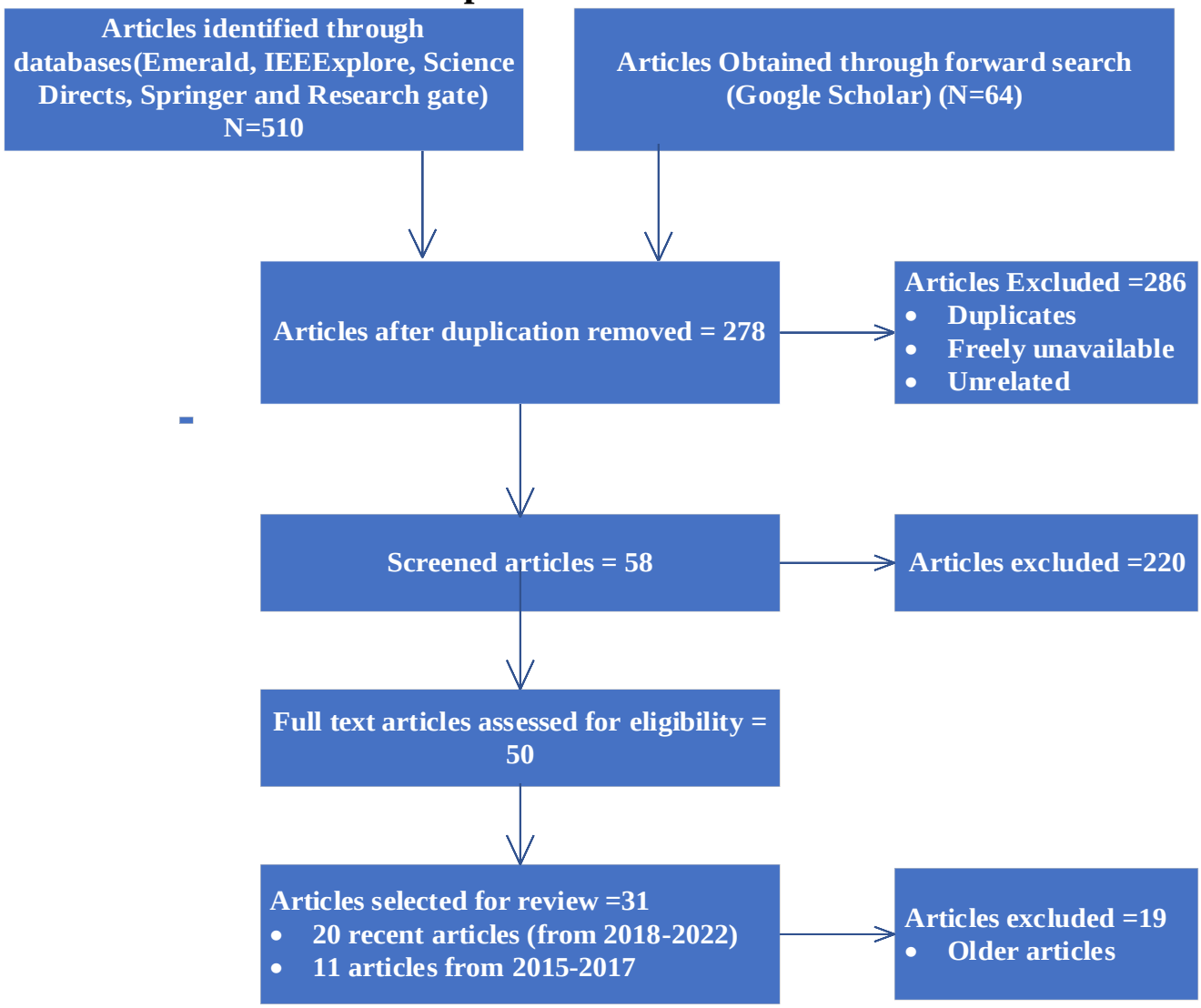


Figure 1: Literature review process

2.3 Theoretical Literature Review

2.3.1 Background to Culture

Culture is the collective training of mind that separates members of one group or category of people from others (El-Mekawy,2016). Ngungi (2019) indicated that “culture defines the conditions and the willingness to share knowledge with the other members of the team in the company”. Kharraz & Boussenna (2021) stated that, culture controls the way employees and groups in an organization interact with each other and peoples outside the organization. For over two decades, the study of culture has been centered on the national level, owing to Hofstede's (1980) research and subsequent studies. However, when examining the impact of culture on business, a clear criticism has been made to stress the other levels of culture, as the national level is claimed to create merely a stereotypical picture of a nation that may have numerous subcultures (Ailon, 2008). However, organizational culture is considered a subset of national culture because organizations operate inside a certain national setting with people from the same national culture. Organizational culture thus focuses on how business is conducted in organizations in terms of how people accomplish their individual and collective tasks.

2.3.2 Definition of organizational culture

All organizations are run by people with different backgrounds, and their social interactions bring up a culture that is usually called organizational culture (Mir, 2015). According to Klepi and Danijela Madar (2017), organisational culture is a collection of value systems that govern how organisations perceive and react to their environments. Costanza et al. (2016: 362) define organizational culture as "the shared values, beliefs, and implicit assumptions that govern member activities as well as rituals and patterns of behavior within the organization". Organizational culture is one of the most interesting, widely researched, and important topics in organizational behavior especially in today’s competitive world (Ahmady et al., 2016; Kharraz & Boussenna, 2021). As stated by Ahmady et al. (2016), organizational culture interacting with human resources, organizational structure, and the regulating system, has incorporated values (what was important? and what was unimportant?) And beliefs (how did individuals act and how did they not act?).

Numerous scholars have focused on culture and its effects on organizational effectiveness and performance during the past three decades (Mir, 2015). Many researchers have been saying that organizations cannot reach their goals or be effective without attending to the organizational

culture. According to several previous studies, the role of the leaders of an organization is crucial to managing its culture. According to Ahmady et al. (2016), one of the most important responsibilities of a manager was to establish and direct core values and an organizational culture. The organizational culture may have an impact on all areas of an organization. Kiziloglu (2021) asserts that organizational culture is a special asset that gains value over time and gives firms a competitive edge. According to Can & Eser (2015), the way the business is run and how customers, employees, and other stakeholders, such as the neighborhood in which the firm is located, are treated, have all been major markers of the culture. According to Ojochide et al. (2018), organizations with the best plan to exploit commercial possibilities in the environment and achieve their goals can be hampered by culture. Culture is crucial since acting without recognizing the cultural factors (which are involved) may result in unexpected and undesirable effects (Ahmady et al., 2016). According to Ojochide et al. (2018), the assumptions, values, norms, and attitudes that members of an organization exhibit favourably impact their perceptual schemes. Ahmady et al. (2016) stated that, organizational culture revealed shared perceptions of organizational members, which influenced their conduct. As stated by Jofreh & Shirzad (2015), organizational culture is a set of assumptions that members of an organization have established, found, and developed in the face of issues, adapting to the environment, and achieving national unity and integrity.

2.3.3 Types of Organizational Culture

According to Thokozani & Maseko (2017, p.2), organizational culture can be divided into two: strong and weak organization culture. The type of culture explained by Thokozani & Maseko has been repeatedly expressed in many literatures and in this study the researcher tried to summarize the researchers' opinions as follows.

2.3.3.1 Strong Organizational Culture

Wahyuningsih et al. (2019), "a strong organisational culture becomes behavioural standards based on ethical values that allow for the instillation of a sense of identity and a positive attitude among members". The researchers concluded that managers should endeavour to bridge the communication gap between workers in order to foster a solid connection. If the culture is strong, it will support high ethical standards. As stated by Lubis and Hanum (2020), strong culture should be highlighted and transferred to new members, and it will be applied as quickly as possible.

2.3.3.2 Weak Organizational Culture

According to Ngungi (2019), in a weak culture, people reinvent the wheel, there is no collaboration, resources are wasted, and people do not work together to achieve a common goal. When a company has a weak culture, its employees become adapted to its current organizational procedures, become unwilling to innovate and come up with new ideas, refuse to even share their knowledge with others, and fail to react to changes promptly (Sohrabi et al., 2017).

2.3.4 The importance of organizational culture

Organizational culture has various importance for organization. According to Salha & Albadawi (2022) organizational culture is considered as: -

- A guide to management and human resources
- A guide to the distinctive features of the organization from other organizations
- An important factor in attracting appropriate human resources
- An important element that affects the organization's susceptibility to change and its ability to keep pace with developments.
- Strong organizational culture is an effective and supportive element for management and helps it achieve its goals and ambitions.
- A strong organizational culture is a competitive advantage for the organization if it emphasizes ethical behaviors such as dedication to work and customer service.

2.3.5 Organizational Culture Models

Past literature shows that researchers use different models about an organizational culture research. However, based on the literature review articles used for this study, the popular models are tried to be explained in this study as follows.

2.3.5.1 Edgar Schein Model

Edgar Schein developed a model of organizational culture in which basic assumptions shape values, and values shape practices and behavior. This model contains three basic domains including underlying assumptions, espoused values and artifacts distinguishing between observable and unobservable part of organizational culture. Artifacts are organizational characteristics that can be easily seen, heard, and felt by individuals. Artefacts include employee dress codes, office furniture, facilities, employee behaviors and the organization's mission and vision, all of which contribute to the workplace culture. According to Assefa et al. (2012), “the

values include customer satisfaction, quality service, innovation, teamwork, integrity and other invisible values such as 'Bank documents are money', 'Be careful to avoid risks' and 'shared responsibility". The third dimension is assumed values, which cannot be quantified but do affect the culture of the company. There are some belief and facts that are kept secret but have an impact on an organization's culture. The same three aspects are still the focus of current research in a specific arena (see Sawan et al., 2018; Gao et al., 2020; Byrne et al., 2022).

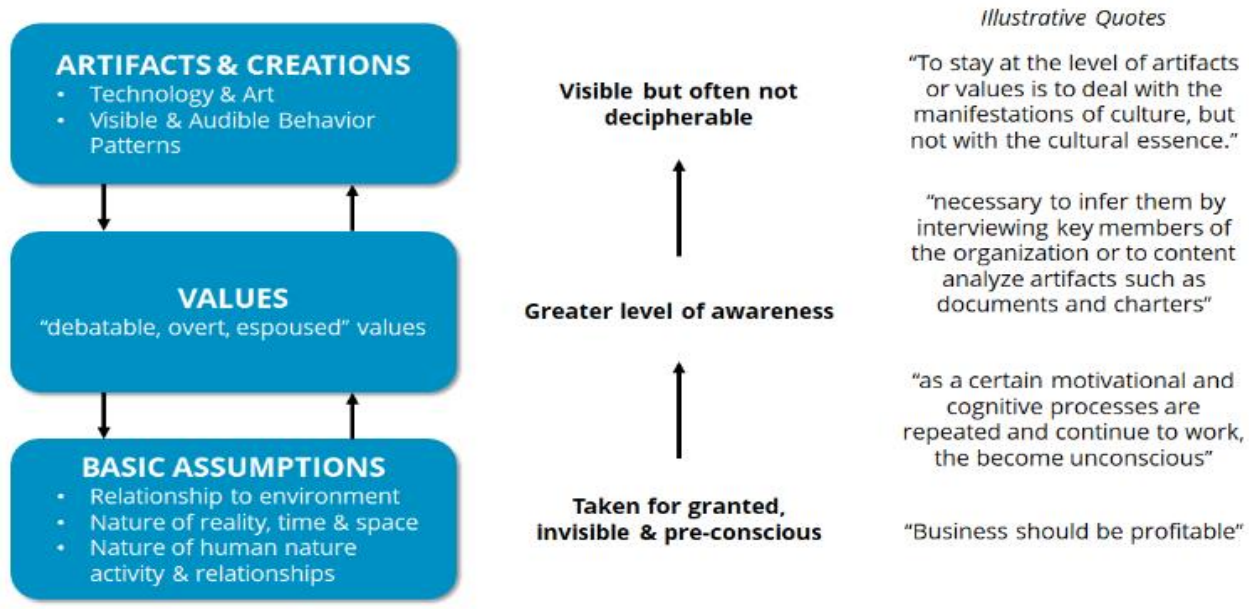


Figure 2: Edgar Schein Model (Source: https://think-boundless.com)

2.3.5.2 Denison Model

The model is built on four main organizational culture characteristics: involvement, consistency, adaptability, and mission. Each of the four organizational culture elements is comprised of three variables referred to as indices. Thus, involvement is defined by indicators such as empowerment, team orientation and capability development; consistency - by core values, coordination and integration and agreement; adaptability - by organizational learning, customer focus, and change management; and mission - by vision, goals and objectives, and strategy. "Beliefs and Assumptions" of the organization are at the core of the model. These are the strongly held characteristics of a company's identity that are frequently difficult to reach (Denison consulting, 2019). Like Cameron and Quinn, Denison has studied organizational culture within the frame of two dimensions: internal focus and external adaptation (Denison Consulting, 2019).

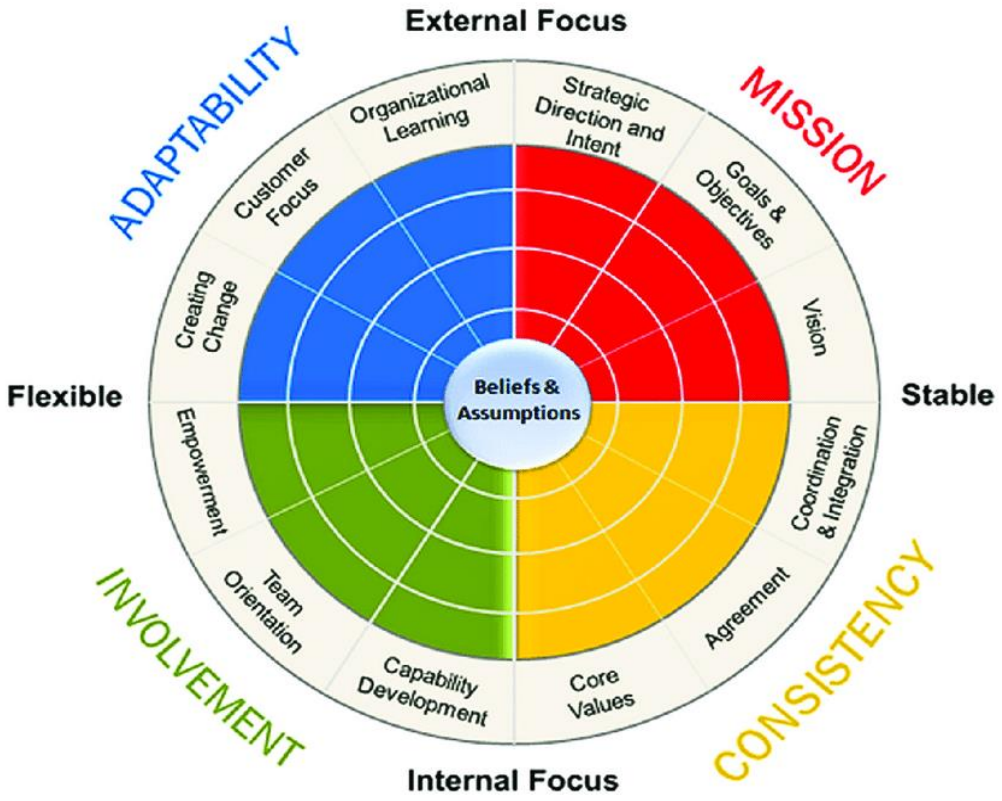


Figure 3: Denison Model (Adapted from Denison Consulting, 2019)

2.3.5.3 Deal & Kennedy Culture Model

According to El-Mekawy (2016), "*this model was developed based on the consideration of organizational culture as one of the significant success or failure factors in an organization*". Deal & Kennedy (2000) identified two marketplace characteristics that have an impact on cultural norms and practices. Those are the risk related to an organization's primary activities and the speed with which feedback indicates whether or not the organization's actions are successful. They held that how cultural aspects evolve and affect an organization's personnel depends on both the risk associated with making a bad decision and the time it takes to determine if a decision is the right one. In this Model Organizations operate in a low or high-risk context. In this model we miss the people-oriented Collaborate Culture compare to CVF. As seen in Figure 4 below, Deal and Kennedy present these variables in a 2 x 2 matrix that identifies the four cultural types.

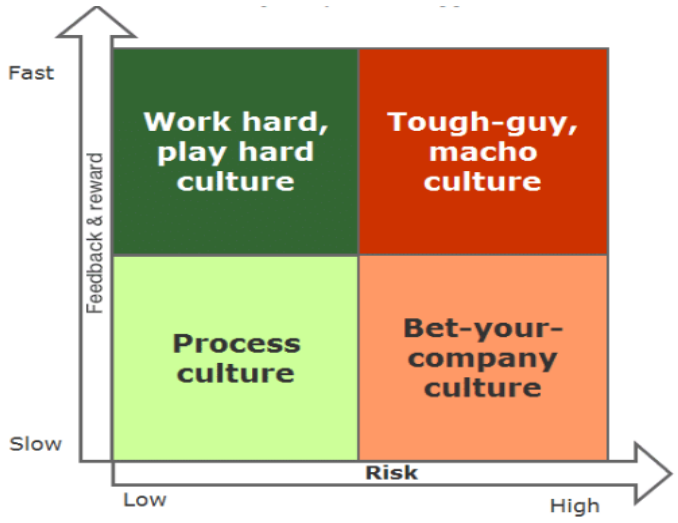


Figure 4: Deal & Kennedy Culture Model (Adapted from Deal and Kennedy, 2000, p.58)

2.3.5.4 Cameron and Quinn (1999s) Model

This model was developed based on the competing values framework and it is the most widely used framework in measuring organizational culture (Quinn and Rohrbaugh ,1999; El-Mekawy, 2016; Thokozani & Maseko, 2017). This approach categorizes organizational culture into four types: clan, adhocracy, market and hierarchy, which are defined and exhibited on six dimensions including leadership style, staff management, organizational glue, strategic emphasis, and success criteria. According to Cameron & Quinn (2006), these cultures can be divided into two types: flexible and rigid, which comprise clan and adhocracy cultures, as well as market and hierarchy cultures, respectively. The flexible organizational culture (FOC) stands for individual development, involvement, and innovation, whereas the rigid organizational culture (ROC) is defined by the presence of a hierarchical structure, roles, and norms, and the need to ensure efficiency and market placement.

CVF elaborates on whether an organization's major focus is internal or External, and whether it is aggressive in achieving its own identity, strength, and control (Cameron & Quinn, 2011; Ngungi, 2019). It was mainly focused on organizational effectiveness and success. The first component of effectiveness is whether an organization is internally oriented, focusing inward on development, collaboration, activity integration, coordination, and so on. Alternatively, whether the business has an external orientation; looking at the market, what is conceivable with new technology, what competitors are doing, what customers appear to want, and diversifying operations as a result

(Bremer, 2017). According to Bremer, for an organization to be successful in the long run, both internal and external attention are required - but depending on the environment, an organization will have a dominating preference. An agile, volatile market will encourage an external focus, whereas a stable environment will encourage an internal focus. As Ngungi defined, various values are established based on the amount to which an organization's internal and external inclinations are controlled. These values contribute to better knowledge management. One of the instruments developed by Cameron and Quinn (1999) to assess the culture of an organization and its relationship with its values is called "Organizational Culture Assessment Instrument (OCAI)". Through use of OCAI model, the culture of an organization can be designed to bring out the most consistent aspects of the culture (Ngungi, 2019). Competing value framework dimensions are discussed below.

- **Clan Culture**: This culture is prevalent in organizations that promote collaboration and empower their staff (Cameron and Quinn, 2011). Furthermore, inside these organizations, cohesiveness and employee happiness are more important than market and financial objectives (Leal Rodrguez et al., 2016). The organization prioritizes internal factors and takes into account employees' flexibility in a friendlier environment devoid of a distinct vertical hierarchy (El-Mekawy, 2016).
- **Adhocracy Culture:** This culture concentrates on increasing the organization's ability to adapt to environmental changes. The organization is focused on the outside world and is very flexible. The fundamental component of this culture is the spirit of entrepreneurship and the production of new goods and services by assuring unique resources (Cameron, Quinn, & Thakor, 2022).
- **Market Culture:** Market-oriented organizations seek stability while also concentrating on elements of the external environment, such as consumers, regulators, and suppliers, to boost productivity and profitability (Aichouche, et al., 2022). In this logical culture, an organization as a market attempt to create a competitive edge and productivity via openness and external attention. The organization is performance-oriented, with a command-and-control management style and driver leaders who focus on the organization's exterior maintenance (El-Mekawy, 2016).

- **Hierarchy Culture:** This cultural type is characterized by its emphasis, formal laws, and bureaucratic organizational qualities. Cameron, Quinn, and Thakor 2022) report that processes and policies are well-coordinated and controlled. The organization concentrates on internal variables through strict formal norms and policies. The organization has a solid and predictable management system (El-Mekawy, 2016).

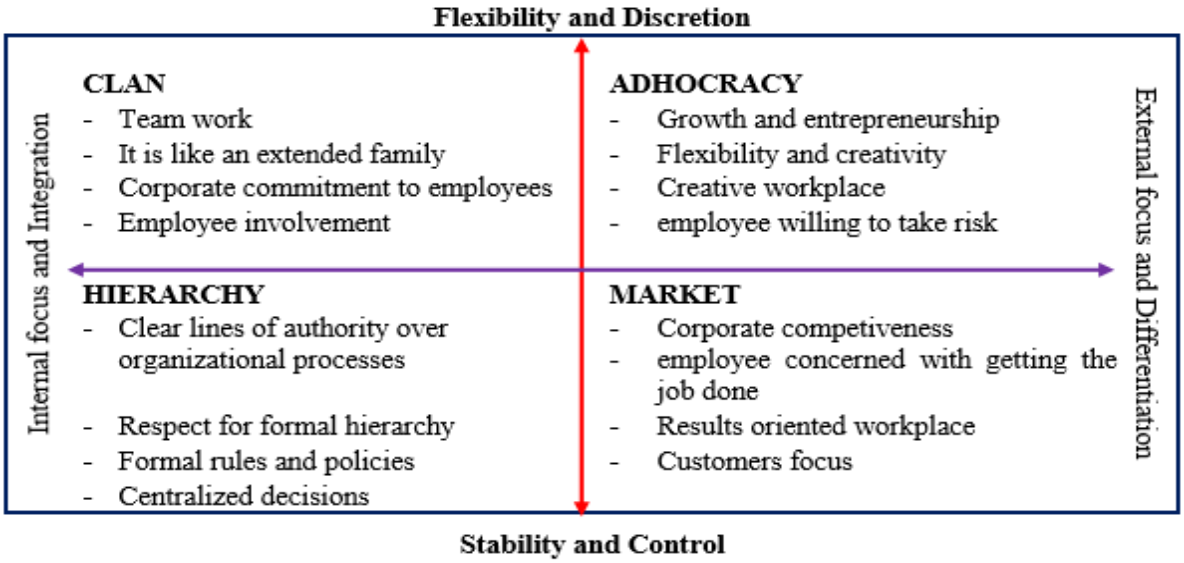


Figure 5: The Competing Value Framework (Adapted from Asaah et al., 2018).

2.3.6 Definition of Knowledge

According to Pham & Dinh (2020), data, information, expertise, and any intellectual resources required for doing business, such as trade secrets, understanding, patents, managerial abilities, etc., are all referred to as knowledge. This knowledge occurs when a person applies what he knows to solve a problem or complete a task (Klepic & Madzar, 2017). Knowledge fosters organizational improvement across all goal focuses as an intangible asset of a company (Sansuse & Cahyaningsih, 2018). Ahmady et al. (2016) stated that, knowledge has been used to build new organizations. The growth and administration of organizations increasingly frequently deal with knowledge and knowledge management (KM). Aside from being a major source of competitive advantage for people seeking employment, knowledge is one of the elements of further success in any employee's career (Klepic & Madzar, 2017, p.260). Knowledge must be seen as a driving force for cultural, economic, and technical advancement since it has evolved into a crucial instrument for improving the quality of all activities in many different types of organizations and global advancements in all fields (Adeinat & Abdulfatah, 2019). Knowledge is incorporated into the cognitive perspective

and reasoning, which becomes an essential resource, receiving a lot of attention in the study based on undiscovered aspects. By combining data, information, and knowledge, KM can help to minimize organizational knowledge loss.

2.3.7 Types of Knowledge

As mentioned by previous researchers, there are two types of knowledge: tacit/implicit and explicit knowledge (Nonaka ,2007; Jofreh and Shirzad, 2015, p.183). Tacit knowledge is in the individual mind and difficult to be articulated while explicit knowledge has been articulated in memos, letters, guidebooks, manual books, and references. As stated by (Jofreh and Shirzad, 2015), knowledge that is expressed in the form of numbers, figures and values etc., is referred to as explicit knowledge, whereas knowledge that is expressed in the form of beliefs, values, and experiences that cannot be easily captured is referred to as tacit knowledge.

2.3.8 Knowledge management concept

Knowledge management (KM) is known as a new concept to manage, develop and retain organizational knowledge. Knowledge management covered the acquisition and accumulation of implicit knowledge as well as the management of intellectual property. Klepic and Madzar (2017) indicated that, knowledge management is a managerial tool that assists organizations in developing and sharing knowledge inside the organization through the use of business processes, information technology, and culture. As stated by Pham & Dinh (2020) and Dash & Padhy (2021), KM is the set of procedures that is used to organize and manage knowledge activities, such as detecting knowledge gaps and obtaining, producing, storing, disseminating, and using the information. According to them, knowledge management is a set of processes that control the creation, dissemination, and application of knowledge. KM processes include creation, storage/retrieval, transfer, application and protection of knowledge within an organization (Orwa, 2021). Dash & Padhy (2021) also explained that, knowledge management is a useful method for acquiring and spreading publicly available knowledge inside an organization.

Previous researchers have repeatedly stated that, knowledge management is a critical asset of high importance in determining a firm's competitive advantage (Nikooravesh & Mehrpour, 2016; Sheikhalizadeh and Piralaiy, 2017; Dash & Padhy, 2021; Mambo & Smuts, 2022). Sheikhalizadeh and Piralaiy (2017) found that, KM is the process of utilizing all available information and knowledge creatively, effectively, and efficiently for the advantage of customers and hence for the benefit of the organization. In the process of knowledge management, the tacit knowledge of

employees is brought out and converted into explicit knowledge which plays an important role in achieving the organization. Employees are a company's most valuable asset. As a result, it is the responsibility of an organization's leaders to motivate, bring together and empower these individuals to share their knowledge.

2.3.9 The importance of knowledge management in organization

Due to the increasing rate of technological advancement, globalization, and resource availability, knowledge is essential to the continued growth and survival of organizations (Klepic & Madzar, 2017). We can divide the benefits of knowledge in an organization into individual level and organizational level. Individually, it enabled employees to increase their abilities and experience by interacting with others and sharing their knowledge and learning to achieve professional development (Ahmady et al., 2016)). It provides four key benefits for organizations at the organizational level: enhancing organizational performance through efficiency, profitability, quality, and innovation (Nguyen, 2020). Organizations implement knowledge management for a variety of reasons, such as improving efforts to create and share tacit knowledge, improving internal collaboration, sharing best practices, providing competitive information, and maintaining a competitive advantage (Adeinat & Abdulfatah, 2019). The importance of knowledge management appears to be directly related to improvements in organizational processes such as innovation, collaborative decision-making, and individual and collective learning—all of which support improvements in decision-making, organizational behaviour management, and product, service, and relationship management.

Other researchers have also explained that "*KM is a powerful tool for organizations investing in their intellectual capital*" (Can & Eser,2015; Klepic & Madzar, 2017). Sheikhalizadeh and Piralaiy (2017) said that, knowledge management is an endeavor to convert existing knowledge (human capital) into common organizational capital (structural intellectual capital). According to the authors, knowledge management (KM) is a systematic procedure used to organize an organization's operations toward the fulfillment of its purpose (Kharraz & Boussenna, 2021). According to (Al-Saifi, 2015), firms with knowledge management structures and processes have a long-term competitive advantage, maintain high levels of performance, and are more inventive. KM attempts to leverage an organization's architecture, processes, and intellectual resources to act, produce, maintain, share, and utilize knowledge (Jofreh & Shirzad, 2015).

2.3.10 Knowledge Management Models

Based on the articles used for literature review within this study, the following KM models are presented for evaluation. These models are frequently used by various researchers and are very popular models in knowledge management.

Models	Concepts
Nonaka's SECI Model	The model was first created by Ikujiro Nonaka in 1990, and Hirotaka Takeuchi further improved it in 1995. In this model knowledge is socialised (tacit to tacit), externalised (tacit to explicit), combined (explicit to explicit) and internalised (explicit to tacit) in a continuous, spiralling process (see Nonaka, , 2007; Adesina and Ocholla, 2019, p.2). This model assumes that knowledge is composed of explicit and tacit components. In this sense, explicit knowledge is described in writing, drawings, computer programming while tacit knowledge is nonverbalized, intuitive, and unarticulated. The model is primarily focused on process and flow of knowledge
Conrad & Newman (2000) General model of knowledge management	In 2000, Newman and Conrad created a general knowledge management model by integrating many conceptual models and frameworks. According to Newman and Conrad (2000), the model organizes knowledge flows into four main areas: knowledge creation, retention, transfer and utilization (see figure 7 below). According to Newman and Conrad (2000), knowledge will spread throughout the business through several processes that turn data into information, information into basic knowledge, and then basic knowledge into meta-knowledge. The life cycle of knowledge has created a pivot in this approach, ranging from acquisition to organization to establishment and reusing or sharing information (Ahmady et al., 2016).
Lawson's (2000)	Lawson (2003) stated that "knowledge management is a continuous process and becomes and expanding spiral as more and more knowledge is added and managed over time". This model contains six components; knowledge creation, knowledge capture, knowledge organization, knowledge storage, knowledge dissemination, and knowledge application.

Frid's Knowledge Management Model (2003)	Knowledge management maturity assessment stages and knowledge management implementation may be split using the knowledge management framework. The five levels are knowledge chaotic, knowledge-aware, knowledge-focused, knowledge-controlled, and knowledge-centric chaotic, knowledge aware, knowledge-focused, knowledge-controlled, and knowledge-centric are the five levels.
Stankosky and Baldanza's Knowledge Management Framework	This model proposes four fundamental organisational foundations that are crucial for knowledge management: leadership, organisational structure, technological infrastructure, and learning. The model presents that knowledge management encompasses a wide range of disciplines
Knowledge management maturity assessment model (KMMM)	The KMMM assesses organizational knowledge management maturity and offers guidance for improvement (Bougoulia and Glykas, 2022). The model includes five stages: initial, aware, defined, managed, and optimizing.

Table 1: Knowledge Management Models

As can be seen from the above table 1, the Newman and Conrad model is the simplest of the models available and combines the rest of the models into one common model (Newman & Conrad, 2000). As stated by Yilmaz and Boz (2021), Newman and Conrad's model is also known as the Integrated Model of Knowledge Management and is a well-recognized theoretical framework in knowledge management. Here are some reasons why the Newman and Conrad model is important:

- **Integration**: This model emphasizes integration, aligning knowledge management practices with an organization's strategy, culture, technology, and structure, ensuring knowledge management is integrated into overall operations (Gomes and Souza, 2019; Kulkarni and Niranjan, 2021).
- **Holistic perspective**: It offers a holistic knowledge management approach, crucial for complex organizations with diverse functions, enabling comprehensive and effective management of knowledge assets (Raza and Standing, 2020; Goh and Lee, 2020).
- **Flexibility**: Newman and Conrad model is a flexible framework that adapts to organizations' unique needs, enabling customized knowledge management approaches (Mifsud and Debono, 2020; Kulkarni and Niranjan, 2021).

- **Emphasis on culture**: The model emphasizes culture as a crucial component of knowledge management, guiding organizations to create a culture that supports knowledge sharing and collaboration (Chourabi and Al-Sharhan, 2018; Hameed and Rana, 2021).
- **Focus on outcomes:** Newman and Conrad model emphasizes outcomes, measuring and evaluating knowledge management practices' impact on organizational performance, recognizing it as a valuable investment (Mifsud and Debono, 2020; Goh and Lee, 2020). Therefore, this model will be used in this study for knowledge management process with Cameron and Quin (1999) model of organizational culture. This Model generalizes knowledge management to the following four main components.

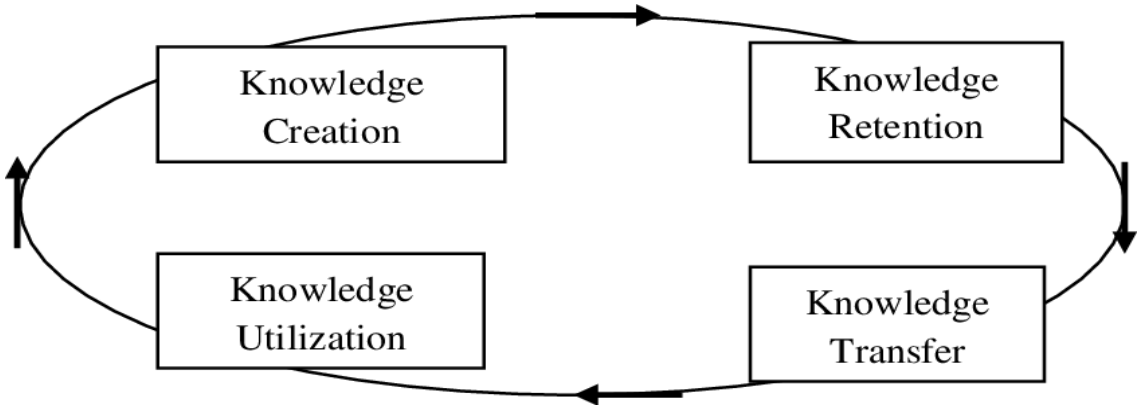


Figure 6: General model of knowledge management (Adapted from: Newman & Conrad, 2000)

2.3.11 Knowledge Management Processes

Knowledge management is formed by several processes that provide the key to understanding knowledge management and how it is best handled within the organization (Salha & Albadawi, 2022). They believed that, knowledge management procedures are interconnected and sequential in nature, with one process relying on, integrating with, and supporting the others. The knowledge process method focuses on strategies for codifying and storing knowledge in database systems, which can be performed within the company through codified rules, procedures, and technology (Adeinat & Abdulfatah, 2019). KM processes comprise: knowledge creation and capture, knowledge sharing and dissemination and knowledge acquisition and application (Pham & Dinh, 2020). In Newman & Conrad (2000) model, these knowledge management processes are divided into four places namely: knowledge creation, knowledge transfer, knowledge retention and knowledge utilization or application (see figure 7 above).

2.3.11.1 Knowledge Creation

Knowledge creation is regarded as the initial stage of knowledge management process. In all types of knowledge that the organization owns, the created knowledge would be the outcome of discovering new content or rearranging the foreground and background knowledge of already existing content (Adeinat & Abdulfatah, 2019). This process depends on a variety of factors, including inspiration, experimentation, and relationships within the organization that might lead to the generation of new knowledge and meanings. Knowledge creation encompasses activities related to the integration of new knowledge into the system, such as knowledge development, discovery and capture (Newman & Conrad, 2000; Ahmady et al., 2016). According to Chang & Lin (2015), knowledge creation involves creating new ideas or updating current ideas in the tacit and explicit knowledge of the organization. Knowledge creation is determined by how different sources of knowledge are used to acquire new knowledge from persons, institutions, and surroundings in which they function (Nonaka & Toyama, 2005)

2.3.11.2 Knowledge Transfer

To boost competitiveness and ensure the company's success, knowledge must be shared and transferred between employees and business units (Pham & Dinh, 2020). Pham and Dinh said that, “Knowledge sharing is an essential phase in the knowledge management process in which one or both parties seek and share their information, particularly tacit knowledge". In addition to humans, various automated systems and elements that served as mediators also contributed to the transfer of knowledge (Ahmady et al., 2016). Sharing knowledge has been associated with its transmission or dissemination, and has pointed to a process by which knowledge has been conveyed from one person to another, from individuals to groups, or from one group to another (Newman & Conrad, 2000). In cooperative cultures, communication and the exchange of ideas and knowledge among individuals have played a significant role in the transfer of knowledge. Organization must carefully transfer tacit knowledge into explicit knowledge to prevent the loss of that knowledge (Chang & Lin, 2015).

2.3.11.3 Knowledge Retention

According to Newman & Conrad (2000), knowledge retention covers any activity that preserves knowledge and allows it to remain in the system once it has been introduced. It also involves activities that ensure knowledge's viability within the system. Knowledge retention takes information out of employees’ heads and puts it into a company-owned hub, such as a knowledge

base. Once it's documented and centralized, companies can access and transfer it whenever and wherever they need it. Written papers, structured data stored electronically in databases, codified human knowledge stored in expert systems, organisational processes, and process documentation are all examples of KR, according to Adeinat and Abdulfatah (2019). Three crucial questions are addressed by effective knowledge retention initiatives (Gleason, 2022):

1) What knowledge might be lost?
2) What are the consequences of losing such knowledge?
3) What steps can be made to retain that knowledge?

2.3.11.4 Knowledge Utilization

The degree to which employees apply shared and transferred knowledge is referred to as knowledge utilisation. This comprises activities and events associated with applying knowledge to business processes (Newman & Conrad, 2000). This knowledge can be used to adjust strategic direction, solve new problems, improve efficiency and reduce costs (Chang & Lin, 2015). Ahmady et al., (2016) indicated that, if an organization is unable to identify the appropriate kind of knowledge in its appropriate environment, it may fail to maintain its competitive advantages. Ouakouak & Ouedraogo (2018) stated that, "employees' knowledge sharing behaviour contributes to the utilization of knowledge". According to these authors, adopting suitable systems and mechanisms to promote knowledge sharing could ultimately result in increased knowledge creation and knowledge utilization. According to (Mvulirwenande et al., 2016), Organizations frequently face challenges with knowledge utilization rather than knowledge development and capacity growth. KU includes collecting or receiving information whether from a data bank, a library shelf, a consultation session, or other source.

2.3.12 Relationship between Organization Culture and Knowledge Management

One of the critical elements in the culture of an organization is the relationship between knowledge management and the organization's culture (Ngungi, 2019). In modern society, organizational culture has become increasingly centered on knowledge (Klepic and Madzar, 2017). Culture is a critical success factor in knowledge management (Orwa,2021; Kharzas & Boussenna, 2021) and the most important enabler of knowledge management in multinational initiatives (Staadt, 2015). According to Kiziloglu (2021), organizational culture serves as the foundation for

business success in that it aids knowledge management in creating frameworks that are crucial to achieving the goals of the firm. Olan et al. (2019) found that culture can either stabilize the environment in which knowledge creation, sharing, and use occurs, or it can govern individual behavior, which is critical for knowledge creation, sharing, and use.

Ahmady et al., (2016) stated that the current culture of an organization is critical to the effectiveness of knowledge management. (Dos et al., 2016) indicated that, there is a strong direct relationship between the KM and human resource management in terms of training, career development, and retention. According to the researchers, "KM benefits from teamwork, cooperation, and collaboration". By supporting this idea Prabhakar et al. (2018) stated that cultures must encourage the free exchange of ideas, while KM offer catalytic support for collaborative engagement. They believed that, the need to develop cultures that encourage such behaviours is shown by the importance of capturing, disseminating and using creative ideas to obtain positive assessments. According to (Afshari et al., 2020), employees are driven to participate in decision-making procedures through social capital, resulting in their readiness to effectively participate in KM.

2.3.13 The Effect of organizational culture on KM process

Many theoretical and empirical studies show that organizational culture impacts knowledge management. Mambo & Smuts (2022) stated that many organizational factors, including organizational culture, might influence the success or failure of knowledge management activities. Culture has its dimensions whereas knowledge management has process. According to Mambo & Smuts (2022, p.185), each of these cultural dimensions has their own influence on knowledge management. Pham and Dinh (2020) found that organizational culture has a profound influence on knowledge management due to the importance of people in knowledge management processes such as knowledge creation, transfer, retention, and utilization. Organizational culture has an impact on all aspects of a corporation and this impact may be seen in individual behaviours, organizational performance, motivation, work satisfaction, creativity, and innovation (Dash & Padhy, 2021). Chesenge & Njuguna (2022) also stated that a major cause of employee turnover problems faced by organizations is the culture of the organization.

Culture has an impact on organizations because of the societal structure, beliefs, conventions, behaviour and practices of organization participants, which affects their level of acceptance or rejection of knowledge management in the organization (Damgoje et al., 2015). As mentioned in previous studies, organizational culture can influence knowledge management in many ways. Favourable goal and motivation for exchanging knowledge, domination of good content in an organization, and reciprocal trust between individuals would all have a positive impact on knowledge management. On the other hand, Negative competition and an unwillingness to share knowledge, are two elements that have a negative impact on knowledge management. Kharraz & Boussenna (2021) reaffirmed that: Trust, Collaboration, learning from mistakes, Creativity and innovation, Knowledge sharing culture is organizational culture related factors that influences knowledge management in the organization. Organizations with strong shared systems of beliefs, symbols, and values increase employees' desire to share their knowledge, which improves organizations' ability to build KM culture in the KM (Chang & Lin, 2015). The knowledge-sharing nature of an organization can also be determined by its organizational culture.

As stated by Mambo & Smuts (2022), One of the difficulties that organizational culture creates is when a company becomes overly process-driven. A process-driven organization is one in which everything follows a specified process and such organizations are typically bureaucratic (Verbeeten & Speklé, 2015). In such organizations, there is no free flow of information between individuals, between units, or throughout the organization. Such organizations cannot apply the new things they learn without altering their process, which has previously been noted to be challenging. Mambo & Smuts (2022) reaffirmed that organizational cultures that are bureaucratic, rigid, and unwilling to learn and apply new ideas hinder knowledge management processes such as knowledge creation and knowledge sharing. Adeinat & Abdulfatah (2019) indicated that, lack of effective organizational communications, a lack of organizational training, a lack of trust in the organization and a culture that discourages knowledge sharing are some of the organizational barriers that have a significant impact on impeding knowledge sharing practice. According to Jofreh and Shirzad (2015), organizations must provide an environment where employees may create, store, transfer, use and enhance their knowledge of their profession, as well as take action to solve problems, form working groups, and do so while drawing on the technical expertise of their co-workers.

2.4 Related Works

This section describes the ideas of previous researchers related to this study. in this section, the results of the research for these researchers are also attempted to be described in the area on which they conducted the research as the following.

Chidambaranathan & Rani (2015) conducted a descriptive study to assess how organizational culture affects knowledge management in Qatari higher education libraries. The sample size was reduced from 195 employees from twenty libraries to 122 employees from 16 libraries using a simple random sampling method. The primary data was quantitative, and using inferential statistical analysis, the researchers discovered that clan culture was positively connected with knowledge management and that clan culture contributes to knowledge management implementation.

Mojibi et al. (2015) investigated the effect of corporate culture on knowledge management in Pars Oil Company, Iran, using the Denison organizational model (involvement, consistency, adaptability, and mission). The sample size was 45 people drawn from a target population of 53 from the top and medium-level departments. The questionnaires were used to collect primary data, which was subsequently analyzed using SPSS. According to the findings, involvement, which is one of the characteristics of clan culture, had a substantial influence on the knowledge management approach. However, the research was limited by the use of a small sample size, which reduced the power of the study and increased the margin of error, rendering the study worthless.

Jofreh and Shirzad (2015) investigated the influence of organizational culture on knowledge management in the Razi Petrochemical Company using the Robbins, Newman & Conrad model. Data was gathered using library methods and a questionnaire. Expert content analysis confirmed the questionnaire's validity and Cronbach's alpha was calculated to demonstrate its reliability. The population of this study was 300 people, based on the formalization of Razi Petrochemical Company management and experts, of whom 168 cases were found. For data analysis, linear regression and the Pearson correlation coefficient were utilized. The findings of this study indicate that knowledge as a competitive advantage for organizations, and culture as the foundation and character also, as a barrier and as a catalyst, can affect competitive advantage management.

Sensuse & Cahyaningsih (2018) evaluated the impact of organizational culture on knowledge management in the Indonesian government. The questionnaires were developed using the

organizational culture assessment tool and given to 230 human resource managers from three Indonesian government departments. The research findings revealed that clan and hierarchy dominated these ministries using quantitative analysis. Furthermore, hierarchical culture has a favorable link with knowledge management, owing to the fact that individuals feel compelled to share their information. This study's findings contradict earlier research findings that suggest hierarchical cultures have a negative impact on knowledge management.

Damgoje-Ayodele and Ellis (2015) conducted a study in Australia to investigate the extent to which Nigerian culture influences organizational culture, which in turn affects knowledge management practice in Nigerian organizations. The descriptive survey approach was used in the study, and the data collected from the respondents' responses were analyzed using a simple percentage. The findings demonstrated that the hierarchical nature of Nigerian society enables decision-making, which would otherwise have an impact on knowledge management techniques in Nigerian firms.

Ramirez, Amezaga, and Medina (2016) investigated how organizational culture affects knowledge management in Mexican Tequila enterprises using a quantitative and cross-sectional study approach. To collect data, 39 tequila companies were sampled using a non-sampling method, and questionnaires were delivered to these organizations through email. To determine the correlations between the variables, the study employed descriptive and inferential statistics. The study found that all variables, including clan, adhocracy, market, and hierarchy cultures, positively influenced knowledge management. One of the study's shortcomings is that the findings contradict prior findings that demonstrated a negative influence of market culture on knowledge management.

Sheikhalizadeh and Piralaiy (2017) used the Denison Organizational Culture and Lawson Knowledge Management Assessment to investigate the effects of organizational culture on university academic staff knowledge management. Data were obtained in the form of questionnaires from 63 academic members and evaluated using Pearson correlations, linear regression, and multiple regressions. According to the findings of this study, corporate culture has a considerable positive influence on knowledge management. The result shows that only one aspect of the mission has a strong positive impact on knowledge management (organizational culture indices).

Klepic and Madzar (2017) investigated how and to what extent organizational culture affects knowledge management in small and medium enterprises. The study was conducted on a sample of small and medium-sized businesses that had been chosen randomly. Questionnaires were sent to 86 participants of which 37 actively participated. The questionnaires were analyzed using SPSS and Cronbach's alpha coefficient was used for testing the validity. According to the findings, organizational culture and knowledge management were positively correlated. Their result shows that knowledge management adoption requires the formation of a higher-level organizational culture as a fundamental precondition.

Adeinat and Abdulfatah (2019) assessed the effect of organizational culture on knowledge management (creation, dissemination, exchange, and application) in the public University of Saud Arabia. The organizational culture assessment instrument was utilized in the study to establish the type of culture, and structural equation modeling was employed to examine the underlying linkages between knowledge management and OC. The results of the factor analysis used in this study show that an adhocracy organizational culture that emphasizes individual initiative and employee empowerment may not have an equivalent effect on all knowledge management processes. The culture of the organization has a significant impact on the process of knowledge generation in a public university environment, followed by knowledge sharing.

Ramirez, et al. (2020) determined whether an organization may apply both flexible and rigid cultures in order to enhance the development and transfer of knowledge inside an organization. Using quantitative and correlational analysis, a sample of 167 companies from Mexico and Bolivia was gathered. Using Pearson correlation and stepwise regression, they discovered that rigidity is significant in the acquisition of knowledge in countries where bureaucracy is the dominant organizational culture.

Aichouche et al. (2022) also investigated the relationship between Knowledge management and organizational culture types. This study examined the link between organizational culture types (Clan, Adhocracy, Market, Hierarchy) and Knowledge Management (Creation, Dissemination, Storage, and Application) using meta-analytic path analysis. Their findings show that no single culture has a stronger influence on all aspects of knowledge management. Clan, Adhocracy, and Market all have significant but different influences on Knowledge Management, according to their research. Notably, the clan is linked with knowledge generation; however, Adhocracy has a higher

influence on knowledge application, whilst the market has a greater impact on information transmission and preservation. The performance of knowledge management is determined by res.

Chesenge & Njuguna (2022) also evaluated the influence of organizational culture dimensions on the knowledge management of postal corporations in Kenya. The primary goal of the study was to look into how organizational culture affects knowledge management in the Postal Corporation of Kenya. The study attempted to determine the impact of adhocracy culture, market culture, hierarchy culture, and clan culture on knowledge management in the Postal Corporation of Kenya. A descriptive research approach was used to determine how and what types of organizational culture have a significant impact on knowledge management. The target group consisted of 91 persons from the top and intermediate management levels, as well as personnel from the Postal Corporation of Kenya. To collect primary data, semi-structured questionnaires were used. In this study, descriptive statistics (mean and standard deviations) and inferential statistics (linear regression and correlation) were computed using a statistical package for social sciences software. According to the study's findings, clan culture, adhocracy culture, market culture, and hierarchy culture, all have an impact on knowledge management.

Asefa et al. (2012) conducted a case study to assess the impact of organizational culture on knowledge sharing among employees in the commercial bank of Ethiopia. A qualitative approach was used in the study and data were collected using triangulated data collection methods: interview, observation, and archival records. They have investigated the impact of corporate culture on knowledge sharing in terms of values, norms, and practices. They have identified risk avoidance and customer satisfaction as key cultural values, while openness, information confidentiality, and the need to be a generalist as cultural norms. They also found that codification, on-job training, mentoring, rewards, and ICT infrastructure are found to be cultural practices in CBE. The result shows that risk avoidance is a crucial aspect of a company culture that encourages information sharing through on-the-job training and knowledge codification. On the other hand, through individual creativity, a risk-avoidance culture hinders the creation of new knowledge and organizational innovation. According to the results of the study, employees are less likely to come up with original and efficient solutions to problems at work when they are held accountable for any failures that may happen if they operate outside of established organizational norms. Reusing previously learned information helps an organization eliminate routine or frequent errors, but it falls short when the objective is to increase internal productivity, goods, and services.

Bogale (2014) explored how organizational culture and knowledge management actually relate in the setting of UNECA based on CVF and SECI models. For this study, a cross-sectional, descriptive design, as well as a quantitative survey method, were used. A questionnaire and document analyses were employed as data collection tools. The data obtained through the questionnaire was analyzed using descriptive and inferential statistical tools such as percentage, frequency, mean scores, standard deviation, standard mean error, t-Test, and correlation and regression coefficient. The data gathered and evaluated has shown that UNECA has an organizational culture that is unbalanced, with one or two characteristics substantially influencing the shared beliefs and actions of its knowledge workers. The conclusion drawn from this research shows that the UNECA lacks an efficient knowledge culture that would have been streamlined and in accordance with it refocusing topic to support and strengthen its current attempts to become a knowledge-based organization.

Worku (2021) explored the effects of organizational culture on knowledge transfer at regional public organizations in Bahir Dar. The study uses a cross-sectional, explanatory design and a quantitative methodology. In this study, primary data were gathered through the use of a closed-ended questionnaire, and the data were analyzed using descriptive, correlational, and multiple regression statistical techniques. The findings of this study show that trust, shared vision, managerial support, learning & development, and teamwork have a substantial impact on knowledge transmission. According to Worku (2021), management support has the most impact on how well knowledge transfer works.

2.5 Knowledge Gap

From these past studies, we understand that the effect of organizational culture on knowledge management is less explored. Most studies also agreed that organizational culture has received very little attention, despite being very significant because it provides answers for corporate growth. On the other hand, the findings appear to contradict one another. The majority of the studies are conducted according to developed countries' context and the findings cannot work in the Ethiopian context. The effect of organizational culture on knowledge management has not received much attention in developing countries like Ethiopia. There is no research describing how organizational culture affects knowledge management in our country. In particular, no research has been done on how organizational culture affects knowledge management procedures in

financial institutions like banks. Therefore, this study is dedicated to investigating the effect of organizational culture on knowledge management in the context of Ethiopia.

2.6 Conceptual Framework

A conceptual framework explains the important objectives of a research process and shows how they fit together to form cohesive findings (Springer, 2020). In this section, the concepts of organizational culture and knowledge management process are contextualized and related to certain standardized models in order to achieve the goals of this research. Before developing a conceptual framework, it is imperative to know the relationship between the independent and dependent variable as well as the effect of the independent variable on the dependent one. Linking to past researches the effect of organizational culture indicators (the independent variable) on knowledge management process (the dependent variable) and their relationship is explained under hypothesis development as follows.

2.6.1 Hypothesis Development

Hypotheses are frequently specific predictions about what will occur in a certain investigation. A research hypothesis is a preliminary solution to a research problem articulated as a clearly defined relationship between independent (cause') and dependent ('effect') variables. Hypotheses are constructed around a general research topic. They are created by taking existing facts and reasoning to predict what will happen in the specific context of interest. Developing a hypothesis includes selecting the variables to be studied and operationally defining those variables so that they may be quantified. A variable is a quantity or quality that varies across individuals or situations. Hypothesis is created based on prior literature and it is more than a random guess. Hence research hypothesis of this study has been developed based on past related literature as follows.

Researchers have paid attention to the relationship between organizational culture and knowledge management as well as the impact of this organizational culture on knowledge management process. In general, researches have shown that culture can affect knowledge management in different ways. Indeed, several researchers and practitioners have noticed the positive effect of organizational culture on knowledge management (see Idris *et al.*,2015; Jofreh & Shirzad, 2015; Klepic and Madzar,2017; Sheikhalizadeh and Piralaiy, 2017; Abdulfatah & Adeinat, 2019; Ramirez *et al.*,2020; Lam et al., 2021; Orwa, 2021; Aichouche, Chergui & Brika, 2022; Chesenge & Njuguna, 2022). Past literatures indicate that most researchers agree that all dimensions of organizational culture influence the knowledge management. However, these dimensions have

different effects on knowledge management. Let's look at these types of organizational culture based on previous research.

Clan Culture

In business, a clan is a family with similar interests. Clan culture is a type of organizational culture that values dedication, participation, and allegiance in order to build a collaborative, family-like environment. Clan culture is defined by the close interaction between members of an organization and encourages "teamwork, employee involvement, and corporate commitment to employees. Many studies indicate that clan culture can significantly hinder KM. Most of the researchers have been pointing out that Clan Culture has a positive impact on knowledge management **(**see Chidambaranathan & Rani, 2015**;** Mardiana & Tjakratmadja, 2019; Chesenge & Njuguna, 2022). Clan culture is positively connected with knowledge management. Clan culture outperforms adhocracy culture, which was previously considered the culture of innovation. Hence the following hypothesis where developed based on the above idea.

H1: Clan Culture has a positive effect on knowledge management

Adhocracy Culture

In business, adhocracy is a company culture focused on the capacity to adapt swiftly to changing situations. Adhocracy is characterized by its flexibility, employee empowerment, and emphasis on individual initiative. In this culture, the commitment to growth and innovation via experimentation and risk-taking is high. New products and services are what determine success. The organization promotes individual freedom, and initiative and leaders foster innovation. Many studies indicate that adhocracy culture can significantly hinder KM. (Allameh et al., 2013), investigated the link between organizational culture and knowledge management processes at Chaharmahal and Bakhtiari Province's Roads and Urban Development Organization. According to Allameh et al. (2013), the dominant organizational culture with the knowledge management processes is adhocracy; thus, the successful performance of knowledge management programs is dependent on the encouragement of knowledge management and emphasizes the adhocracy culture in the organization. Adeinat and Abdulfetah (2019) conducted a study on the relationship between organizational culture and knowledge management at King Abdulaziz University. The result from this study shows that adhocracy culture is the dominant culture, followed by market culture

according to the ideas of the respondents. Chin-Loy and Mujtaba (2011) investigated how organizational culture affects knowledge management strategies in North American enterprises. The finding indicated that "there is a strong positive linkage between adhocracy culture and knowledge management". As stated by Mardian & Tjakratmadja (2019), adhocracy culture predicts the success of KM technology adoption more accurately. Tseng (2011) found that Adhocracy culture is an enabler of knowledge conversion compared to Clan and Hierarchy culture. Therefore, hypothesis H2 could be stated as follows:

H2: Adhocracy Culture has a positive effect on knowledge management

Market Culture

Market culture is a form of corporate culture that encourages competitiveness among employees as well as between the firm and its market competitors. As stated by Chidambaranathan & Rani (2015), individuals are competitive in market culture and goal-oriented. Leaders are strong and demanding, with a focus on market expansion. The organization is focused on winning and achieving measurable goals. Many studies indicate that Market culture can significantly hinder KM. Ramirez, Amezaga, and Medina (2016) observed that organizational cultures such as clan, adhocracy, market, and hierarchy were positively associated with knowledge management of which market culture rated highest while a low correlation was noted between hierarchical culture and knowledge management. According to Chidambaranathan & Rani (2015), Clan, adhocracy, and market organizational cultures are positively connected with knowledge management, but hierarchical culture is negatively correlated and not significant. The study was conducted on Qatar's higher educational library and according to the results of the researcher clan and market culture types are favorable to knowledge management achievement. The result from Chesenge & Njuguna (2022) showed that market culture affects knowledge management. Hence the following hypothesis where developed based on the above idea.

H3: Market Culture has a positive effect on knowledge management

Hierarchy Culture

Hierarchy culture is a type of corporate culture where decisions are made from the top down and there is a strict structure in place. According to Chidambaranathan & Rani (2015), Hierarchy Culture is an extremely regulated and structured work environment with official rules, regulations, and procedures that govern what employees do. Employee management is concerned with job security and stability, and managers work as coordinators. Success is defined by cheap costs and dependable, seamless delivery. Many studies indicate that hierarchical culture can significantly hinder KM. Chesenge & Njuguna (2022) conducted research in Kenya postal corporation regarding the impact of organizational culture on knowledge management. Results showed that the respondents agreed to a great extent that hierarchy culture affected knowledge management in the Postal Corporation of Kenya.

Tseng (2011) investigated the effects of hierarchical culture on knowledge management at Taiwanese companies and the result shows that a hierarchical culture impacts KM practices and can serve as a bridge between knowledge conversion and KM procedures. Tseng (2011) claims that building a hierarchical culture will be suitable for combination and externalization. It would also help with the deployment of KM. On the other hand, it would not be helpful for socialization and internalization. Furthermore, it would not be beneficial to KM's strategy and planning. Many researchers have said that Hierarchy culture has a negative effect on organizational knowledge management (Chang and Lin, 2014; Chidambaranathan & Rani, 2015; Scholar, 2016; Ramirez, Amezaga, and Medina, 2016). Hence the following hypothesis where developed based on the above idea.

H4: Hierarchy Culture has a negative effect on knowledge management

Based on the relevant literature study and hypothesis discussed above, a conceptual framework shown in Figure 8 has been created. It illustrates the linkage between cultural dimensions (an independent variable) and knowledge management (a dependent variable). In this framework, organizational culture, the research's independent variable, is associated with Cameron and Quin's (2000) conceptualization of variables linked with CVF, in which organizational culture is classified into four types, namely clan, adhocracy, market, and hierarchy. Similarly, knowledge management was linked to the famous knowledge management model called Newman & Conrad's

(2000) general knowledge management, which incorporates four conversion processes: knowledge creation, knowledge retention, knowledge transfer, and knowledge utilization.

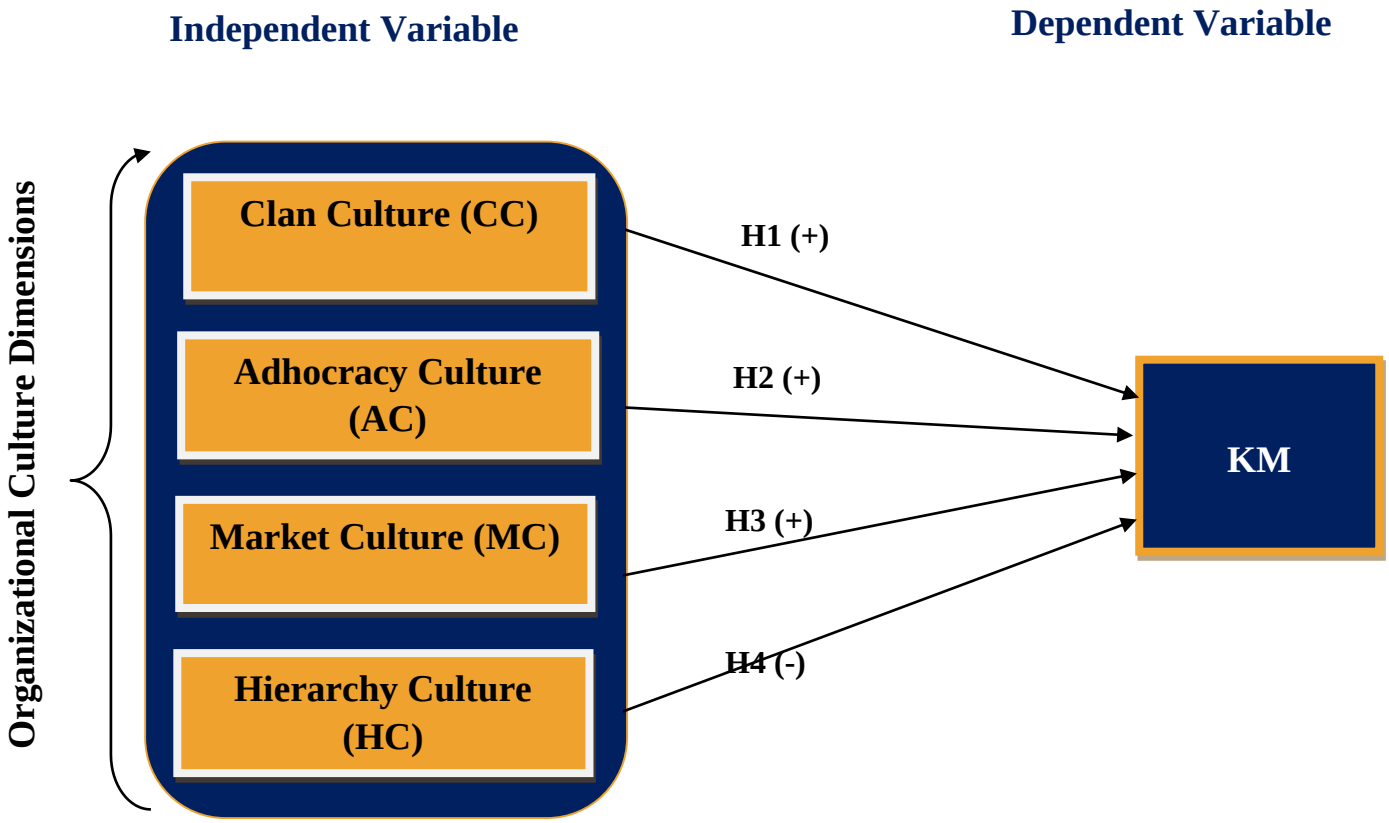


Figure 7: The Conceptual Framework (Source: Adapted from Chidambaranathan, 2017*)*

2.8 Chapter Summary

The second chapter included a review of the literature on organizational culture and how it affects knowledge management process in organizations. In this chapter definition of culture, organizational culture concepts, organizational culture types, the significance of organizational culture in organization, organizational culture models, knowledge and knowledge management concepts, knowledge management types, the significance of knowledge management in organization, knowledge management, the link between organizational culture and knowledge management and the impact of organizational culture on knowledge management have been extensively discussed. Finally, hypothesis is developed based on the past literature review and the conceptual framework of the study is created based on the link between dependent and independent variable.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

According to Sileyew (2019), research methodology is "the method by which a researcher must conduct their research.". Methodology refers to the scientific strategy employed to carry out a research study (Mishra & Alok, 2022). To emphasize, the author describes the research strategy, research design, research approach, the study area, data sources, population consideration, sample size, data collection technique and data analysis methods.

3.2 Research Philosophy and Paradigm

This study follows epistemological positivism philosophies. In this research, the researcher accepts observable phenomena based on data collected using questionnaire and facts as knowledge. This study is theoretically positivist for the following reasons: First, it is based on the casual design of the research. Then, the researcher hypothesized that organizational culture dimensions affect knowledge management. Finally, the researcher verified the hypotheses using statistical data analysis.

3.3 Research Design

The research design used for this study was a causal research design, which involved manipulating one variable to determine its effect on another variable. Recent studies support the use of causal research design to establish cause-and-effect relationships between variables (E.g., see Jang et al., 2021). In this study, each variable stated in the hypothesis will be observed by evaluating the causal link between the independent and dependent variables.

3.4 Research Approach

The present study aims to investigate the effect of organizational culture on knowledge management process in Awash Bank. To achieve this objective, a quantitative research approach has been selected as the most suitable method due to its ability to predict causal relationships and statistically generalize findings to the entire population (El-Mekawy, 2016, p.40). Furthermore, the quantitative approach is well-suited for collecting large amounts of data from multiple respondents within a relatively short period of time.

3.5 Study Area

The study area is the place where the research experiment and trial will take place. The researcher chose Awash Bank for this study. Awash Bank is Ethiopia's pioneering private bank that was established in November 10, 1994, after the downfall of the socialist regime. The bank was founded by 486 founding shareholders and began banking operations on February 13, 1995, with a paid-up capital of Birr 24.2 million. According to Awash Bank's annual report (2022), the total number of the bank's staff has reached 17,393 as of June 30, 2022. According to Awash Bank's annual report (2020/21, p.21), the bank is continued to play a pivotal role in economic growth by financing different sectors of the economy. So, in such a large organization that is growing rapidly, it is important to study the effect of its organizational culture on knowledge management. The reason for choosing this bank is that the researcher is an employee of Awash Bank and it is convenient to get enough data and relevant participants required for this research.

3.6 Target Population

The target population of this study consisted of employees and management within seven departments of Awash Bank's at head office. Those are IT Service Management division, Switch Management division, In-house System Development division, In-house System customization division, Database and System administration division, Network administration division, and Server and storage administration division of the bank. These departments are the ones who create new information, technology and knowledge and share it with the vendors for the branch staff, as well as those who provide training for the branch staff and share the important things on the bank portal.

3.7 Sampling Technique

In this study, a sample of the population was selected using a simple random sampling method. Simple random sampling is a technique for selecting a smaller sample size from a larger population for study and making generalizations about the larger group. A fundamental rule of simple random sampling is that all members of the researcher's sample frame have an equal chance of being chosen for inclusion in the study in order to achieve generalizability.

3.7.1 Simple random sampling implementation

To implement simple random sampling in the study, the researcher followed several steps. First, the population was defined as 161 employees from seven departments, as shown on the sampling frame section (see Table 2). Next, a random sequential number was assigned to each participant in the population by listing all the employees in the study and assigning numbers to each unit. In the third step, the researcher calculated the sample size using the Raosoft sample size calculator. Finally, the researcher selected 142 employees from the target population of the study using a random number generator. The questionnaire was then distributed to these employees via Awash Bank's corporate email, and 139 of them responded. Two outlier responses were removed, leaving the researcher with 137 responses for data analysis. By following these steps, the researcher was able to implement a simple random sampling technique in the study to select a representative sample from the target population of 161 employees.

3.8 Sampling Frame

According to Sekaran & Bougie (2019), the sampling frame is a set that represents all components in the population from which the sample is drawn.

Divisions	Frequency
IT Service Management division	53
System and Database administration division	13
Switch Management Division	18
Network Administration Division	16
In house system development division	27
Server and Storage Administration division	16
In house system customization division	18
Total	161

Table 2 : Sampling Frame (source: IT Service Management, IT Infrastructure and In-house system development and Customization Directorate of the bank)

3.9 Sample Size

In this study, the sample size was calculated by using the Raosoft sample size calculator. This calculator evaluates the information collected from a sample to determine the smallest sample size

possible for the analysis. The calculator derives the information it analyzes from the number of errors allowed by the researcher, the size of uncertainty, the sample size, and the distribution of the given replies (Rao, 2021).

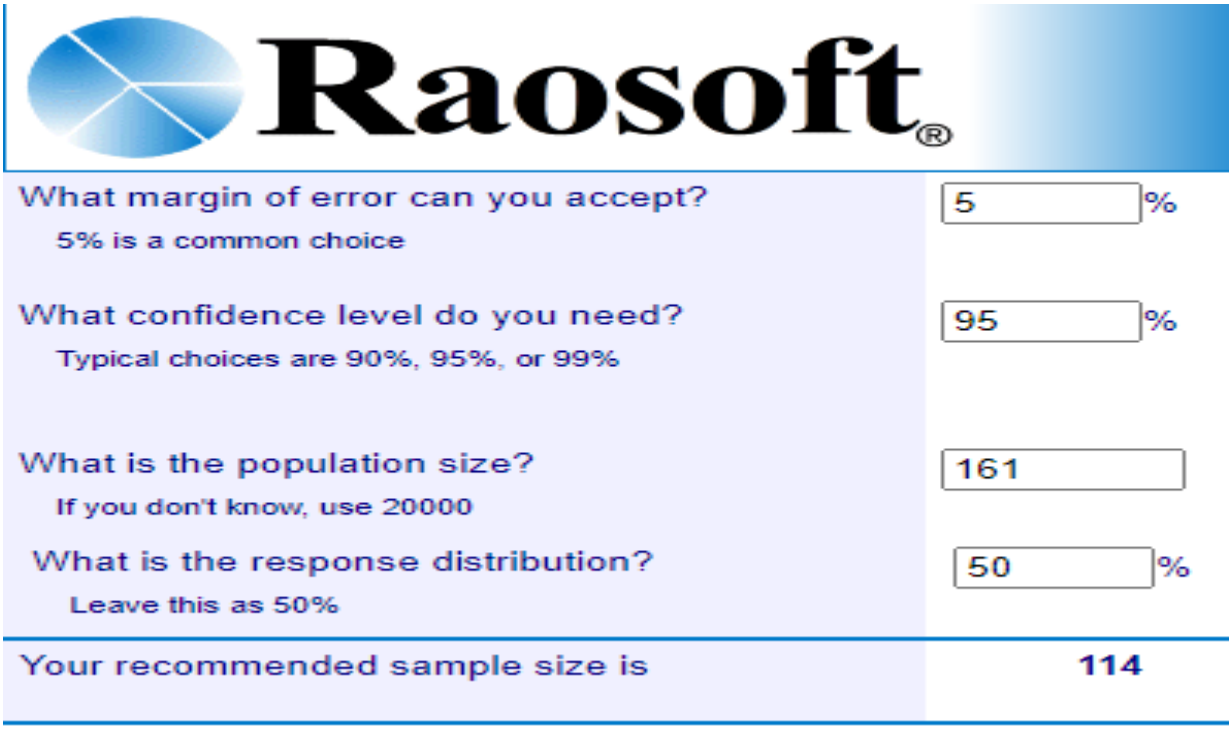


Figure 8: Sample Size (Source: http://www.raosoft.com/samplesize.html retrieved on March, 2023)

3.10 Data Sources

I this study, the self-administered questionnaires were used as primary sources of data as well as the published and unpublished sources such as books, articles, journals, proceedings, and other bank documents (strategic plans, annual reports, policies, proclamations, procedures, and guidelines) were deliberated as secondary sources of data.

3.11 Data Collection Techniques

This study utilized closed-ended questionnaire consists of 40 questions using five-point likert scale. The questionnaire is a commonly used data collection method and is a crucial part of the research (Kabir, 2016; Boparai et al., 2018). The main questions of this study are based on OCAI and the Newman & Conrad knowledge management model. The Organizational Culture Assessment Instrument (OCAI) is a carefully designed, tested, standardized, and validated

research method to investigate organizational culture. In this model, respondents are asked to score six aspects of culture: dominant characteristics, organizational leadership, management of employees, organizational glue, strategic emphasis, and criteria for success, which have 24 questions in general. The questions related to knowledge management processes are analyzed and prepared from Lawson (2000) KMAI and from previous literature.

3.12 Research Processes

This section describes how the data for the study was gathered. The questionaries' consist of demographic information on the respondents and organization, Cameron and Quinn's (1999) Organizational Culture Assessment Instrument (OCAI), and Knowledge Management questions accepted from KMAI and previous literature. The demographic questions are designed to characterize respondents and highlight pertinent information about their organizations. As mentioned above, OCAI assesses six areas of organizational culture: dominant characteristics, organizational leadership and employee management, organizational "glue," strategic emphasis, and success criteria. Each of the six scales' four components corresponds to one of the four dimensions of organizational culture. Finally, the works of Newman & Conrad were utilized to assess the state of knowledge management, and the questionnaire is distributed to the participants through a corporate email address. A pilot test was carried out by clerical or non-IT personnel of Awash Bank to assess the reliability of the study instruments. The questionnaire was fine-tuned based on input from the pilot test, and the final instrument was administered to the respondents. Sample data were collected from three directorate employees of Awash Bank (IT Service Management, IT Infrastructure, and In-house System Development and Customization Directorate), which consists of seven divisions as indicated in Table 7 above. The measurement scales could then be tested, and the research model could be assessed. The collected data will be processed and analyzed using Smart PLS software.

3.13 Data Analysis Techniques

In this study, primary data which was obtained using the questionnaires were checked for errors and organized for data analysis. The study's analysis tools included Structural Equation Modeling (SEM) and Smart PLS software for statistical calculations. Smart PLS is a graphical user interface tool for variance-based structural equation modeling that uses the partial least square path modeling approach. In quantitative methods, SEM is a set of statistical techniques used to assess

and evaluate the correlations between observable and latent variables. This method is well adapted to models that contain latent variables and cause-and-effect relationships and is useful for testing hypotheses, especially in complex path models including multiple mediations (Hair et al., 2020). PLS-SEM analysis is often composed of two sub-models: the measurement model or sometimes referred to as the outer model, and the structural model, also known as the inner model (Himawan et al., 2016).

3.14 Validity and Reliability

The research discussion and conclusion will be legitimate if a good research technique, sample method, and data collecting method were employed, resulting in a high quality and acceptance of the research. The relevant and suitable interpretation of the data produced from the measuring device as a consequence of the analysis determines validity. The terms' reliability and validity have a connection. One sign of measurement validity is high reliability. A measurement that is valid is typically also reliable. For this stud, pilot test is done by non-IT personnel of Awash Bank to assess the validity of the research. Reliability of the research is assessed using Cronbach's alpha and composite reliability. As a result, researcher must guarantee that the measurement device utilized is reliable and genuine.

3.15 Chapter Summary

Chapter Three outlines the research methodology used in this study, which utilizes quantitative techniques. The chapter begins by discussing the research philosophy and paradigm that underpins the study, providing a rationale for the chosen approach. The research design is then described, with an emphasis on the use of a causal research design to gather data. The study area is defined, along with the sampling frame and sampling techniques employed to select participants for the study. A random sampling technique was used to ensure that the sample is representative of the target population. The chapter also outlines the sample size and characteristics of the target population, along with the data collection method.

CHAPTER FOUR

DATA PRESENTATION, ANALYSES AND DISCUSSION

4.1 Introduction

This chapter focuses on presenting, analyzing, and interpreting primary data gathered via questionnaires from employees of Awash Bank. The data collected through a questionnaire was examined using Smart-PLS version 3 software. The chapter presents in detail the result of the analysis of the data. PLS-SEM is used to analyze the data and it includes the assessment of measurement and structural model. The measurement model includes the measurement of the indicators and the reliability and validity of the construct. The indicators examined include the reflective measurement, their reliability and validity, and the formative measurement, their reliability, and validity. The structural model ascertains the significance of hypothesized relationships (analysis of the relationship between latent variables and manifest variables). The analysis includes the coefficient of determination (R^2), the path coefficient, and the predictive relevance (Q^2). In this study, the goal of the model is to explain the effect of organizational culture on knowledge management. In this chapter, results from refinement multivariate analysis and hypothesis testing are also presented. Therefore, the purpose of this chapter is to provide a full analysis of the data collected by questionnaire.

4.2 Questionnaire and responses analyses

The dimensions utilized to assess the constructs proposed in this study were thoroughly evaluated in the existing literature and found to be valid and reliable measures. Several precautions were taken in the current investigation to reduce measurement errors caused by poorly worded questions in the questionnaire, misunderstanding of the scaling approach, and incorrect application of the statistical method. This includes the use of a standardized questionnaire as well as a pilot test. After checking several times, the final version of the questionnaire was sent out to the targeted participants via a Google form. To ensure that, the researcher was present to explain the questionnaire items to the respondents. Responses to this questionnaire were gathered from March 18 to April 1, 2023. These responses were then downloaded from the survey platform and then transformed into a workable document Excel spreadsheet. Finally, the researcher double-checked

the data after collecting it for analysis. The researchers thought that online questionnaires were the best way to obtain data. Additionally, online surveys allow the researcher to save money on printing and mailing, as well as significantly reduce the time necessary for data entry and receiving/processing data. The respondents' opinions were measured using a 5-point Likert Scale ranging from Strongly Disagree to Strongly Agree. Finally, the respondent attitudes were substituted with numerical numbers for data analysis (Allen, 2013). Below table 3 shows all of the alternatives.

Code	Likert Scale
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

Table 3 : The Likert scale used in the survey (Source: Allen, 2013, p.55).

4.2.1 Respondents' demographic profiles

Among 161 employees from seven departments, 142 respondents are randomly selected and requested to participate in the questionnaire, which is sent to them via Outlook email address, and 139 respondents successfully return the questionnaire. Out of 139 responses, two were removed as outliers, leaving a total of 137 responses.

4.2.1.1 Response rate by respondents' division

No	Respondent's division	Frequency	Percent
1	Database and System Administration division	13	9.4%
2	IT Service Management division	41	29.5%
3	Network Administration division	16	11.5%
4	Switch Management division	14	10.1%
5	In-house System development division	22	15.8%
6	In-house System Customization division	17	12.2%
7	Storage and Server Administration division	16	11.5%
	Total	**139**	**100%**

Table 4 : Distribution of respondents by division (Source: Own Analyses result,2023)

According to table 4, 13 (9.4%) of respondents are Database and System administration division workers, 41 (29.5%) are IT Service management division workers, 16(11.5%) are Network Administration division workers, 14(10.1%) are Switch Management division workers, 22(15.8%) are In-house system development division workers, 17(12.2%) are In-house System Customization division workers, and 16(11.5%) are Storage and Server administration division workers. When we look at the survey participants, we see that the majority (29.5%) of the respondents are from the IT service management department, followed by In-house System Development division (15.8%). As can be seen from the sample frame (See table 2), the number of employees in these departments is also higher than others.

4.2.1.2 Respondents Qualification

No	Educational level	Frequency	Percent
1	High School Diploma	0	0%
2	Degree	102	73.4%
3	MSc/MBA	37	26.6%
4	PhD	0	0%
	Total	**139**	**100%**

Table 5 : Distribution of respondents by Educational Status (Source: Own Analyses result,2023)

According to table 5, most survey participants (73.4%) had a bachelor's degree, while the remaining (26.6%) had a master's degree. As a result, the participants in this study are mature and capable of responding.

4.2.1.3 Respondents work experience

No	Year of Experience	Frequency	Percent
1	1-2 years	56	40.3%
2	3-5 year	23	16.5%
3	6-10 year	43	30.9%
4	More than 10 years	17	12.2%
	Total	**139**	**100%**

Table 6 : Distribution of respondents by Work experience (Source: Own Analyses result,2023)

As explained in Table 6, 57 (40.3%) of the respondents have work experience ranging from 1 to 2 years, 23(16.5%) of the respondents have work experience ranging from 3 to 5 years, 43 (30.9%) of the respondents have work experience ranging from 6 to 10 years and 17 (12.2%) of the respondents have work experience more than 10 years. Table 6 above shows that the majority of the respondents are people who have worked for three years or more (59.7%) and the rest are people who have been in the bank for one to two years (40.3%). Managers and senior staff with work experience are among the respondents who have been at Awash Bank for one to two years. This implies that the survey included respondents with a wide range of experience in the Awash Bank.

4.2.1.4 Respondents' management level

The participants are asked about the level of management they are at Awash Bank and below table 7 shows the results of those respondents. Among 139 of the respondents, 79.9 % of the survey participants are at the operational level (including experienced staff) whereas 17.3% are at the middle management level. 2.9% of the respondents are top managers of the banks. At the managerial level, three responders are directors, six are division managers, and the remainder are long-term experienced supervisors.

No	Level of Management	Frequency	Percent
1	Operational level (non-Management)	111	79.9%
2	Middle Management	24	17.3%
3	Top Management	4	2.9%
	Total	**139**	**100%**

Table 7 : Distribution of respondents by management level (Source: Own Analyses result,2023)

4.3. Descriptive Statistics

The descriptive statistics for the data gathered for this study are shown below. A sample size of at least 100 to 200 cases is recommended as a rule of thumb for a SmartPLS study. The sample number for this research is 139, which is more than the predicted minimum sample size of 80 (Hair et al., 2017). As a result, the sample size is more than enough. Appendix 3 shows descriptive statistics for each of the 40 questions included in this study. Mean and median values, maximum

and lowest values (Likert scale), standard deviation (dispersion), kurtosis (peakedness of distribution), and skewness (asymmetry of distribution of mean values) are all represented (please see Appendix 3)

4.4. Data screening and preliminary analysis

Samani (2016) asserts that transforming raw data into a format appropriate for decisions and conclusions is the first step before conducting any data analysis. Analyzing clean data produced accurate and relevant findings. In fact, the process of preparing raw data is performed as the primary procedure for analysis. The raw data proposition begins with a preliminary questionnaire screening. In this study, SPSS v.25 was used to deal with the missing data, outliers, normality, and multi-collinearity. Moreover, the data was entered into SmartPLS for additional analyses and interpretations, and a data analysis method was started.

4.4.1 Missing data

Missing data is one of the most serious problems in data analysis in social science research (Samani, 2016, Prykhodko et al., 2017). According to Hair et al. (2014), missing data and values arise when a respondent fail to answer one or more questions, either intentionally or inadvertently (s). It is critical to define and fix any missing data, such as incomplete responses or missing values before initiating the analytics process. Screening data must be categorized, consistent, and reviewed for missing values and responses in returned survey questionnaires throughout the data cleaning process. These procedures enhanced the validity and accuracy of data analysis while also ensuring that assumptions for data analysis methodologies were not violated. In this study, the researcher distributed all of the questions included in the survey questionnaire as needed, allowing survey participants to answer all of the questions correctly. As a result, the responses of all participants were returned with no missing values. As can be seen in appendix 3, the results show that there are no missing values in the data

4.4.2 Outlier Identifications

In this study, two responses to questionnaires seen as outliers (straight-lining responses) were manually removed. This is done by calculating the standard deviation for all responses. If the standard deviation of the response is zero, it means that the respondent selects the same answer for all questions and it must be removed before starting data analysis. For additional analysis, the

remaining 137 responses were inserted into SPPS V.25 and tested for outliers again using a normal Q-Q plot. The result shows that all indicators' points are close to the straight diagonal line.

4.4.3 Data Normality test

In this study, a normality test was performed to ensure that the descriptive statistics of the dataset were complete to check the accuracy of the results (Hair Jr. et al., 2021). The normality of the data could be tested by estimating the value of skewness and kurtosis for the distribution of scores of latent variables, which is necessary for SEM. As stated by Hair et al. (2022), data is considered normal if the skewness is between -2 and +2 and the kurtosis is between 7 and +7. According to Nkandu & Karatsivos (2022), multivariate kurtosis should have a critical ratio smaller than 5 for multivariate normality. As can be seen from Appendix 3, the skewness values of all indicators are between -1 and +1 while the kurtosis values are below +3. As a result, the skewness and kurtosis values of all indicators are regarded as excellent by Hair et al. (2022) and the rule of thumb.

4.5. Measurement Model (Outer Model) Assessment

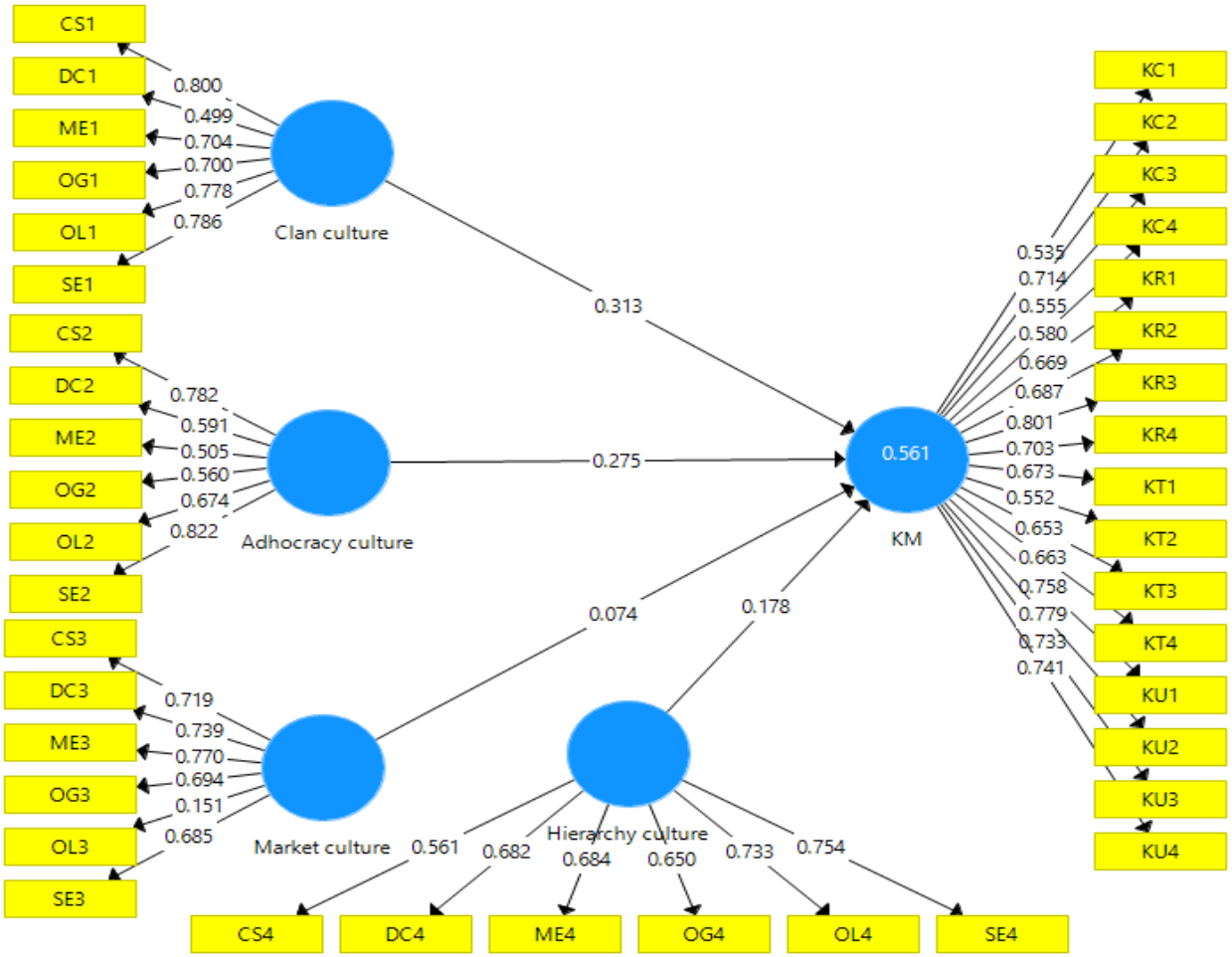
The measurement model is used to test the constructs' reliability and validity. In this study, the research model consists of five latent variables and forty indicators (manifest variables). The following table 8 describes the latent variables with their corresponding manifest variables (indicators).

Constructs	Number of Indicators	Variables names and Range
Clan Culture	6	DC1, OL1, ME1, OG1, SE1, SC1
Adhocracy Culture	6	DC2, OL2, ME2, OG2, SE2, SC2
Market Culture	6	DC3, OL3, ME3, OG3, SE3, SC3
Hierarchy Culture	6	DC4, OL4, ME4, OG4, SE4, SC4
KM	16	KC1-KC4, KR1-KR4, KT1-KT4, KU1-KU4
Total	40	

Note: DC = Dominant Characteristics, OL = Organizational Leadership, ME = Management of Employee, OG = Organizational Glue, SE = Strategic Emphases, CS = Criteria of Success, KC = Knowledge Creation, KR = Knowledge Retention, KT = Knowledge Transfer, KU = Knowledge Utilization, KM = Knowledge Management.

Table 8 : Latent variables and Corresponding indicators.

The measurement model assessment was done using SmartPLS v3, which assessed item and construct validities and reliabilities, and their indicators. PLS-SEM has become a common method for analysing complicated interrelationships between manifest variables (indicators) and latent variables (Abera, Mengesha, & Musa, 2014; Akter et al., 2017; Hair et al., 2021). The following Figure 9 shows the original research model path coefficients between constructs and outer loading between indicators (manifested variables) and constructs.



Note: DC = Dominant Characteristics, OL = Organizational Leadership, ME = Management of Employee, OG = Organizational Glue, SE = Strategic Emphases, CS = Criteria of Success, KC = Knowledge Creation, KR = Knowledge Retention, KT = Knowledge Transfer, KU = Knowledge Utilization, KM = Knowledge Management.

Figure 9 : The Original Measurement model outer loading and path coefficient (Source: Own analysis result, 2023)

All manifest variables (indicators) in Figure 9 with outer loading less than 0.7 are candidates for removal from the research model as they indicate that the construct explains less than 50% of the indicator's variance (Hair et al., 2021). It should be noted here that indicators with lower loading values were removed to improve the reliability and validity of this research and to reduce the possibility of measurement error (Hair et al., 2021; Hair et al., 2022; Hair and Alamar, 2022). As can be seen on the above figure 9 all items loading values are above 0.7 except DC1, DC2 ME2, OL2, OL3, CS4, OG1, OG2, OG4, SE3, KC1, KC3, KC4, KT1, KT2, KT3 and KT4. Those 17 items are not reliable for the measurement of the constructs they are reflecting (see table 9).

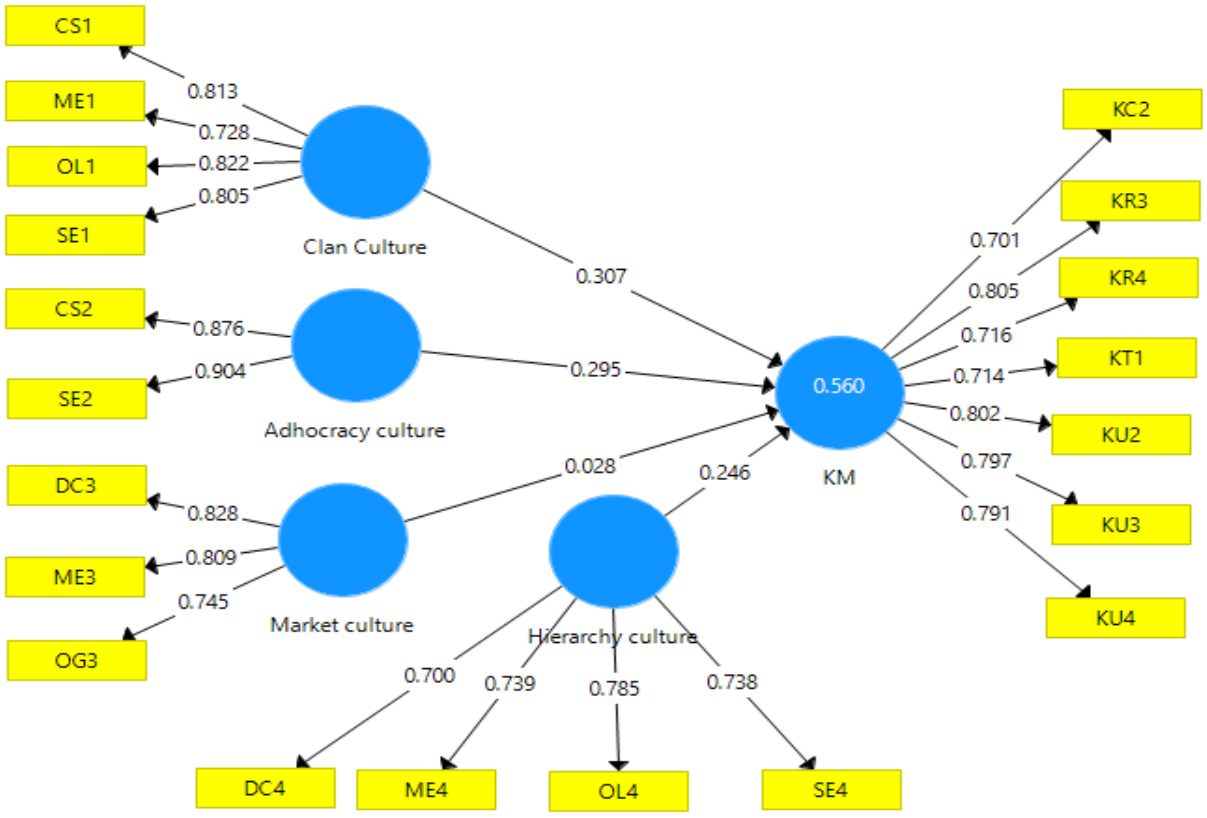
Variables	Manifest variables	Outer Loading	Remark	Supportive references
Clan culture	DC1	0.499		
	OG1	0.700	Removed to increase validity (HTMT value).	Henseler et al. (2015), Hair et al. (2019, 2021, 2022), Hair & Alamar (2022)
Adhocracy culture	ME2	0.505		
	DC2	0.591		
	OG2	0.560		
	OL2	0.674		
Market culture	CS3	0.719	Removed to increase validity (HTMT value).	Henseler et al. (2015), Hair et al. (2019, 2021, 2022), Hair & Alamar (2022)
	OL3	0.151		
	SE3	0.737	Removed to increase validity (HTMT value).	Henseler et al. (2015), Hair et al. (2019, 2021, 2022), Hair & Alamar (2022)
Hierarchy culture	CS4	0.561		
	OG4	0.650		
KM	KC1	0.535		

	KC3	0.555		
	KC4	0.580		
	KT2	0.552		
	KT3	0.653		
	KT4	0.663		
	KU4	0.741	Removed to increase validity (HTMT value).	Henseler et al. (2015), Hair et al. (2019, 2021, 2022), Hair & Alamar (2022)

Note: Indicators increased to the acceptable threshold value after removal of the lowest indicators is retained

Table 9 : Removed indicators

After removal of items which contains lower outer loading, the proposed measurement model looks like the following figure 10 which contains the exogenous construct and endogenous construct. As a result, it was determined that the study met the criteria for individual item reliability.



Note: DC = Dominant Characteristics, OL = Organizational Leadership, ME = Management of Employee, OG = Organizational Glue, SE = Strategic Emphases, CS = Criteria of Success, KC = Knowledge Creation, KR = Knowledge Retention, KT = Knowledge Transfer, KU = Knowledge Utilization, KM = Knowledge Management.

Figure 10 : Measurement model after removal of low outer loadings (Source: Researcher Analysis result, 2023)

4.5.1. Reflective Measurement Model

In SEM-PLS, the reflective measurement model is a commonly used type of model to analyze the relationships among latent variables and their corresponding manifest indicators. All manifested variables in this study were measured reflectively. As a result, the evaluation of measurement models in this study was done using internal consistency reliability, and construct validity (convergent and discriminatory validity).

4.5.1.1. Internal consistency reliability

Internal consistency is a measure that is often based on the correlations between various items on the same test. As a result, the evaluation of measurement models in this study was done using internal consistency reliability, and construct validity (convergent and discriminatory validity).

4.5.1.1.1. Cronbach's alpha

Cronbach's alpha is a measurement of the internal consistency, or reliability, of a group of questionnaire items. According to (Hair et al, 2021; Nkandu & Karatsivos, 2022), the minimum acceptable threshold value for Cronbach's alpha is 0.70. The following table 10 shows the Cronbach's alpha of each construct, ranging from 0.71 to 0.88. The results indicate that the items used to represent the construct pose satisfactory internal consistency.

Constructs	Cronbach's Alpha
Adhocracy culture	0.74
Clan Culture	0.80
Hierarchy culture	0.73
KM	0.88
Market culture	0.71

Table 10 : Cronbach's alpha (Source: Researcher own analysis, 2023)

4.5.1.1.2. Composite reliability

According to (Hair et al, 2017; Hair et al, 2021; Nkandu & Karatsivos, 2022), when each construct's composite reliability reaches the threshold value of 0.70, the measurement model is said to have internal consistency reliability. The Composite reliability of each construct in this study is above the acceptable threshold value of 0.70 as can be shown in the Table 11 which are ranging from 0.83 to 0.91. This result indicates that the items used to describe the concept are internally consistent and reliable.

Constructs	rho_A	Composite Reliability
Adhocracy culture	0.75	0.88
Clan Culture	0.81	0.87
Hierarchy culture	0.73	0.83
KM	0.88	0.91
Market culture	0.71	0.84

Table 11 : Composite reliability (Source: Researcher own analysis, 2023)

4.5.1.2. Convergent Validity

Convergent validity is used to assess the degree to which items on a scale are related to one another (Samani, 2016; Ong & Puteh, 2017). In this study, the outer loading and average variance extracted (AVE) were used to assess the convergent validity of the research.

4.5.1.2.1. Outer loading

Outer loading is the correlation between a latent variable and its corresponding indicator in the measurement model (Ringle et al., 2015; Hair et al., 2019b). The acceptable threshold value for outer loading in convergent validity can vary depending on the specific research context and the measurement model being used. However, contemporary studies suggest that the most acceptable outer loading threshold value is more than 0.7. The Outer loading of all indicators used in this study is above 0.7 (Please see Appendix 4). As a result, convergent validity is established using outer loading.

4.5.1.2.2. Average Variance Extraction (AVE)

The Average Variance Extracted (AVE) is a convergent validity measurement that is determined as the mean-variance extracted from the item loadings on the construct (Forsberg, 2017).

According to Hair et al. (2021) and Nkandu & Karatsivos (2022), the minimum acceptable AVE threshold value is 0.5, which indicates that the construct explains 50% or more of the indicators' variance that constitutes a certain construct. According to Table 12, the average variance extracted values indicated that all of the constructs in this study reached the lowest criterion of 0.5 and shows that there is no convergent validity problem.

Constructs	Average Variance Extracted (AVE)
Adhocracy culture	0.79
Clan Culture	0.63
Hierarchy culture	0.55
KM	0.58
Market culture	0.63

Note: KM: Knowledge Management

Table 12 : *Construct Convergent Validity (AVE) (Source: researcher own analysis, 2023)*

4.5.1.3. Discriminant Validity

The degree to which measures of various conceptions differ from one another is referred to as discriminant validity (Hair et al., 2021; Nkandu & Karatsivos, 2022). Discriminant Validity is measured using the following three criteria.

4.5.1.3.1. Cross loadings

In cross loading, the discriminant validity of a construct is established when its indicators show higher loadings to the respective construct than to any other construct. For example, the values of outer loading CS1, ME1, OL1, and SE1 on the Clan culture construct are (0.81), (0.73), (0.82), and (0.81), which are greater than the cross-loading of the other construct. The results of Appendix 5 show that each indicator's outer loading is greater on the underlying construct to which it belongs than the other construct in the research. After the assessment of cross-loadings, discriminatory validity is attained (see the bolded numbers in Appendix 5).

4.5.1.3.2. Fornell and Larcker Criterion (Square root of AVE)

The Fornell Larcker criteria compares latent variable correlations to the square root of the AVE of the construct. Each construct's square roots should be bigger than its greatest correlations with any other construct (Basbeth et al., 2018; Nkandu & Karatsivos, 2022). In this study, the square root

of AVE for all constructs is greater than its correlation with other constructs (see the bolded value in Table 13 below). Hence, discriminatory validity is established using the Fornell Larcker criteria.

	Adhocracy culture	Clan Culture	Hierarchy culture	KM	Market culture
Adhocracy culture	**0.89**				
Clan Culture	0.58	**0.79**			
Hierarchy culture	0.53	0.71	**0.74**		
KM	0.62	0.67	0.64	**0.76**	
Market culture	0.55	0.62	0.58	0.52	**0.79**

Note: The bolded represents the square root of AVE

Table 13: Fornell & Larker Criterion (Source: researcher own analysis, 2023)

4.5.1.3.3. Heterotrait Monotrait Ratio (HTMT)

HTMT is based on the estimation of the correlation between the constructs. Henseler et al. (2015) and Hair et al. (2017, 2019,2021) recommends a HTMT value less than 0.9. As can be seen from the below table 14, the HTMT value of all indicators below 0.90. As a consequence, discriminant validity is established.

	Adhocracy culture	Clan Culture	Hierarchy culture	KM	Market culture
Adhocracy culture					
Clan Culture	0.75				
Hierarchy culture	0.72	0.89			
KM	0.76	0.80	0.80		
Market culture	0.76	0.83	0.80	0.66	

Note: KM: Knowledge Management

Table 14 : Discriminant Validity -HTMT (Source: researcher own analysis, 2023)

4.5.2. Formative Measurement Model

In this study, indicator collinearity, statistical significance, and relevance of the indicator were used to assess the formative measurement model as it is recommended by many previous researchers (Henseler et al., 2015; Hair et al., 2022).

4.5.2.1. Indicator Collinearity

As stated by Nkandu & Karatsivos (2022), Collinearity issue arises when dependent constructs (predictors) exhibit strong correlation among themselves which may generate undesirable results. In PLS-SEM model, Collinearity issues are measured using Variance Inflation Factor (VIF) (Hair et al., 2021; Nkandu & Karatsivos, 2022). The structural model is said to have collinearity issues, if it has VIF values of 5 and above (Ringle et al., 2015; Law & Fong, 2020; Hair et al., 2021). In this study, the VIF values of all indicators are below threshold value 3, with tolerance values of above 0.20 and confirmed that there is no collinearity issue (please see appendix 6).

4.5.2.2. Statistical Significance and Relevance of the Indicator Weights

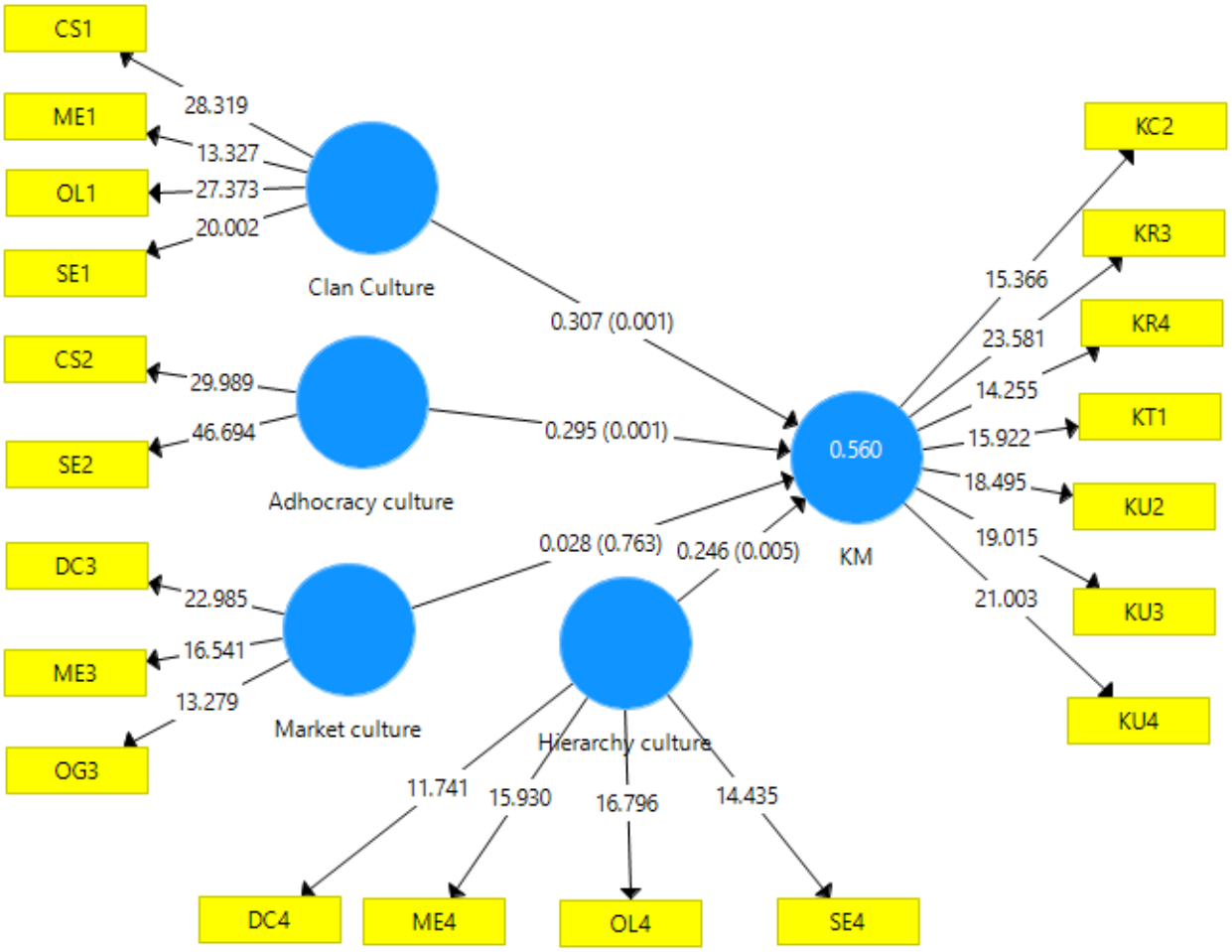
To determine the relevance of outer weight, we use a bootstrapping approach (Hair et al., 2021) that yields t-values for indicators weight. As stated by Hair et al. (2021, 2022), to determine if the coefficients are substantially different from zero, we must compare these t-values to the crucial values from the conventional normal distribution. When the empirical t-value is greater than the critical value, we conclude that the coefficient is statistically significant at a certain error probability. Assuming a 5% level of significance, a t-value greater than 1.96 (two-tailed test) indicates that the indicator weight is statistically significant. The following Table 15 shows the bootstrapped t-values of all constructs in this study.

Constructs	T-Statistics	Critical Value	Statistically significance?
Adhocracy culture -> KM	3.228	1.96	Yes
Clan culture -> KM	3.473	1.96	Yes
Hierarchy culture -> KM	2.853	1.96	Yes
Market culture -> KM	0.309	1.96	No

Table 15 : Statistically significance and relevance weight of the model (Source: researcher own analysis, 2023)

4.6. Structural Model (Inner Model) Assessment

According to Hair *et al.* (2021), the assessment of the structural model starts as the reliability and validity assessment (Measurement model) was completed. The structural model creates the link between constructs in the model. In this study, the structural model was assessed using a coefficient of determination (R^2), path coefficient and predictive relevance (Q^2).



Criteria used in bootstrapping: Max. Subsample = 5000, Inner Model = Path coefficient and P-Values, Outer Model = T- values, Construct = R^2

Figure 11 : Structural model with $\boldsymbol{R^2}$ *and T-values (Source: own analysis result, 2023)*

4.6.1. Coefficient of determination (R^2)

R^2 is a measure of the model's prediction performance and is determined as the squared correlation between the actual and anticipated values of a certain endogenous component? In a structural model, R^2values are evaluated for endogenous (dependent) constructs and show the model's explanatory power. According to Hair et al. (2011, 2017, 2019), R^2 values vary from 0 to 1, with values greater than 0.75, 0.50, and 0.25 suggesting high, medium, and poor explanatory power, respectively. According to table 16, the structural model's endogenous construct has an R^2 value of 0.56, which denotes a medium explanatory power. This indicates that the

organizational culture dimensions explain 56% of the variance in knowledge management. As a result, the structural model's explanatory power is adequate.

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
KM	0.560	0.580	0.064	8.805	**0.000**

Table 16 : R^2 of endogenous constructs (Source: Researcher own analysis, 2023)

4.6.2. Path coefficient

The path coefficient denotes the relationship's strength in which estimation is based on ordinary least square (OLS) regression of each endogenous construct on its corresponding construct. The magnitude of a path's coefficient is meaningful only if it is statistically significant. Path coefficients are typically between -1 and +1 in terms of significance, with coefficients closer to -1 suggesting strong negative links and those closer to +1 showing strong positive correlations (Hair et al., 2021). Path coefficients greater than +/-1 are unacceptable; therefore, multicollinearity reduction techniques must be used. As shown on Table 17, the value of path coefficients is between -1 and +1. As a result, it is accepted.

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Adhocracy culture -> KM	0.295	0.286	0.091	3.228	**0.001**
Clan Culture -> KM	0.307	0.300	0.088	3.473	**0.001**
Hierarchy culture -> KM	0.246	0.259	0.086	2.853	**0.004**
Market culture -> KM	0.028	0.037	0.091	0.309	**0.758**

Table 17 : Path coefficient of the model (Source: Researcher own analysis result, 2023)

4.6.3. Predictive Relevance (Q^2)

Q^2 values are assessed using a blindfolding technique in which single points in the data sample are deleted and replaced with predicted values (Hair et al., 2021 and Nkandu & Karatsivos, 2022). Following that, the sum of squares of prediction error (SSE) is compared to the sum of squares of observations (SSO). Q^2 Greater than 0 suggest that the model has predictive relevance. According to (Hair et al., 2011, 2019), Nkandu & Karatsivos, 2022), Q^2 values greater than 0.5, 0.25, and 0 indicate high, medium, and low predictive significance, respectively. Table 18 demonstrates that

the endogenous construct KM has a Q^2 value of 0.31. This indicating that the structural model has medium predictive significance.

	SSO	SSE	Q² (=1-SSE/SSO)
Adhocracy culture	274.00	274.00	
Clan Culture	548.00	548.00	
Hierarchy culture	548.00	548.00	
KM	959.00	662.51	0.31
Market culture	411.00	411.00	

Table 18 : Predictive relevance of the model (Source: Researcher own analysis, 2023)

4.6.4. Model Fit

According to Nkandu & Karatsivos (2022), the overall model fit is measured using Standardized Root Mean Squared Residual (SRMR). SRMR is the square root of the sum of squared differences between the model-implied and empirical correlation matrices (Henseler et al., 2016). The values of SRMR range between 0 & 1 (Nkandu & Karatsivos, 2022). Hair et al. (2017) state that the SRMR value of a PLS-SEM model should be less than 0.1 for it to be regarded as acceptable. As can be seen from Table 19 below, the SRMR value is 0.075, less than the expected threshold value (< 0.1). This means that the results fulfilled the accepted model fit.

	Original Sample	Sample Mean	95%	99%
Saturated Model	0.075	0.063	0.073	0.078
Estimated Model	0.075	0.063	0.073	0.078

Table 19 : Goodness of Model fit result (Source: Researcher own analysis, 2023)

4.7. Hypothesis testing

After completing the partial least square algorithm with SmartPLS 3.0, hypothesis testing can be performed to see whether the suggested hypotheses were supported or not. This study used a two-tailed Sample t-test with a 5% significance level (= 0.05) to evaluate the proposed hypotheses. In the context of Smart PLS-SEM, a significance level of 0.05 is more commonly used and is generally considered more acceptable (Hair et al., 2021). This is because a significance level of 0.05 is the conventional threshold for statistical significance in many fields, and it provides a

relatively high level of confidence in the results. As a result, the hypothesis was therefore supported if the p-value (Sig.) < 0.05 and unsupported if the p-value (Sig.) > 0.05 as well as if t values > 1.96 and < 1.96 (Hair et al., 2017; Hair et al., 2021). The summary of hypotheses testing for this study is described in the following Table 20.

	Relationship	Path coefficient (β)	T statistics	P value	Supported ?	Why?
H1	**Clan culture -> KM**	0.307	3.473	0.001	Yes	P < 0.05 T > 1.96
H2	**Adhocracy culture -> KM**	0.295	3.228	0.001	Yes	P < 0.05 T > 1.96
H3	**Market culture -> KM**	0.028	0.309	0.758	No	P > 0.05 T < 1.96
H4	**Hierarchy culture -> KM**	0.246	2.853	0.004	Yes	P < 0.05 T > 1.96

***p < 0.05, **t >1.96*

Table 20 : Hypothesis Testing Results (Source: Researcher analysis result, 2023)

The result of hypothesis testing for these studies are described as of the following.

H1: Clan Culture has a positive effect on knowledge management

H1 evaluates whether Clan culture has a positive effect on knowledge management. Table 20 shows that there is a statistically significant positive relationship between clan culture and knowledge management in Awash Bank, with a path coefficient of 0.307, T-values of 3.473, and a p-value of 0.001. This indicates that a clan culture, which emphasizes collaboration, support, and shared values, has a strong positive effect on knowledge management in the organization.

H2: Adhocracy Culture has a positive effect on knowledge management

H2 evaluates whether Adhocracy culture has a positive effect on knowledge management. Table 20 shows that there is a statistically significant positive relationship between adhocracy culture and knowledge management in Awash Bank, with a path coefficient of 0.295, T-values of 3.228,

and a p-value of 0.001. This indicates that a culture of innovation, flexibility, and experimentation significantly positively affects knowledge management in the organization.

H3: Market Culture has a positive effect on knowledge management

H3 evaluates whether Market culture has a positive effect on knowledge management. Table 20 shows that there is no statistically significant relationship between market culture and knowledge management in Awash Bank, with a path coefficient of 0.028, T-values of 0.309 (<1.96), and a p-value of 0.758 (> 0.05). This suggests that a focus on short-term financial performance may not have a significant effect on knowledge management in the organization.

H4: Hierarchy Culture has a negative effect on knowledge management

H4 investigates whether Hierarchy culture has a negative effect on knowledge management. The result from Table 20 shows that there is a statistically significant positive relationship between hierarchy culture and knowledge management in Awash Bank, with a path coefficient of 0.246, T-values of 2.853(> 1.96), and a p-value of 0.004(< 0.05). This indicates that a culture of rules, procedures, and clear authority structures has a weak positive effect on knowledge management in the organization. Overall, these results suggest that organizational culture plays a significant role in knowledge management in Awash Bank, with clan culture and adhocracy culture having the strongest positive effects, while market culture has no significant effect. The results also indicate that hierarchy culture has a weaker positive effect on knowledge management.

	Hypothesis statement	Result
H1	*Clan Culture has a positive effect on knowledge management*	Supported
H2	*Adhocracy Culture has a positive effect on knowledge management*	Supported
H3	*Market Culture has a positive effect on knowledge management*	Not supported
H4	*Hierarchy Culture has a negative effect on knowledge management*	Not supported

Table 21 : Summary of hypothesis result (Source: Researcher own analysis, 2023)

Generally, as can be seen from Table 20 above, H1, H2, and H4 have P values < 0.05 and T values > 1.96. From the above table, we understand that Adhocracy, Clan, and Hierarchy cultures positively affect knowledge management. When we compare the path coefficients of each hypothesis, the path coefficient of H1 is greater than H2 and H4. This indicated that Clan culture has a stronger positive effect on knowledge management than Adhocracy and Hierarchy culture.

4.8. Discussion

This study aims to look at the direct effect of organizational culture on knowledge management process. This study collects data using the original version of the OCAI questionnaire proposed by Cameron and Quinn (2006) and knowledge management process questions from the literature and Lawson (2003) knowledge management assessment instrument questionnaires. The effect of organizational culture on knowledge management process was studied in this study using four hypotheses developed from the literature. The findings of this study demonstrate how corporate culture influences knowledge management process in the case of Awash Bank. The hypothesis in this study was tested using PLS-SEM in order to identify the effect relationship between organizational culture and knowledge management process.

Table 20 displays the outcomes of all hypotheses. The investigation revealed that, with the exception of Market culture, all organizational culture dimensions had a positive link with knowledge management. As seen in Table 21, H1 and H2 are supported while H3 and H4 are rejected. The results show a substantial and strong positive relationship between Clan culture and knowledge management ($p < 0.05$). The findings are further supported by research from Chidambaranathan and Rani (2015), Ramirez, Amezaga, and Medina (2016), Mardian and Tjakratmadja (2019), Chesenge and Njuguna (2022), and Aichouche et al. (2022). Table 20 reveals that the path coefficients of Clan culture are = 0.307, which is higher than the path coefficients of adhocracy and hierarchical culture (0.295 and 0.246, respectively). As a consequence, compared to the Adhocracy and Hierarchy organizational cultures, Clan organizational culture is theorized and proven to have the biggest positive effects on knowledge management. The findings are quite similar to those discovered by Chesenge and Njuguna (2022) on the Kenyan postal corporation. According to the findings of Chesenge and Njuguna (2022), clan culture, adhocracy culture, and hierarchy culture all have a positive effect on KM while market culture has a negative effect.

Mardian and Tjakratmadja (2019) conducted a study on the relationship between organizational culture and knowledge management in Indonesian banks. Their results indicated that Clan culture and Adhocracy culture positively influenced knowledge management, while Market culture had a medium effect on knowledge management and hierarchy culture had a low effect on KM. This study supports the findings of this research regarding Clan culture, Adhocracy and hierarchy culture but differs in terms of the effect of Market culture on knowledge management. What has

to be approved here is that the findings of Mardian and Tjakratmadja (2019) and Chesenge and Njuguna (2022) confirmed the result of this study regarding the effect of Clan, adhocracy, and hierarchy culture on knowledge management except for market culture.

According to Table 20, Adhocracy culture has a positive and significant effect on knowledge management (path coefficient = 0.295, T-values = 3.228, p-value = 0.001). This result is in line with the results reported by Kumaresan and Rani (2015), Ramirez, Amezaga, and Medina (2016), Mardian & Tjakratmadja (2019), Adeinat and Abdulfetah (2019), Chesenge & Njuguna (2022) and Aichouche, et al. (2022). As indicated in the study of Allameh et al. (2013) and Adeinat and Abdulfetah (2019), Adhocracy culture is the dominant culture and more closely related to KM than clan culture. However, according to this study result, Clan culture has a stronger relationship and effect on KM than Adhocracy culture (see Table 20) which is in line with the result reported by Chidambaranathan and Rani (2015).

The results of this study show that market culture has a negative effect on KM with path coefficient = 0.028, p-value= 0.758, and t -value = 0.309. The findings have been confirmed by Chesenge and Njuguna (2022) and Soltani et al. (2016) while Aichouche et al. (2022) and Chidambaranathan and Rani (2015) have little disagreement as their finding shows the positive effect of market culture on KM. According to the findings of Chidambaranathan and Rani (2015)'s research, Clan culture and market culture are the two cultural aspects that can strongly affect KM. In terms of clan culture, this study supports this empirical finding, while it contradicts it in terms of market culture. The variations in these results might be attributed to sample size and organizational cultural environment.

According to Table 20, there was a positive but rather weak link between Hierarchy culture and knowledge management (p-value = 0.004 and t-value = 2.853). Because the p-value (p=0.004) was less than 0.05 and the t-value (2.853) was greater than 1.96, it can be concluded that there was insufficient evidence at the 5% level of confidence that a negative relationship existed between Hierarchy organizational culture and knowledge management at Awash Bank. However, the findings indicate that hierarchical culture has a weakly favorable association with knowledge management, which is confirmed by prior research such as Chang and Lin (2014), Kumaresan and Rani (2015), Scholar (2016), and Aichouche et al. (2022).

According to Aichouche et al. (2022), hierarchical culture has an insignificant and low impact on knowledge management. His research findings also demonstrate that no cultural type, Clan, Adhocracy, or Market, has a greater impact on KM. This study fully supports H2 and H4 of this study but only partially supports H1 and is fully contradicted by H3. This is because according to this study, Clan culture has a significant effect on KM while Market culture has an insignificant effect.

Sensuse, Cahyaningsih, and Wibowo (2015) and Ramirez, Amezaga, and Medina (2016), on the other hand, agreed with this study that hierarchy culture has a positive association with KM, however, the findings of these two studies suggest that hierarchy culture has a substantial positive link with KM. The findings of this study, however, indicate that Hierarchy culture has a poor link with and influence on KM. The results of Chesenge and Njuguna (2022) state that however, Hierarchy insignificantly affects culture despite its positive relationship with KM. On the other hand, the results of Chidambaranathan & Rani (2015) state that hierarch culture has a negative effect on KM.

However, it is important to note that some previous studies have reported different or even conflicting results. The differences in the results of these studies may be due to variations in the organizational contexts, research methods, and cultural dimensions used in each study. The different significance levels used by previous studies may also account for the differences in the results. However, this study was based on the significance level that most researchers recommend for SmartPLS (5% confidence level). A 5% confidence level means that there is a 95% probability that the results obtained in a statistical analysis are not due to chance or random variation. It indicates a statistical significance level commonly used in many scientific studies. In other words, if the results of a study have a 5% confidence level, it means that the observed effect or relationship is unlikely to have occurred by chance, and therefore can be considered a true finding. After comparing the results of this study with previous research as above, it is necessary to briefly answer the main questions of this research that we promised to answer in Chapter One.

- **RQ1: What is the effect of organizational culture on knowledge management process?**

The effect of organizational culture on knowledge management process can vary depending on the specific type of culture. Some organizational cultures, such as clan and adhocracy cultures, have been found to have a positive effect on knowledge management by promoting collaboration,

innovation, and the sharing of knowledge among employees. However, other cultures such as market cultures may have a negative effect on knowledge management by creating a competitive environment that discourages knowledge transferring and hoarding of information for personal gain. Additionally, hierarchy cultures may have a weaker positive effect on knowledge management as they tend to be more structured and rigid, which can limit creativity and innovation but also promote the development of standardized processes and procedures. Ultimately, the relationship between organizational culture and knowledge management is complex and requires a nuanced understanding of how different cultural factors can impact knowledge sharing and collaboration within an organization.

- **RQ2: Which organizational culture dimension has more effect on knowledge management?**

- ✓ **Clan Culture**: has a strong positive effect on knowledge management process in Awash bank, which suggests that building a family-like culture in which employees feel like they belong to a community may be helpful in encouraging knowledge management.
- ✓ **Adhocracy Culture**: has a moderate positive effect on knowledge management in Awash bank, indicating that encouraging experimentation and innovation can also lead to better knowledge management.
- ✓ **Hierarchy Culture**: has a weak positive effect on knowledge management in Awash bank, which suggests that a highly structured and controlled workplace may not necessarily impact knowledge management, but it may not be as effective as other cultural orientations.
- ✓ **Market Culture**: has a negative effect on knowledge management in Awash bank, which implies that a highly competitive and individualistic culture may discourage knowledge management.

Therefore, it can be concluded that clan and adhocracy cultures have a more positive effect on knowledge management compared to hierarchy and market cultures in Awash Bank.

4.9. Chapter Summary

The quantitative data collected from the research participants was thoroughly evaluated, presented, and discussed in this chapter. Organizational culture's effects on knowledge management have been observed and debated. The next chapter will go through an overview of the research's important results, conclusions, limitations, and future study.

CHAPTER FIVE

CONCLUSION, RECOMMENDATION AND FUTURE WORK

5.1 Conclusion

This research aims to investigate the effect of organizational culture on knowledge management process in the context of the Ethiopian banking industry. The study recognizes the challenges faced by financial institutions in a developing country, such as Ethiopia, due to the changing global market and increasing customer demands. The research seeks to address these challenges by exploring the relationship between organizational culture and knowledge management, focusing on the case of Awash Bank. The Competing Values Framework and Newman and Conrad's model has been used as theoretical frameworks to analyze the dimensions of organizational culture and their influence on knowledge management. The research question guiding this study is: What is the effect of organizational culture on knowledge management, and which organizational culture dimension has a greater impact? The data collection was conducted through a questionnaire administered to employees at operational, middle, and top management levels, using a simple random sampling technique. The research design used was causal research design, and data was analyzed using SmartPLS. To answer the above questions, four hypotheses developed from previous studies were examined through SEM-PLS bootstrapping method.

The outcomes of this study indicate that organizational culture is important in developing successful knowledge management at Awash Bank. The study emphasizes the importance of understanding the different dimensions of organizational culture and their effect on knowledge management process, as well as providing ideas for designing successful strategies for fostering knowledge management in organizations with diverse cultural orientations. According to the findings of this research Clan culture, Adhocracy culture, and Hierarchy culture has a positive effect on knowledge management respectively while Market culture has a negative effect on KM. A beautiful organizational culture greatly aids in converting the knowledge of the company's staff into action and making it successful in today's fast-paced competition. World-famous companies like Google, Microsoft, Amazon, and Apple are successful in the world because they have a beautiful organizational culture that is correctly aligned with their employees. Hence, it is imperative for organizations to prioritize their organizational culture and actively engage their

knowledge workers to cultivate a knowledge management culture. This can be achieved through fostering accountability, implementing a comprehensive reward system, providing management support, adopting a succession planning approach, and developing workspaces that facilitate the exchange of information, ideas, and experiences among internal teams and external stakeholders. Additionally, organizations can encourage innovation and knowledge transfer by preparing employees and promoting knowledge exchange between different business units and networks. These initiatives can significantly enhance the knowledge culture of the organization and contribute to its long-term success.

It is also important to encourage employees to transfer their knowledge and experiences with each other by forming group sessions, creating a friendly and trustworthy environment among employees, preparing bulletins and group discussions to decide in certain cases, increasing interaction between officials and staff, facilitating employees' access to information related to their work, and increasing interactions among employees that their work is linked together are all considered to be beneficial. Overall, by understanding the relationship between organizational culture and knowledge management, organizations can develop tailored strategies and approaches to optimize their knowledge management practices and ultimately achieve better performance and competitiveness.

5.2 Study limitations

Every study has its own limitations that may influence the outcomes and conclusions of the research. This study also has its own limitations that can be mentioned in this section. Data for this study was gathered through a questionnaire from Awash Bank employees. As a result, the findings of this study may not be generalizable to other banks or organizations in other industries. Therefore, the researcher believes that further research can be conducted on other similar financial institutions in Ethiopia to integrate this research. The researcher noticed that if other data collection tools, such as structured interviews, had been employed to elicit more input from the sample size in order to triangulate data acquired from the questionnaire, the study would have been more generalizable and more thorough.

The PLS-SEM data analysis tool used by this researcher also has its own drawbacks like other statistical tools. Because of its features like strength to skewed data, low minimum sample size requirements, and its ability to handle more complex models, it is one of the most widely utilized

quantitative research tools. However, it contains limitations that may have an influence on the study's outcomes. Most significantly, there is no globally agreed way to measure a PLS-SEM model's goodness of fit. Furthermore, several studies have revealed that many of the approaches used to calculate the minimum sample size of a PLS-SEM model are insufficient; and there is a lack of agreement on which way is the most accurate while research into new methods is continuing. (Hair et al., 2017; Hair et al., 2021)

Causal comparative research design may also have limitations in establishing a causal relationship between organizational culture and knowledge management. Causal research designs may not always be appropriate for all research questions, as they require a clear hypothesis and a well-defined relationship between variables. Additionally, ethical concerns may arise when attempting to manipulate variables in order to establish causality. Other research designs, such as experimental or longitudinal studies, could provide more robust evidence for causal relationships. As a result, it would have been better to use a longitudinal study to collect useful long-term data to understand how the KM would be influenced when organizational culture dimensions are changed through/by management in Awash Bank.

5.3 Recommendations

A beautiful organizational culture that is in balance with the knowledge of employees plays an important role in achieving organization's strategic goal. Based on a result of the findings, the researcher recommends the following:

1. **Foster a clan culture**: The study found that clan culture had the strongest positive effect on knowledge management. Therefore, the bank should encourage a clan culture by creating a sense of community and belonging among employees, promoting collaboration and teamwork, and emphasizing the importance of relationships and trust. Managers should also invest in building strong relationships with customers, suppliers, and other stakeholders, as this can facilitate knowledge exchange and innovation. By creating a culture that values and promotes knowledge transfer and collaboration, managers can enhance the bank's competitiveness, increase its capacity for innovation, and improve its overall performance. Additionally, supervisors may also play an important role by building a family-like environment and causing team members to feel more interested and active in KM tasks. Furthermore, Awash Bank's top managements may employ HR marketing and teamwork

recognition techniques aimed at recognizing the efforts and talents of knowledge workers, being attentive to their objectives, encouraging personal growth, increasing intrinsic motivation, and retaining them. It is important to define effective channels of communication within teams and organize brainstorming sessions to allow team members to better interact and express freely their ideas. The existing reward system in the form of bonuses, promotions and other incentive payments should be strengthened in a manner that satisfies all the employees of the bank. Employees can also support the development of a strong clan culture by building relationships with colleagues, and working collaboratively to achieve common goals. By sharing their knowledge and expertise, employees can contribute to the bank's overall success and help to create a culture of continuous learning and improvement.

2. **Encourage an adhocracy culture**: The study also found that adhocracy culture had a moderate positive effect on knowledge management. Therefore, the bank should encourage an adhocracy culture by promoting innovation, experimentation, and risk-taking, and encouraging employees to share their knowledge and expertise. To gain the benefits of an adhocracy culture for knowledge management, managers should foster a culture of continuous improvement and learning in which employees are encouraged to reflect on their experiences, share their knowledge, and apply what they have learned to future initiatives. This will help in the development of a culture of continual innovation and improvement, which can improve the bank's competitiveness, capacity for innovation, and overall performance. Managers should also ensure that knowledge management practices are aligned with the bank's strategic goal and priorities. This can help to ensure that knowledge is being utilized effectively to achieve the bank's goals, and that knowledge management practices are contributing to the bank's overall success. To support the development of an adhocracy culture, employees can participate in cross-functional teams, attend workshops and training sessions, and engage in other learning opportunities to enhance their skills and knowledge
3. **Limit market culture**: The study found that market culture had a negative effect on knowledge management. The negative effect of market culture on knowledge management may manifest in various ways, such as a lack of investment in employee training and development, a limited emphasis on knowledge sharing and collaboration, or a focus on individual performance at the expense of collective learning and improvement. These factors can lead to a culture that does not value knowledge sharing or learning, which can negatively

impact the bank's ability to adapt to changing business environments and to maintain a competitive edge over time. Therefore, the bank should limit market culture by avoiding excessive competition, emphasizing cooperation, and focusing on customer needs and satisfaction. Awash Bank should implement an open knowledge sharing platform where all employees can exchange their experiences. This can be in the form of an intranet or a knowledge management system. The management of Awash Bank should strengthen its competitiveness based on internal employee knowledge and experience rather than involving vendors on many things to minimize the negative effect of this market culture. Additionally, the bank can adopt a more participatory approach to decision-making that involves employees in the process of knowledge creation and management. Employees may hide their knowledge if the reward system is the only motivation for sharing knowledge and the culture of the organization is focused solely on competition and individual achievement, which is common in a market culture. This can negatively impact knowledge management as it creates silos and prevents the sharing of information and expertise. Therefore, it is important for organizations to create a culture that promotes collaboration and knowledge sharing, and also provide non-monetary incentives for employees to share their knowledge and expertise. This can include recognition programs, career advancement opportunities, and opportunities for skill development. These strategies can help mitigate the negative impact of market culture on knowledge management in Awash Bank.

4. **Foster hierarchy culture selectively**: The study found that hierarchy culture had a weaker positive impact on knowledge management. Therefore, the bank should foster hierarchy culture selectively by emphasizing the importance of structure, rules, and procedures, while also encouraging flexibility and openness to change. Finally, the study recommends that Awash Bank adopt formal structures as well as standard policies and processes to enhance the direction of daily operations and ensure that laws and regulations are followed, strategic decision-making advice is provided, and the internal process is streamlined.

5.4 Future works

- This study focused on Awash Bank; if further studies are conducted on all other private banks, the findings of this study can be reaffirmed, perhaps providing more insights. Therefore, future research can conduct additional investigations on other financial sectors in Ethiopia to evaluate the results of this research. In addition, in-depth interviews can also be utilized to seek further in-depth causes and effects.
- The effect of national culture on knowledge management was not investigated in this study. Future studies can therefore investigate the effect of this national culture on KM using Hofstede's cultural dimension. Example: the way banks operate and interact with their customers, vendors and partners.
- Apart from the cultural types mentioned in this study, the effect of other cultural dimensions on knowledge management has not been investigated in depth. Therefore, future studies can also use Organizational culture models such as Denison model, Edgar Schein Model, Deal and Kennedy model, etc. to conduct further research
- This study investigates the direct effect of organizational culture on knowledge management. Future studies could also use specific factors between these two variables (Mediator variable) to expand and deeply investigate the relationship between effects.
- This study model's predictive capacity explains up to 56% of the variance in knowledge management. Future researchers can apply additional knowledge management models mentioned in chapter two to increase the model's validity. Further research may be done, for example, on how weak and strong organizational cultures affect knowledge management. Other organizational culture models, in addition to CVF, may be examined.

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APENDICES

Appendix 1: Survey Questionnaire

ADDIS ABABA UNIVERSITY

COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCES

SCHOOL OF INFORMATION SCIENCE

INVESTIGATING THE EFFECT OF ORGANIZATIONAL CULTURE ON KNOWLEDGE MANAGEMENT PROCESS: THE CASE OF AWASH BANK

Dear Participants,

I am Samson Debela, currently conducting research on "**The effect of organizational culture on knowledge management process: The case of Awash Bank**' as partial fulfilment of the requirement for the Degree of Master of Science in Information Science at Addis Ababa University. To accomplish this purpose, you have been selected to participate in this scholarly research to gather data. Data collected in this survey will be used for academic purpose only and your name will not mention in the report. It will be used to investigate the effect of organizational culture on knowledge management such as knowledge creation, knowledge retention, knowledge transfers and knowledge utilization. As a result, your answers will be kept private. The soundness and validity of the findings are heavily reliant on your honest responses. As a result, I respectfully urge that you thoroughly complete the form and return it to me on the time.

Thank you in advance for your cooperation! If you have any confusion in completing this questionnaire, please contact me through the following address:

Samson Debela

The Researcher

Addis Ababa University

Tel: +251911619781/ +251927465882

Email: samidebela2000@gmail.com

Survey Questionnaire

Part I: Demographic information of the respondents

Please tick the appropriate box for all questions.

1. **Please specify the level of management you are in**:

☐: Operational level / non-management

☐: Middle Management

☐: Top Management

2. **Division:**

☐: IT Service Management

☐: Database and System Administration division

☐: System and Customization division

☐: Switch Management division

☐: Network Administration division

3. **Work Experience: How long you have worked in Awash Bank?**

☐ 1-2 years

☐ 3-5 years

☐ 6-10 years

☐ More than 10 years

4**. Educational level**

☐: High School Diploma

☐: Degree

☐: MSc/MA

PART II: ORGANIZATIONAL CULTURE ASSESSMENT

Guide: This section of the questionnaire contains questions derived from the Organizational Culture Assessment Instrument (OCAI). Please indicate the extent of your agreement or disagreement with each statement about Awash Bank's organizational culture by selecting

Strongly Disagree, Disagree, Neutral, Agree, or Strongly Agree that best reflects and describes your perception regarding elements of the corporate culture. Put a "√" mark next to each to show your ratings.

Dominant Characteristics	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. Awash Bank is a very personal place. It is like an extended family. People seem to share a lot of themselves.					
2. Awash Bank is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.					
3. Awash Bank is very results–oriented. A major concern is getting the job done. People are very competitive and each achievement–oriented					
4. Awash Bank is a very controlled and structured place. Formal procedures generally govern what people do.					

Organizational Leadership	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. The leadership in Awash Bank is generally considered to exemplify mentoring, facilitating, or nurturing.					
2. The leadership in Awash Bank is generally considered to exemplify entrepreneurship, innovation, or risk-taking.					
3. The leadership in Awash Bank is generally considered to exemplify a no–nonsense, aggressive, results–oriented focus.					

4. The leadership in Awash Bank is generally considered to exemplify coordinating, organizing, or smooth–running efficiency.					

Management of Employees	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. The management style in Awash Bank is characterized by teamwork, consensus, and participation.					
2. The management style in Awash Bank is characterized by individual risk-taking, innovation, freedom, and uniqueness.					
3. The management style in Awash Bank is characterized by hard–driving competitiveness, high demands, and achievement.					
4. The management style in Awash Bank is characterized by the security of employment, conformity, predictability, and stability in relationships.					

Organization Glue	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. The glue that holds Awash Bank together is loyalty and mutual trust. Commitment to this organization runs high.					
2. The glue that holds Awash Bank together is its commitment to innovation and development. There is an emphasis on being on the cutting edge.					

3. The glue that holds Awash Bank together is an emphasis on achievement and goal accomplishment.					
4. The glue that holds Awash Bank together is formal rules and policies. Maintaining a smooth–running organization is important.					

Strategic Emphases	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. Awash Bank emphasizes human development. High trust, openness, and participation persist.					
2. Awash Bank emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.					
3. Awash Bank emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.					
4. Awash Bank emphasizes permanence and stability. Efficiency, control and smooth operations are important.					

Criteria of Success	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. Awash Bank defines success on the basis of the development of human resources,					

teamwork, employee commitment, and concern for people.					
2. Awash Bank defines success on the basis of having the most unique or newest products. It is a product leader and innovator.					
3. Awash Bank defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is key.					
4. Awash Bank defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low–cost production is critical					

PART III: KNOWLEDGE MANAGEMENT QUESTIONS

Guide: Please rate the experience of Knowledge creation in Awash Bank using the rating scale that best reflects and describes your ideas.

Knowledge Creation	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. The Bank rewards us for new ideas and knowledge					
2. The Bank has processes for creating knowledge about new products/services and competitors					
3. The Bank has processes for acquiring knowledge about its customers					
4. The Bank management expects staff to document experiences and make them accessible to the rest of the Bank.					

Guide: Please rate the experience of Knowledge Retention in Awash Bank using the rating scale that best reflects and describes your ideas.

Knowledge Retention	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
5. The Bank utilizes databases, repositories, and info technology applications to store knowledge for easy access by all.					
6. The bank has a process to use documented knowledge to solve a problem					
7. The bank regularly keeps employees with high-level of knowledge					
8. The Bank documents useful knowledge learned from experiences					

Guide: Please rate the experience of Knowledge Transfer (Sharing) in Awash Bank using the rating scale that best reflects and describes your ideas.

Knowledge Transfer	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
9. The Bank follows a systematic plan to rotate its staff across different Divisions/Offices					
10. The bank offers training programs by individuals with experience and competence					
11. The bank uses modern technology to transfer knowledge (e.g., Portal, e-mail and mobile phone messages).					
12. Employees exchanges knowledge for solving problems are encouraged in the bank**.**					

Guide: Please rate the experience of Knowledge Utilization in Awash Bank using the rating scale that best reflects and describes your ideas.

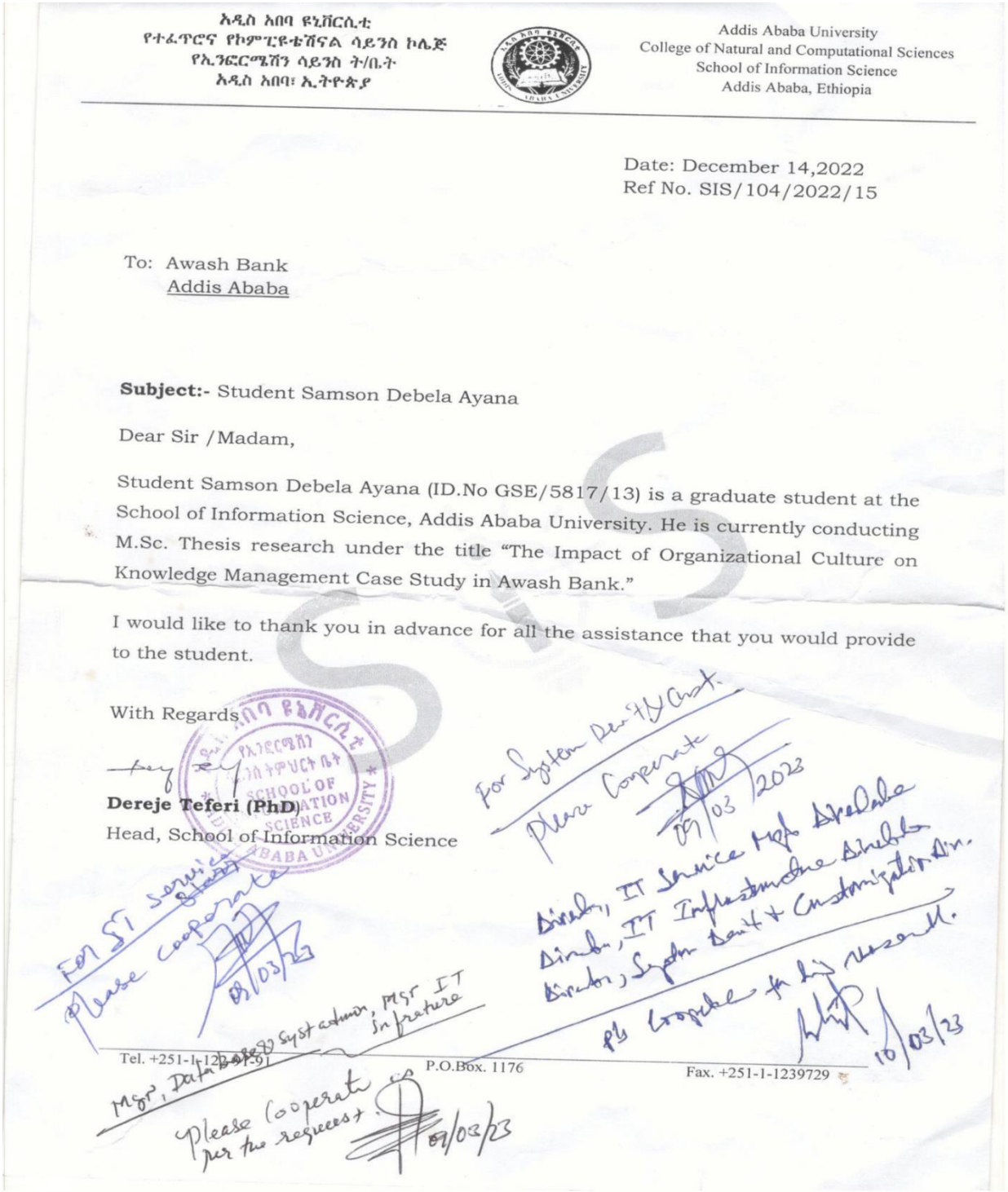
Knowledge Utilization (Use knowledge)					
13. The Bank has processes for using knowledge in development of new products/services.					

14. The Bank has processes for applying knowledge learned from experiences					
15. The Bank has processes for using knowledge to solve new problems.					
16. The Bank is able to locate and apply knowledge to changing competitive conditions.					

Thank you for your participation.

All responses will be treated anonymously.

Appendix 2: Approval for Data Collection in Awash Bank



አዲስ አበባ ዩኒቨርሲቲ
የተፈጥሮና የኮምፒዩቴሽናል ሳይንስ ኮሌጅ
የኢንፎርሜሽን ሳይንስ ት/ቤት
አዲስ አበባ፣ ኢትዮጵያ

Addis Ababa University
College of Natural and Computational Sciences
School of Information Science
Addis Ababa, Ethiopia

Date: December 14,2022
Ref No. SIS/104/2022/15

To: Awash Bank
Addis Ababa

Subject:- Student Samson Debela Ayana

Dear Sir /Madam,

Student Samson Debela Ayana (ID.No GSE/5817/13) is a graduate student at the School of Information Science, Addis Ababa University. He is currently conducting M.Sc. Thesis research under the title "The Impact of Organizational Culture on Knowledge Management Case Study in Awash Bank."

I would like to thank you in advance for all the assistance that you would provide to the student.

With Regards,

Dereje Teferi (PhD)
Head, School of Information Science

SCHOOL OF INFORMATION SCIENCE ADDIS ABABA UNIVERSITY

For System Dev't & Cust.
Please Cooperate
09/03/2023

For SI service
Please cooperate
09/03/23

Director, IT Service Mgt Directorate
Director, IT Infrastructure Directorate
Director, System Dev't + Customization Dir.
Pls Cooperate for his research.
10/03/23

Mgr, Data Syst admin, Mgr IT Infrature
Please cooperate per the request
09/03/23

Tel. +251-1-123[illegible]

P.O.Box. 1176

Fax. +251-1-1239729

Appendix 3: Descriptive Statistics on indicators used

Descriptive Statistics on indicators used in SEM-PLS (N=139)

Indicators	Missing	Mean	Median	Min	Max	Standard Deviation	Excess Kurtosis	Skewness
DC1	0	3.555	4	1	5	0.974	-0.72	-0.3
DC2	0	3.394	4	1	5	1.006	-0.552	-0.336
DC3	0	3.912	4	1	5	0.892	0.849	-0.887
DC4	0	3.686	4	1	5	1.052	-0.183	-0.75
OL1	0	3.642	4	2	5	0.877	-0.529	-0.345
OL2	0	3.496	4	1	5	0.929	-0.609	-0.431
OL3	0	3.036	3	1	5	0.939	-0.359	-0.127
OL4	0	3.796	4	2	5	0.803	-0.06	-0.467
ME1	0	3.774	4	1	5	0.974	0.715	-1.016
ME2	0	3.255	3	1	5	0.959	-0.544	-0.434
ME3	0	3.81	4	2	5	0.824	-0.222	-0.423
ME4	0	3.453	4	1	5	0.904	0.157	-0.726
OG1	0	3.869	4	1	5	0.861	1.232	-0.989
OG2	0	3.606	4	1	5	0.866	0.705	-0.843
OG3	0	4.029	4	1	5	0.773	2.649	-1.105
OG4	0	3.796	4	1	5	0.856	1.057	-0.935
SE1	0	3.62	4	1	5	0.921	-0.309	-0.586
SE2	0	3.774	4	1	5	0.863	1.261	-0.921
SE3	0	3.985	4	2	5	0.801	0.474	-0.748
SE4	0	3.905	4	2	5	0.763	0.684	-0.734
CS1	0	3.693	4	1	5	0.948	0.304	-0.804
CS2	0	3.599	4	1	5	0.963	0.139	-0.656
CS3	0	3.978	4	1	5	0.932	1.274	-1.106
CS4	0	3.766	4	1	5	0.785	1.606	-0.929
KC1	0	3.365	4	1	5	1.113	-0.554	-0.409
KC2	0	3.606	4	1	5	0.915	-0.052	-0.578
KC3	0	3.511	4	1	5	1.047	-0.1	-0.685
KC4	0	3.401	4	1	5	0.978	-0.221	-0.455
KR1	0	3.504	4	1	5	1.153	-0.722	-0.528
KR2	0	3.372	4	1	5	1.053	-0.673	-0.302

KR3	0	3.445	4	1	5	1.01	-0.32	-0.429
KR4	0	3.474	4	1	5	1.061	-0.413	-0.489
KT1	0	3.277	4	1	5	1.072	-0.585	-0.467
KT2	0	3.818	4	1	5	1.005	0.999	-1.064
KT3	0	4	4	1	5	0.846	1.58	-1.025
KT4	0	3.642	4	1	5	1.052	-0.166	-0.649
KU1	0	3.796	4	1	5	0.821	1.162	-0.804
KU2	0	3.715	4	1	5	0.828	0.492	-0.75
KU3	0	3.774	4	1	5	0.888	0.969	-0.866

Appendix 4: Indicator Outer loadings

	Adhocracy culture	Clan Culture	Hierarchy culture	KM	Market culture
CS1		0.81			
CS2	0.88				
DC3					0.83
DC4			0.70		
KC2				0.70	
KR3				0.81	
KR4				0.72	
KT1				0.71	
KU2				0.80	
KU3				0.80	
KU4				0.79	
ME1		0.73			
ME3					0.81
ME4			0.74		
OG3					0.75
OL1		0.82			
OL4			0.78		
SE1		0.81			
SE2	0.90				
SE4			0.74		

Appendix 5: Cross loading value

	Adhocracy culture	Clan Culture	Hierarchy culture	KM	Market culture
CS1	0.48	**0.81**	0.53	0.56	0.46
CS2	**0.88**	0.45	0.41	0.52	0.44
DC3	0.42	0.52	0.46	0.44	**0.83**
DC4	0.27	0.50	**0.70**	0.43	0.35
KC2	0.52	0.46	0.42	**0.70**	0.32
KR3	0.50	0.56	0.45	**0.81**	0.41
KR4	0.29	0.49	0.47	**0.72**	0.32
KT1	0.51	0.57	0.46	**0.71**	0.52
KU2	0.36	0.53	0.53	**0.80**	0.34
KU3	0.50	0.49	0.50	**0.80**	0.41
KU4	0.59	0.46	0.56	**0.79**	0.45
ME1	0.46	**0.73**	0.52	0.48	0.58
ME3	0.48	0.52	0.53	0.42	**0.81**
ME4	0.38	0.43	**0.74**	0.47	0.42
OG3	0.42	0.44	0.37	0.39	**0.75**
OL1	0.45	**0.82**	0.61	0.55	0.53
OL4	0.42	0.59	**0.78**	0.50	0.52
SE1	0.46	**0.81**	0.60	0.53	0.42
SE2	**0.90**	0.58	0.53	0.58	0.54
SE4	0.50	0.58	**0.74**	0.49	0.40

Appendix 6: Indicator Collinearity

Manifested variables (Indicators)	VIF
CS1	1.69
CS2	1.52
DC3	1.48
DC4	1.30
KC2	1.65
KR3	2.18
KR4	1.75
KT1	1.59
KU2	2.24
KU3	2.21
KU4	2.13
ME1	1.42
ME3	1.46
ME4	1.38
OG3	1.28
OL1	1.77
OL4	1.49
SE1	1.72
SE2	1.52
SE4	1.34