



ADDISS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE

**THE ROLE OF DIGITALAZATION FOR LEADERSHIP EFECTIVENESS: A
CASE OF HEINEKEN BREWERY SHARE COMPANY IN ETHIOPIA**

In Partial Fulfillment of the Requirements for the Award of Master of Arts

Degree in Business Leadership

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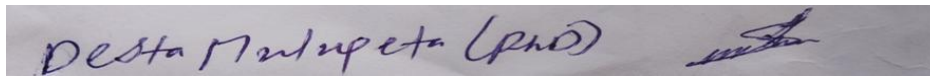
**The Role of Digitalization for Leadership Effectiveness: A case of Heineken
Brewery Share Company of Ethiopia (HBSC)**

By: Tewodros Desalegn

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DECLARATION

I, Tewodros Desalegn, hereby declare that the research project entitled “The Role of Digitalization for Leadership Effectiveness: A Case of Heineken Brewery Share Company of Ethiopia (HBSC)” is my original work. It has been prepared and submitted as a partial requirement for the fulfillment of the Master of Arts Degree in Business Leadership.

I affirm that this study has not been previously submitted to any other university or institution for any academic award, and that all sources used in this research have been duly acknowledged

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STATEMENT OF CERTIFICATION

This is to certify that Tewodros Desalegn has conducted his research work on the topic of “The Role of Digitalization for Leadership Effectiveness” in partial fulfillment of the requirement for a Master's Degree in Business Leadership. The study fulfills the requirement for obtaining an academic degree from the university.

Advisor: Teklegeorgis Assefa (PhD)

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ACRONYMS/ABBREVIATIONS

HBSC: Heineken Brewery Share Company

AI: Artificial intelligence

ERP: Enterprise resource planning

EI: Emotional intelligence

IoT: Internet of Things

VUCA: Volatility, Uncertainty, Complexity, and Ambiguity

KPIs: Key performance indicators

SMEs: Small and medium enterprises

ICT: Information Communication and Technology

HR: Human Resources

IT: Information Technology

SDs: Standard deviation

M: Mean

VIF: Variance inflation factor

SPSS: Statistical Package for the Social Sciences

ABSTRACT

This study explains how digitization affects leadership at Heineken Brewery Share Company (HBSC) in Ethiopia. The research uses a mixed-methods approach, which means it uses both quantitative data from structured questionnaires sent to 58 members of the HBSC leadership team and qualitative insights from studies of internal documents. The study looks at four main aspects of digitalization: leaders use digital tools to make decisions, the organization is prepared for IT, communicates and coordinates digitally, and has digital leadership skills. The results show that respondents gave marks to digital communication and coordination, as well as digital leadership skills. This shows that HBSC leaders are well-prepared to handle the challenges of digital transformation. However, organizational IT preparedness got a lower score, which means there are problems with infrastructure, integration, and support systems. Digital communication ($\beta = 0.390$, $p = 0.005$) and organizational IT readiness ($\beta = 0.447$, $p < 0.001$) are the two important factors predict digital leadership. The usage of digital technologies alone was not a statistically significant factor. The qualitative results corroborate the quantitative results even more. They stress how important it is to create leaders, communicate across departments, and use inclusive techniques to get people to accept technological change. HBSC has done a great job of using digital tools and improving its leadership skills, but the results show that successful digital transformation needs more than technology. It needs ongoing investment in people, processes, and a culture that supports it. The study's finding is digitalization makes leaders effective if it is combined with good communication, developing digital skills, and being open to change at both the individual and organizational levels.

Key words: *Digitalization, Leadership Effectiveness, and Digital Leadership*

CHAPTER ONE

INTRODUCTION

Digital technology is moving an amazing rate in society. This is affecting organizations work and how leaders lead their teams. The digital tools are important for businesses to stay competitive, make better decisions, and attain their goals more quickly. These changes are not in processes and systems; they are also changing what it means to be a leadership effectiveness.

Leaders need to do more than manage people. Which is they have to know how to use digital technologies, be open to change, and guide their organizations through digital transformation? In the dynamic global economy where things are changing, organizations feel a pressure to keep up with technology. The challenge is considerably for leaders in developing countries. Digitalization is becoming common in countries like Ethiopia, it often problems in poor infrastructure, changing company cultures, and a lack of digital readiness. That's why it's important to look into how leadership is changing in situations. Being able to adapt and lead in a digital world is becoming a part of long-term success.

1.1 Background of the Study

Digital technology is changing practically every part of our lives right now, including how we work, talk to one another, and lead. Digitalization, or the act of using digital technologies in every part of an organization, is no longer a choice. Rather, it is necessary for survival and success. Artificial intelligence (AI), big data analytics, cloud computing, and enterprise resource planning (ERP) systems are some of the tools that are helping businesses run, make decisions, and come up with new ideas faster than ever before (Westerman et al., 2014; Brynjolfsson & McAfee, 2014). These technologies are helping businesses not only work better but also think of new ways to give customers value and work with their staff.

Leadership is at the center of change. The digital age is changing the way of thinking about leadership, which used to be centered on hierarchy, stability, and small changes over time. Today, leaders need to be tech-savvy, flexible, and forward-thinking so these help companies to adapt to rapid changes and to come up with new ideas (Avolio et al., 2014). Leaders' no longer

administrators or managers; they are becoming change agents to support new technologies, help teams develop digital skills, and implement digital projects in long-term strategic goals. To change, people need, technical knowledge and emotional intelligence, flexibility, and a willingness to take calculated risks.

Digital transformation is having an effect on businesses world, and the brewing industry is no different. HBSC is one of the oldest and established industrial businesses, but it is increasingly using technology to stay competitive in a global market that is changing quickly. In this field, digitalization means automating industrial processes, using smart logistics, using data to connect with customers, and keeping an eye on supply chains in real time (Zengler, 2017). Heineken Brewery Share Company (HBSC) and other multinational corporations are using digital tools to not only make their operations more efficient but also to come up with new ideas and give customers more value (Columbus, 2017). Digital leadership is important in this context because it helps businesses adapt rapidly to market needs, handle complicated systems, and create a culture of constant improvement.

The Heineken Brewery Share Company, It is part of the well-known Heineken International, and one of the biggest and powerful brewing firms in Ethiopia. The company has put a lot of money into updating its infrastructure and using digital technologies to improve its manufacturing, supply chain, sales, and customer engagement since it came to Ethiopia. These steps are part of a bigger plan in the local operations meet Heineken's worldwide standards for innovation and efficiency (Heineken, 2020). In theory, these kinds of technical advances should make leaders more effective by making it easier for managers to get real-time information, organize teams, and make decisions based on facts. But in this specific local situation, the link between digitalization and leadership performance is still not evident.

The digital revolution in Ethiopia has pros and cons. On the one hand, the country is, people having access to the internet, mobile technology, and government-led digital projects. On the other hand, it has a problem, such as a lack of infrastructure, limited digital literacy, and a reluctance to change in old corporate cultures. These things can make it digital initiatives into action and change how leaders respond to digital needs. In this kind of setting, it's important for leaders to use digital tools, motivate their colleagues, and make real changes in the business.

This study tries to answer these issues by looking at how digitization might help leaders do their jobs better at the Heineken Brewery Share Company in Ethiopia. The study's goal is to give useful information about how digital leadership works in a situation where technology adoption is expanding but not evenly across the board. It does this by looking at a well-known multinational company that operates in a developing area. Learning how digital technologies and techniques affect leadership behavior, decision-making, and organizational culture to teach other organizations, legislators, and scholars. In the end, the study hopes to add digital transformation by showing how human, organizational, and contextual aspects affect leadership in the digital era.

1.2 Statement of the Problem

Organizations are reconsidering how they work, make decisions, and lead in the digital world. This Digital transformation is no longer about upgrading technology; it is a key factor in making organizations flexible, innovative, and competitive (Westerman et al., 2014). The leadership is at the center of the change. Leaders need to be able to use complicated digital technologies and work with data-driven environments (Avolio et al., 2014). Digital technologies have a lot of potential, but getting them to work well, especially in poor nations like Ethiopia, is still a complicated problem (Eisenhardt, 2017).

One of Ethiopia's biggest brewing enterprises, Heineken Brewery Share Company (HBSC), is a great example of a business that is trying to keep up with the times. Since it started, HBSC has made digital integration a top priority. It has gone through several enterprise resource planning (ERP) systems, from Hilmark to MS Dynamics (Navision), migrating to SAP S4Hana. It has also set up unique digital platforms for its legal, human resources, payroll, procurement, production, and logistical departments. Which leaders are using digital dashboards like Power BI to make decisions. This tool gives real-time information about sales, supply chain performance, and customer service (Columbus, 2017).

These improvements and the path to being fully digital are not easy. Leaders typically have a hard time trusting the facts they use. Even the intentions can be led astray by wrong or inconsistent information, which can hurt performance and trust (McAfee & Brynjolfsson, 2012; Davenport, 2014). Another worry that is developing is cybersecurity. As more data and tasks go

online, it becomes more important than ever to have good digital risk management, which can be costly (Von Solms & Van Niekerk, 2013).

Cost is another big problem. Building and keeping up digital infrastructure costs a lot of money, which can be hard to explain when there are other things that need to be done. Also, problems with internet connectivity that happen often because of the limits of service providers like Ethio-Telecom and Safaricom make the system less reliable and slow down the flow of timely choices (World Bank, 2020). Using separate, non-integrated platforms has made things even more difficult by forcing leaders to deal with several systems that don't always work together (Bughin et al., 2018).

The Ethiopian enterprises, MOENCO, have had similar problems (Tadel, 2022). Digitalization changed how leaders talk to each other and make decisions during the COVID-19 pandemic. Digital tools made it possible for people to work together from a distance, but they also made it tougher for leaders to stay in touch with their teams and caused communication problems (Heeks, 2020; Cascio & Montealegre, 2016). Some leaders had trouble getting used to these tools, which made people less likely to participate in digital projects (Vial, 2019; Kane et al., 2015).

At HBSC, leaders at different levels have diverse levels of digital skills. Because of this inconsistency, the organization may not be able to use digital tools as well for strategic and operational success. Even while HBSC has made substantial progress, there is still a lack of awareness of how digitization is changing the efficacy of leaders in Ethiopia. Most of the research that is out there looks at Western settings, which doesn't help companies deal with the special problems that come up in emerging markets like Ethiopia (Majchrzak et al., 2016; Yoo et al., 2012).

This study aims to fill in the gap by looking into how digitalization is affecting the performance of leaders at Heineken Brewery Share Company in Ethiopia. It will look at how leaders are changing because of digital transformation, how data-driven decision-making is changing how leaders do their jobs, and what problems are getting in the way. The study's goal is to give companies, both inside and outside of Ethiopia, useful information that will help them create stronger, more flexible digital leadership strategies that will help them develop and stay strong over time.

1.3 Research Questions

Based on the problem statement, the study's research topics were reduced down.

RQ 1: What digital tools and methods do leaders at Heineken Brewery Share Company (HBSC) utilize right now?

RQ 2: How is digitalization changing the roles, responsibilities, and overall effectiveness of leadership at HBSC?

RQ 3: What approaches have HBSC leaders found most effective in tackling the challenges of digital transformation?

The study's research questions were narrowed down based on the problem statement.

1.4 Objective of the Study

1.4.1 General Objective of the Study

The general objective of the study is “The Role of Digitalization for Leadership Effectiveness:

Focus on Heineken Brewery Share Company in Ethiopia.

1.4.2 Specific Objective of the Study

1. To explore what digital tools and methods leaders at Heineken Brewery Share Company (HBSC) use in their daily work.
2. To find out how digitization is changing the way HBSC leaders do their jobs and how it is affecting their overall effectiveness.
3. To what strategic approach have helped HBSC leaders to deal with challenges during digital transformation.

1.5 Significance of the Study

The study sheds light on digitalization in shaping leadership effectiveness at Heineken Brewery Share Company (HBSC) in Ethiopia. As organizations adopt digital tools, it's good to

understand the impact on leaders' work, make decisions, and drive their teams forward. This research will add valuable insights for both theory and practical leadership within Ethiopia's brewing industry.

This study help business leaders and managers at HBSC and other firms in Ethiopia for better understand the digital tools that leaders are using and how they used to develop leadership abilities, help people make better decisions, and promote teamwork and efficiency. The results help leaders change their plans to keep up with the rapidly changing digital world, which make their organizations work better.

Policymakers also learn more about how digitalization affects leadership in international companies like HBSC, which will help them make better decisions. The ideas can help make policies that support the growth of digital skills, improve infrastructure, and encourage leadership training that meets the needs of a digital economy.

From an academic point of view, this study fills a gap in research by looking at digital leadership in a developing country, which is generally ignored in favor of studies from developed countries. It will give future scholars new ideas and information to work with, especially about the problems and chances that digital transformation brings to Ethiopian businesses.

The study gives Heineken Brewery Share Company specific advice on how to develop digital leadership in its Ethiopian operations. HBSC can make customized plans to get employees more involved, speed up decision-making, and raise overall productivity, all of which are important for staying competitive today by learning how digital tools affect the efficacy of leaders.

Finally, the study gives the Ethiopian brewing industry as a whole useful information. It shows how digital technologies can help with better leadership and industry practices, find common problems, and provide strategies to get over them so that more people use them.

1.6 Research Limitations

It's vital to remember that this study has certain limitations. First, it could be hard to get some sensitive or private information from Heineken Brewery Share Company, like information on their internal digital plans and performance data. This means that the research might not cover

every part of their path as digital leaders. Leaders do more than manage people, which is they have to know how to use digital technologies, be open to change, and guide their organizations through digital transformation. In the dynamic global economy where things are changing, organizations feel a pressure to keep up with technology. The challenge is considerable for leaders in developing countries. Digitalization is becoming common in countries like Ethiopia, it often causes problems in poor infrastructure, changing company cultures, and a lack of digital readiness. That's why it's important to look into leadership is changing in these situations. And adapt and lead in a digital world is becoming a part of long-term success. Lastly, technology is changing quickly, so some of the results may not be as useful as they used to be when new digital tools and ways of leading come out.

1.7 Scope of the Study

This study looks at how digitalization makes leaders effective at the Heineken Brewery Share Company in Ethiopia. The study looks at the digital practices that leaders at the firm use and how they affect decision-making, communication, and overall leadership performance in a digital world that is changing quickly. The study looks at Heineken Brewery's business in Ethiopia. It is a multinational company that does business in many countries. However, this study looks at its Ethiopian branch because it has its own set of problems and chances when it comes to adopting digital technology in a developing country. The study looks at how leaders at Heineken Brewery have used and integrated digital tools like data analytics, artificial intelligence, cloud computing, and other business technologies. The study will also look at the problems and chances these leaders have when they try to use digital tools. The study looks at leadership effectiveness in a practical way and how digital tools affect leadership practices, decision-making, employee engagement, and the success of the business as a whole. And not into technology detail or doing a lot of technical analysis because the focus is on leadership and management techniques, not the technical details of digital tools.

The scope of the research will mostly be based on looking at Heineken Brewery Share corporate's existing corporate documents, reports, and records of digital transformation that have to do with leadership practices. The goal is to look at written proof of digital leadership projects and problems, not to do interviews. This method lets us get a full picture of how well leaders accomplish their jobs, as shown by organizational records and digital adoption methods.

The temporal of the scope study will look at digitization and leadership practices over the previous five years, including recent changes and advances within Heineken Brewery. This time range makes sure that we have the most current information on how digital technologies have affected the effectiveness of leaders during a time of fast technological development.

1.8 Organization of the Study

This study has five chapters. Chapter One gives an overview of the study background information, stating the problem, and outlining the research aims, research questions, significance, scope, and limitations of the study. Chapter Two addresses what other people have written about leadership theories, digital transformation, and digital leadership in Ethiopia and around the world. It also includes the study's conceptual foundation. Chapter Three discusses the research methodologies, it includes the research design, the data sources, the sampling methods, the tools used to collect data, the ways the data is analyzed, and the ethical considerations. Chapter Four outlines the field data, which is backed up by both descriptive and inferential statistical analysis as well as qualitative data from internal document reviews and discussion of the findings. Finally, Chapter Five wraps up the summary of findings, Conclusion, and recommendations based on the research findings.

CHAPTER TWO

LITERATURE REVIEW

Introduction

In today's rapidly evolving digital world, leadership is being reshaped by technology. This chapter explores how digitalization is influencing leadership effectiveness, with a special focus on Heineken Brewery Share Company (HBSC) in Ethiopia. by defining key concepts like leadership, digitalization, and the effectiveness of leaders in a digital context. And include theoretical literature to address leadership theories, particularly transformational and adaptive leadership that explain how leaders respond to change and innovation. and empirical review studies from both global and local perspectives to understand how digital tools are being used in leadership, the skills leaders need to succeed, and the challenges they face in adopting new technologies. Finally, develop the research conceptual framework.

2.0 Theoretical Literature Review

2.2.1 Definition of Leadership

To understand leadership, it is important to define what 'leader' means. It is simply the holding of a title or occupying a formal position. And it involves the ability to motivate, inspire, and also guide others towards a shared vision. As organizations navigate technologies and a changing environment, leadership becomes more important in the context of digital; it requires a clear definition of what leadership means. According to Northouse (2019), leadership is defined as a process in which an individual influences a group of individuals to achieve a common goal. And this definition of leadership is not rooted solely in authority or hierarchy, but in the ability to inspire others. In an earlier edition (Northouse ,2016) it was elaborated that leadership is a dynamic, reciprocal process grounded in influence rather than formal power, and effective leaders actively engage with the teams by involving the team in decision-making and empowering rather than relying on top-down commands.

As Bass(1990) adds a transformational aspect to the idea of leadership as a relationship in which leaders and followers impact one another. And leaders are important because leaders change the situation and the people to see roles and expectations that match with the new vision. In this approach, leaders become agents of change. This is especially important in digital contexts where new ideas and quick thinking are often needed. On the other hand, Goleman (2000) suggests that emotional intelligence (EI) is parts of the leadership definition: a leader means being able to handle feelings and relationships, and leaders are not only the ones make strategic decisions but also people who are aware of their own emotions and can connect with others, exhibit empathy, and build trust. These soft skills are also important in digital environments where virtual teams, quick communication, and working together across departments require strong relationships and emotional maturity.

These points of view provide a whole picture of leadership as a process of defining a vision, influencing others, adapting, and getting people emotionally involved. These traits are important to digitalization. Leaders need to not only know how to use digital tools but also need to motivate teams to adapt to new situations, develop trust across different technologies, and keep a clear strategic direction. Therefore, this study used these different definitions of leadership to understand how digitalization affects the performance of leaders at Heineken Brewery Share Company (HBSC) in Ethiopia.

2.2.2 Leadership Theories

Leadership theories give the basic ideas to understand how people may affect, lead, and inspire others to work toward the same goals. Over the past hundred years, these theories have changed a lot because of changes in the needs of organizations, the expectations of society, and advances in technology. This theoretical evolution helps to find the models to employ for how leaders act in a digital setting and how digitalization affects leadership effectiveness.

Classical Leadership Theories

Trait theory, one of the first models of leadership, that implies good leaders have certain personal traits, like intelligence, confidence, determination, and honesty (Stogdill, 1948). The theory suggested that leaders are ‘born, not made,’ and this put a lot of emphasis on finding a set of attributes that predict leadership success. But later researchers found that qualities alone weren’t

enough to explain what makes a leader in varied situations. This led to the creation of behavioral theories, which focused on what leaders do instead of who they are. According to Lewin et al. (1939), leaders grouped into three groups: authoritarian, democratic, and laissez-faire. And Blake and Mouton (1964) suggested the Managerial Grid, which showed the difference between task-oriented and people-oriented leadership behaviors. These theories put the focus on what leaders do, implies that people learn and change to be better leaders.

Contingency theories came about when people realized that neither attributes nor behaviors could fully explain how well a leader does their job. Fiedler's Contingency Model (1967) and other similar models said that the effectiveness of a leadership style depends on the situation, such as the structure of the job, the relationships between the leader and the members, and the leader's positional strength. This theory says that no one style of leadership works in every situation. Instead, effectiveness comes from matching the way you lead with the needs of the environment.

These classical theories gave some useful ideas, but they didn't work as well in modern digital systems ,where things are more complicated and uncertain and change happens quickly.

Contemporary Theories for the Digital Age

It's evident that businesses need more flexible and inspiring leadership models as they grow more dynamic, connected, and dependent on technology. Transformational leadership and adaptive leadership are two modern theories that are important to this subject and have a lot to do with digital transformation.

Transformational Leadership

Transformational leadership, which was first introduced by Burns in 1978 and then developed by Bass in 1985, stresses how important it is for leaders to inspire and motivate their followers to put the needs of the group ahead of their own. Transformational leaders do more than tell people what to do; they also establish trust, give teams power, and stimulate new ideas. Some important traits of transformational leadership are:

- Idealized influence means being a role model and winning respect.

- Inspirational motivation: making a strong vision
- Intellectual stimulation: promoting creativity and finding solutions
- Individualized consideration means giving each person their own help and growth.

Transformational leadership is important for companies like HBSC that are going through a digital transformation. It helps employees to accept change, deal with uncertainty, and stay with the company's changing goals.

Adaptive Leadership

Adaptive leadership, which was introduced by Heifetz, Grashow, and Linsky in 2009, which deal with new situations, difficulties, and challenges that come up unexpectedly. Adaptive challenges are different from technical challenges since the challenge faced don't have simple answers. Instead, needs to experiment, learn, and change how leader think.

Adaptive leaders :

- Distinguish between technical and adaptive challenges
- Mobilize people to face difficult realities
- Encourage experimentation and learning
- Foster resilience and psychological safety

This theory is useful in the context of digitalization, in technological advancements constantly reshape roles, expectations, and workflows. At HBSC, adaptive leadership helps leaders remain flexible, guide their teams through digital transitions, encourage innovation and maintaining performance.

2.2.3 Leadership Effectiveness

The main point of this study is how effective leaders do their jobs. That means how effective leaders get things done and make the workplace a good, inspired place to work. And a successful leader is someone who fulfills goals, gains the trust, respect, and involvement of their team.

There are two basic ways of to measure the leadership effectiveness of leaders: by looking at the results of tasks, like productivity, performance, and goal accomplishment, and by looking at the quality of relationships, such as communication, employee engagement, and team morale (Northouse, 2018). Therefore a good leader knows how to get things done while also caring about people.

But in the digital era, leaders are expected to do things differently. Leaders can't fulfill goals anymore; leaders need to be tech-savvy, adaptable, and able to help the people deal with changes in technology all the time. And according to Avolio et al.(2014), modern leadership also depends on soft talents, including emotional intelligence, vision, and the capacity to stay calm under pressure.

In this research, leadership effectiveness at Heineken Brewery Share Company (HBSC) is explored through a mix of practical indicators. These include:

- How leaders use digital tools like SAP and Power BI in decision-making,
- Leaders' ability to communicate clearly and consistently,
- Leaders' responsiveness to change,
- How leaders coordinate team efforts, and
- The impact leaders have on motivation and innovation.

Therefore, looking at both the technical and human sides of leadership, this study aims to understand what truly makes leaders effective in a digitally evolving organization. It also considers how digitalization supports or sometimes challenges that effectiveness in a real-world context.

2.2.4 Concept of Digitalization

Digitalization is not simply employing new technology; it's also changing how businesses work, compete, and add value. According to Brennen and Kreiss (2016), it is the process of adding digital technologies to daily business tasks. This changes how an organization works, communicates, and makes decisions at all levels.

Digitalization is a big transformation, which is turning analog information into digital format (like scanning paper documents). It changes how businesses work and connect with consumers, workers, and partners, and stakeholders in businesses with thorough modern technologies, such

as artificial intelligence(AI),big data analytics, cloud computing, and the Internet of Things (IoT), making this change conceivable (Bharadwaj et al., 2013).

Digitalization is more than a technical improvement; it's a change in strategy for organizations. To handle change, new skills, flexible structures, and adaptable leadership. Leaders should use data to make decisions, communicate with one another using digital channels, and establish teams under a dynamic changing environment. Digitalization is the key independent variable in this study. It includes using and combining digital tools like SAP, Power BI, and other digital platforms at Heineken Brewery Share Company (HBSC).

The study looks at how leaders use these tools in their daily work, especially when it comes to making decisions, communicating, and keeping track of performance. This study lays the groundwork for looking at how well HBSC's leaders are leveraging digital tools to improve leadership performance by seeing digitalization as a change in strategy and culture, not merely a change in technology. It also helps make the connection between digital skills and effective leadership clearer in a business world that changes quickly.

2.2.5 Digital Leadership

Digital technologies change the way we work; they are also changing the idea of leadership. Digitalization is more than just a collection of tools in modern organizational theory. It changes the way work is coordinated, choices are made, and power is used. This transition has given rise to digital leadership, a theory that looks at how leaders help firms adapt to fast-paced technology change. Digital leadership is all about leveraging digital tools and ways of thinking to get people to do things, fix issues, and come up with new ideas. El Sawy et al.(2016) say that it is the purposeful use of technology not just to help with daily tasks but also to spark bigger changes. Transformational and adaptive leadership theories are the main sources of this type of leadership. Transformational leadership gives people the vision and motivation they need to deal with change, whereas adaptive leadership gives flexibility, willingness to learn, and strength to deal with complexity. As Kane et al. (2015) say, digital leaders need to make sure that digital projects fit with the overall strategy of the business. This means that Digital leaders are approving IT budgets or putting in place software.And helping to create a culture where everyone is encouraged to try new things, learn, and come up with new ideas. And to be open to new ideas,

be able to lead teams on digital platforms, and be able to plan for technical changes before they happen.

From a theoretical point of view, digitalization impacts how leaders work and lead. Leadership styles are changing from traditional hierarchical ones to flatter, more diffused ones. According to Westerman et al.(2011), leadership in digital environments is less about having power and more about connecting with others and working together across networks. In stead Leadership is less about telling people what to do and more about helping teams work together.

This changing view of leadership is important for organizations like HBSC that are going through a digital transformation. The theoretical ideas discussed above provide a solid basis for understanding leadership roles and behaviors to change and to take advantage of the opportunities that come with digitalization.

2.2.6 Digitalization and Leadership Effectiveness

Traditionally, effective leadership has been about reaching goals, managing teams, and building good connections at work. But these old signs aren't enough anymore in today's digital world. Leaders now need to be able to use data to make decisions, lead on virtual platforms, and adapt to change all the time. Theoretically, becoming digital makes leaders more productive by giving them more options and ways to get things done. Digital tools now let leaders keep an eye on performance in real time, help teams that work from home, and make communication easier. More significantly, they are supposed to use these skills to give people power, stimulate new ideas, and deal with difficult problems before they happen.

This study believes that digitalization doesn't only add to traditional leadership; it changes what leadership is. Based on this theory, leadership effectiveness is seen as a dynamic talent: the ability to connect digital skills with human and strategic goals. This gives the analytical model employed in this study a theoretical basis and prepares the way for the empirical review that will follow.

2.3 Empirical Literature Review

Empirical review explains the real-world studies that show digitization is changing leadership in different situations. And the effect of digital transformation in line with leadership effectiveness

with previous studies' examples from around the world and in Ethiopia. These ideas will assist in grounding the current study and demonstrate how it fits into the bigger picture.

2.3.1 Global Evidence

Digitalization is changing the way leaders work. Research suggests a leader in the digital age means knowing how to use technology. It also means having a vision, being flexible, and being able to lead change.

According to Kane et al. (2015), they interviewed thousands of CEOs from different industries and found that organizations that were further advanced in their digital journeys usually had leaders who were more willing to try new things, work together, and deal with uncertainty. These executives didn't only say yes to digital projects; they were also directly involved in defining digital strategy and giving teams the power to adapt.

According to Westerman et al. (2011), leadership styles affect digital results. Their research indicated that firms were more flexible and responsive when executives were directly involved in creating a digital orientation and using new technology in daily business operations. These executives made it obvious what the digital transition was for and why it was happening so that all employees knew what was going on.

Also, Avolio et al. (2014) studied the idea of e-leadership, which is about leveraging digital technologies to lead teams. The study found that good e-leaders used video conferencing, dashboards, and collaboration tools not only to get things done faster but also to create trust, offer feedback on time, and make the team work better together. This is especially important now that many people work from home or in a mix of home and office.

According to Zhu et al. (2021), digital leadership has a strong connection to employee engagement and creativity in the workplace. Leaders who used data and set a good example for digital conduct to create a culture of learning and openness, which are important for long-term success in continuously changing world.

These results show that digital leadership isn't about using new technology but about how leaders think, talk to people, and help them through the process of going digital.

2.3. 2 Africa Context

Digitalization is moving at varying rates in Africa, depending on things like infrastructure, investment, and the readiness of institutions. Studies in the real world reveal that digital technologies can be helpful, but the results depend a lot on the leader's skills and the situation. According to a study by Asamoah and Andoh (2020) in Ghana in both public and private entities, the use of digital tools for recording, communicating with one another, and being responsible is easier. However, they create problems when trying to use the tools because of a lack of training, limited internet connectivity, and cultural hostility to new technologies. Leaders that put money into ongoing education and included workers in the change process got greater results.

And, according to Muriithi and Wanyoike (2021), leadership's dedication to digital literacy was a major component in the success of their research in Kenya's manufacturing business. When leaders made a point of helping staff learn new skills and talked openly about how important digital transformation was, adoption rates and team performance went up a lot.

In Nigeria, Adeleke et al. (2020) looked at how leadership affects the use of digital policies in different areas. Their research indicated that firms that clearly defined their digital goals and had proactive executives had easier transitions. But differences in how different generations use technology and how leaders are set up in a hierarchy often hold down progress.

These results from all over Africa show that digital leadership effectiveness depends on more than just having the right technologies. It also depends on how leaders act, how well they align their strategies, and the larger social and institutional environment.

2.3. 3 Ethiopian Context

There is a lot of study to be done on digital leadership in Ethiopia, but some studies have come out in the last few years. These studies give vital information on both opportunities and problems, in fields like banking, manufacturing, and education.

As Tadel (2022) did an empirical study on digital leadership practices in Ethiopia's service sector, looking at how leadership affects the effectiveness of digital transformation in organizations. The results showed that even though top-level officials were very supportive of digital initiatives, there were major problems with the implementation process, especially with training, internal communication, and carrying out digital strategy. One of the most important things the study found was that there was no systematic way to use digital technology in everyday leadership tasks. This made it harder for leaders to effectively lead change. These are because the IT teams and senior leadership didn't work together, cross-functional collaboration was limited, and digital goals weren't met.

According to Gebremariam (2021), looked at digital leadership in Ethiopia's banks and other financial organizations focuses on how leadership style and company culture affect the use of technology. The study showed that transformational leadership styles, such as giving people more power, encouraging new ideas, and creating a culture of constant learning and experimenting, were very important for making digital integration work. Banks and other financial institutions that used inclusive and participatory leadership styles had more engaged employees, made it easier for people to use digital tools, and came up with more new ideas. On the other side, firms that used a lot of top-down, authoritarian leadership styles without getting employees involved or preparing them well encountered resistance to change and slower progress in their digital transformation efforts.

Both (Demissie and Benti, 2020) looked at leadership in education when digital platforms for learning were first introduced. They saw that leaders who were flexible and emotionally intelligent were better at guiding digital change. Flexibility, communication, and getting workers involved were important for getting people to trust and commit to new processes.

These studies give useful information, but there is still a noticeable lack of study on how digitalization affects leadership effectiveness in Ethiopia's private sector when it comes to making decisions, communicating, motivating teams, and being flexible. This is especially true for multinational companies like Heineken Brewery Share Company (HBSC), where leaders have to deal with a mix of global expectations and local reality before they happen.

2.3.4 Common Challenges in Digital Leadership

Even though digitalization has a lot of benefits, many leaders have a hard time leading through technology. These problems typically keep businesses from getting all the benefits of becoming digital.

According to Hendrickson and Gray (2019), leaders were in charge of teams that worked from home and in person. The digital tools are useful; However, the tools can't take the place of emotional presence. It was hard for leaders to keep everyone motivated and in a good mood through screens. Without planned actions, team involvement went down, even though productivity stayed the same.

Rosenbach et al. (2020) did research on numerous firms in Europe and North America and found that less than 40% of managers felt ready to lead in digital settings. Many people didn't get enough digital training and had trouble making digital projects fit with the organization's overall aims. Some people thought of digital efforts as short-term IT projects instead of aspects of leadership practice that work together.

Adding to the confusion, according to Colbert et al. (2016), digital leadership needs a different kind of mental flexibility. Leaders are required to have a lot of data, keep up with digital disruption, and keep their emotional intelligence high. This results in cognitive burden becoming too much, which can lead to burnout or bad decisions.

These studies address this point: going digital doesn't automatically make leaders better at their jobs. Instead, it adds a new level of complexity that needs deliberate leadership development, cultural readiness, and support from the organization.

2.4 The conceptual framework

The conceptual framework guiding this study draws insights from Transformational Leadership Theory (Bass, 1990) and Adaptive Leadership Theory (Heifetz, 1994). It proposes that digitalization (independent variable), driven by the use of digital tools (e.g. AI, big data, cloud computing, and digital platforms), enhances leadership effectiveness (dependent variable) within Heineken Brewery Share Company.

Independent variables

Dependent variable

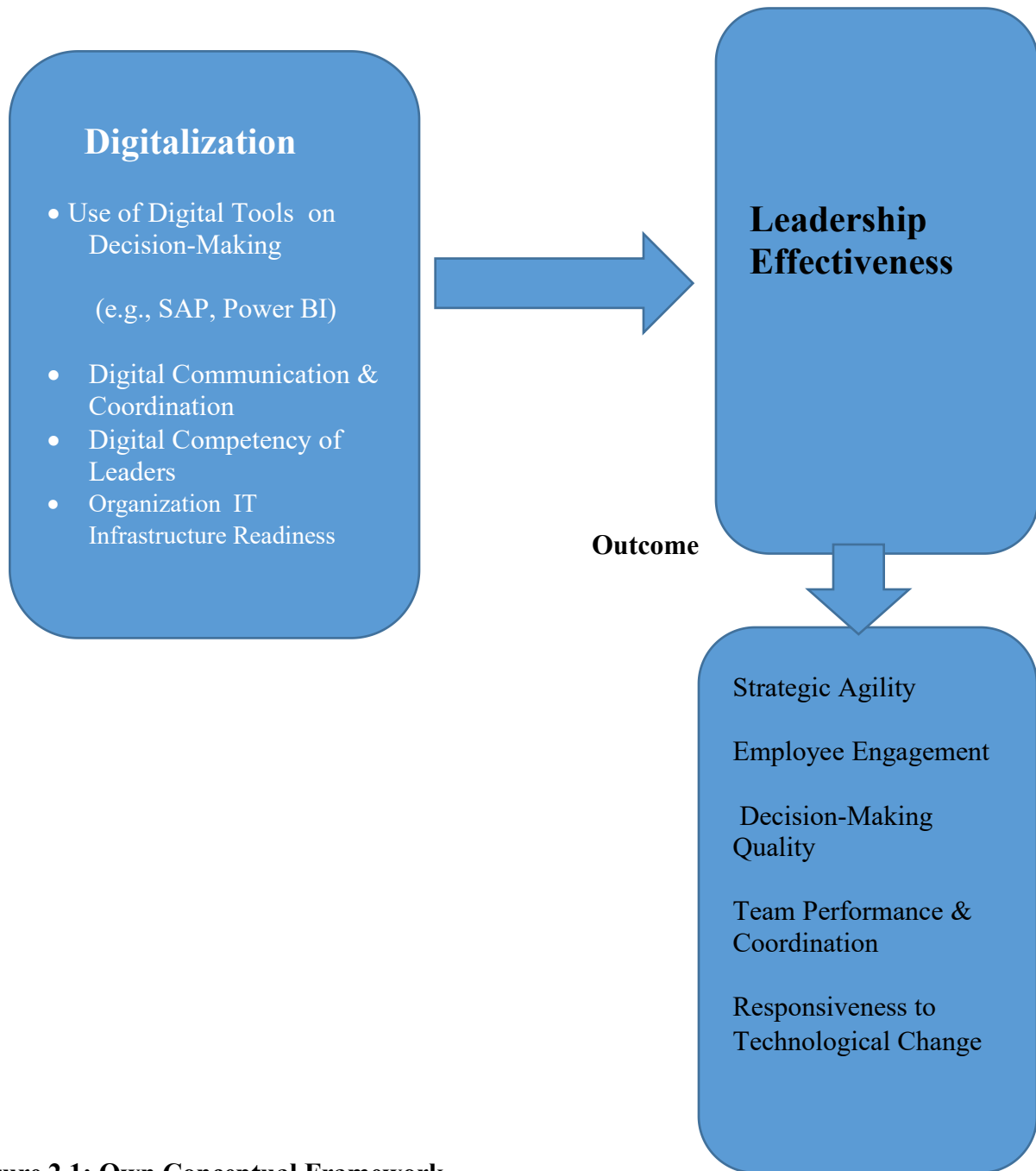


Figure 2.1: Own Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

The outlines of this chapter are research design, approach, data sources, sampling techniques, research instruments, data collection procedures, analysis techniques, and ethical considerations. And this methodology choices guided by the research objectives and questions, ensuring rigor, validity, and relevance to the real-world context of digital transformation in an emerging market setting.

3.1 Description of the study area

Heineken N.V. started the Heineken Brewery Share Company Ethiopia in 2010 as part of its plan to grow its business in Africa. Heineken Ethiopia become a prominent player in the country's brewing industry by making big investments and buying Bedele and Meta Abo Breweries. The company has more production capacity and can ship its products all over the country. The business directly hires about 1,000 people and thousands through its farming and supply chain programs. Ethiopian branch of Heineken used digital technologies to make operations efficient, strengthen leadership practices, and support long-term business success, in accordance with Heineken's worldwide digitalization plan.

Table 3.1. Profile of HBSC employees

NO	Description	Number of Staff
1	<i>Management staff</i>	63
	Top Management /Leadership role	5
	Middle Level Management	46
	Team leader level Management	12
2	<i>Non-Management staff</i>	937

3.2 Research Design

This study combines a mix of descriptive and explanatory research to look into digitalization affects the performance of leaders at Heineken Brewery Share Company (HBSC) in Ethiopia. The descriptive design helps show the current state of digital technologies, leadership practices, and employee experiences, making it easier to see trends and patterns in the business. The explanatory design goes farther by looking at cause-and-effect linkages in detail, such as how digital tools affect leadership decisions, communication, and engagement. These methods give us a vivid view of what's going on and grasp the deeper forces that shape leadership in a digital world.

3.3 Research Approach

This study employed a mixed method to learn more about how digitalization affects the performance of leaders at Heineken Brewery Share Company (HBSC) in Ethiopia. On the one hand, organized survey questionnaires were given to employees as a way to use a quantitative method. This helped get measurable information about their thoughts and feelings about using

digital tools in leadership, which made it feasible to find patterns and trends. On the other side, a qualitative part was added by looking at key documents, including internal reports and business regulations, to give further context and understanding of the organization's digital transformation process. The study was able to get a more complete and balanced view of how digitalization is changing leadership at HBSC by using both methods.

3.4 Data Collection Methods

This study used both primary and secondary data collection approaches to make sure that the research results were rich and trustworthy.

Primary Data

Questionnaires were used to collect the primary data from the leadership team of Heineken Brewery Share Company (HBSC).

Secondary Data

Secondary data were collected through current research, like papers from academic journals, company documents, annual reports, and trustworthy online sources. Inferential statistical methods, such as correlation and regression analysis, are used to test these hypotheses and what kinds of links there are between the study variables and how strong they are

3.5 Research Hypotheses

Based on the study's goals and the literature that was looked at, the following hypotheses are made to help with the study's quantitative analysis:

- H₁:** Digital tools have a significant positive relationship with leadership effectiveness at Heineken Brewery Share Company.
- H₂:** Digitalization significantly shapes the roles and responsibilities of leaders, thereby improving their overall leadership effectiveness.
- H₃:** Leaders who adopt adaptive digital strategies are successful in overcoming digital transformation challenges at HBSC.

3.6 Data Collection Procedures

The first step in collecting data was to make a structured questionnaire. This was done after carefully looking at relevant academic literature and industry practices about digitalization and leadership. To make the instrument better and clearer, academic and industrial specialists were asked for their opinions. Their feedback made ensuring that the questions were both relevant to the research goals and simple for the people taking part to understand.

After checked for accuracy, the questionnaire was sent to the leaders of Heineken Brewery Share Company (HBSC). To collect data, participants were told the study was for and that they chose to encourage honest and unbiased answers; confidentiality and anonymity were stressed. The filled-out questionnaires were collected and put together digitally, which made it safe and organized and made it easier to handle the data. This organized and moral way of collecting data helped make sure that the results were reliable and that the whole study process was honest.

3.7 Population and Sampling Technique

The study used a census survey method that included all of the leaders at Heineken Brewery Share Company (HBSC). All 63 people in management and team leadership positions were included so that the researcher could get a full picture of the organization's digital practices and how well its leaders are doing. The study's goal was to provide a thorough and accurate picture of how digitalization is affecting leadership at all levels by polling the whole leadership team.

A purposive sample strategy, which is a non-probability method, was used to make sure that those who were directly involved in digital projects were included. People were chosen based on how well they could use and access digital technologies and what their job was in the organization. This made leaders with the most relevant views on the study's focus were included.

The study looked at Human Resources, Supply Chain, Finance, Marketing and Sales, Information Technology, Corporate Relations/Public Affairs, and Legal Management. These units were chosen because they employ digital tools in a smart way and play a big part in leading or responding to digital change at HBSC. This planned methodology helped the research get a more nuanced and functionally diversified picture of how digitization is changing leadership throughout the business.

3.8 Validity and Reliability

To make the research tool was of high quality and trustworthy, a lot of work was done to make sure it was both valid and reliable. The research adviser looked over the questionnaire first. Their expert opinion helped make sure that each question was clearly related to the study's goals and theoretical framework. A pilot test was done before full deployment. A small group of people filled out the questionnaire and gave input on how clear, well-worded, and relevant the items were. Based on what they said, a few questions were changed to make them clearer and more relevant to the Ethiopian brewing business.

Cronbach's alpha, a statistical measure, to check the questionnaire's internal consistency and reliability. According to established psychometric rules (Nunnally & Bernstein, 1994), an alpha value of at least 0.70 was acceptable. All of the components in this study were over that threshold, which means that the items consistently measured the notions they were supposed to evaluate about digitalization and leadership effectiveness.

The following table outlines how Cronbach's Alpha values are typically interpreted:

- $\alpha \geq 0.9$ = Excellent
- $0.8 \leq \alpha < 0.9$ = Good
- $0.7 \leq \alpha < 0.8$ = Acceptable
- $0.6 \leq \alpha < 0.7$ = Questionable
- $\alpha < 0.6$ = Poor

According to the results from SPSS provided in table 3.2, the questionnaire was both valid (it precisely measured what it was supposed to) and reliable (it consistently got the answers needed for meaningful analysis).

Table 3.2 Reliability of Thematic Indicators

Indicator	Number of Items	Cronbach' s alpha	Interpretation
Use of Digital Tools on Decision making (like SAP, Power BI)	5	0.766	Acceptable
Digital Communication & Coordination	2	0.703	Acceptable
Digital Competencies of Leaders	4	0.768	Acceptable
Organizational Readiness & IT Infrastructure	3	0.883	Good
Digital Leadership effectiveness	16	0.776	Acceptable
Over all	30	0.856	Good

SPSS Result Computed output (2025)

3.9 Data Presentation and Analysis Method

In this study, quantitative data was collected from a survey questionnaire. The questionnaire was produced after a thorough assessment of the relevant literature, further improved by experts. And then leadership team at Heineken Brewery Share Company (HBSC) filled out the questionnaire, and finally the answers were analyzed using SPSS version 25.

The researcher used descriptive statistics like means, frequencies, and standard deviations to summarize the demographic information of the respondents and show patterns in the variables of interest. And a Pearson correlation matrix to look at the connections between different aspects of digitalization, such as digital tools for decision-making, digital skills, digital communication and coordination, and organizational IT readiness and leadership effectiveness. The researcher also used multiple regression analysis to see how these factors, like using digital tools, getting support

from the organization, and having employees with digital skills, predicted leadership effectiveness.

A document review was also done to reinforce the quantitative findings. This qualitative part followed the steps described by Bowen (2009) and Flick (2018), who stress how important document review is in mixed-methods research. The researcher looked at internal papers, including leadership development plans, digital transformation progress reports, strategic blueprints, and employee feedback on digital efforts, to get more context and proof. This mixed-methods approach helped the researcher to get a better understanding of how digitization is changing the way leaders work at HBSC.

3.10 Ethical Considerations

This study followed the ethical guidelines for academic research that involves people. And aware of the study's aim, their role, and their right to leave at any time without any consequences or obligations. Before collecting data, participants gave their consent, and they were to choose. And also, not pressured, given incentives, or forced to take part in the study. No personal information was collected, and responses were kept private and secret to protect the privacy of the people. The data was collected was kept safe and utilized for academic purposes relating to this study. The researcher was the one saw the data and was given access to it. These ethical rules were to insure participants give honest and thoughtful answers in a safe and trustworthy setting, knowing that their privacy is protected and the research is done honestly.

CHAPTER FOUR

FINDINGS AND DISCUSSION

Introduction

This chapter presents the results of the study, focusing on digitalization influences leadership effectiveness at Heineken Brewery Share Company (HBSC) in Ethiopia. The chapter starts with the response rate and demographic profile of the respondents, followed by descriptive statistics on key digitalization dimensions: use of digital tools, leadership competencies, communication and coordination, and organizational IT readiness. And, further analyzes the relationship between these variables and leadership effectiveness using correlation and regression techniques. To strengthen and contextualize the findings, qualitative insights from internal document reviews are incorporated. This integrated approach offers a comprehensive understanding of digital transformation in shaping leadership practices at HBSC.

4.1 Sample and Response Rates

63 questionnaires were distributed to the leadership of HBSC; 58 were returned, resulting in a response rate of 92.06%. Upon review, all 58 returned questionnaires were valid for statistical analysis. And questionnaires were included in the final data analysis.

Table 4.1. Response Rate

Target Population	63
Responses Collected	58
Response Rate	92.06%
Non-Returned Responses	5.0
Non-Returned Responses Rate	7.94%
<i>Source: SPSS Computed output (2025)</i>	

4.2 Respondents Demographic Information

This section presents the demographic characteristics of the 58 respondents who participated in the survey at Heineken Brewery Share Company (HBSC). Understanding the respondents' backgrounds provides for interpreting the results regarding their experience, role, and digital exposure within the organization.

Table 4.2: Demographic Characteristics of Respondents

Demographic Characteristic	Category	Frequency	Percent	Cumulative Percent
Gender	Male	46	79.30%	79.30%
	Female	12	20.70%	100%
Age group	18–25	6	10.34%	10.34%
	26–35	37	63.79%	74.14%
	36–45	13	22.41%	96.55%
	>46	2	3.45%	100%
Education Level	Bachelor's Degree	29	50.00%	50.00%
	Master's Degree	29	50.00%	100.00%
Years of Experience in Brewing	1–5 years	26	44.80%	44.80%
	6–10 years	21	36.20%	81.00%
	11–15 years	10	17.20%	98.30%
	> 15 years	1	1.70%	100.00%
Current Position in the Company	Top Management	4	6.90%	6.90%
	Mid-Level Management	42	72.41%	79.31%
	Team Leader	12	20.69%	100.00%
Department	Supply Chain Management	12	20.69%	20.69%

	Sales	9	15.50%	36.19%
	Marketing	8	13.80%	49.99%
	Information Technology (IT)	5	8.60%	58.59%
	Corporate Relations/Public Affairs	3	5.20%	63.79%
	Human Resources	6	10.34%	74.14%
	Finance	13	22.41%	96.55%
	Legal Management	2	3.45%	100.00%
Total		58	100%	100%

SPSS Computed output (2025)

The above Table 4.2 shows the demographic profile reflects a male workforce (79.3%), it is consistent with industry trends in manufacturing and brewing. A proportion of respondents (63.8%) fall within the 26–35 age group, indicating a youthful workforce which is digitally literate and adaptable to technological changes. This aligns with the ratings observed in digital leadership competencies and the positive outlook on future digital leadership.

In terms of educational qualifications, the respondents hold either a bachelor's (50.00%) or master's degree (50.00%), suggesting an educated workforce capable of understanding and engaging with digital tools and platforms.

Regarding experience in the brewing industry, a combined 81.0% of respondents have between 1 and 10 years of experience, representing a balance between familiarity with organizational processes and openness to innovation. These attributes may contribute to the organization's adaptive capacity as emphasized in adaptive leadership theory.

The majority of respondents are in mid-level management (72.41%) or team leadership positions (20.69%), placing them in operational roles that engage with digital tools and decision-making processes. And their feedback in evaluating the practical impact of digitalization on leadership effectiveness.

Finally, respondents are from diverse departments, including finance (22.41%), supply chain (20.69%), and sales (15.50%), ensuring a comprehensive organizational representation. 8.6% are from IT, indicating insights from technical experts as well. This diversity enhances the credibility of the data and provides a holistic view of digitalization's impact across HBSC.

4.3 Descriptive Statistics for Dimension of Digitalization with respect Leadership

To explore how digitalization influences leadership effectiveness at Heineken Brewery Share Company (HBSC), participants in leadership roles were asked to indicate their level of agreement with a series of statements related to four thematic areas. These themes included:

digital tools on decision-making, digital competencies of leader, digital communication and coordination, organization's IT infrastructure readiness.

The data analyzed using descriptive statistics, mean and standard deviation to identify the trends and patterns across each dimension.

Based on the classification criteria proposed by (Zaidation and Bagheri, 2009), a mean score:

- Below 3.39 is considered low,
- Between 3.40 to 3.79 is considered moderate,
- Above 3.80 is considered high.

The descriptive results are presented in the following tables, each corresponding to one of the four dimensions. The tables illustrate how HBSC's leadership team perceives the organization's digital practices and how these practices relate to effective leadership in the digital era.

4.3.1 Descriptive Statistics use of digital tools on decision-making

This section explores the role of digital tools and technologies in enhancing leadership decision-making.

Table 4.3 Use of digital tools on Decision-Making

Item	Mean	Std. Deviation
Digital tools used by HBSC have improved leadership decision-making	4.53	0.569
As Leader in HBSC, I use real-time data and dashboards for strategic decisions	4.43	0.565
AI and Big Data enhance decision-making in HBSC	4.29	0.701
Digital tools used by HBSC have improved leadership transparency and accountability.	4.31	0.730
In HBSC Cross-functional collaboration has improved	4.48	0.504

Average	4.41	0.62
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SPSS Result Computed output (2025)

The findings in Table 4.3 indicate agreement among HBSC’s leadership team regarding the positive influence of digital tools on decision-making processes. The highest-rated item, digital tools used by HBSC have improved leadership decision-making,(mean= 4.53, SD = 0.569), suggesting leaders widely recognize the strategic value of digital technologies in enhancing decision quality.

The item on the cross-functional collaboration has improved and scored (mean= 4.48,SD = 0.504), digital tools are also seen as enablers of team coordination and interdepartmental communication. And The use of real-time dashboards for decision-making (mean = 4.43) and improved transparency and accountability (mean = 4.31) emphasize the role of digital systems in supporting clear, informed, and timely leadership actions.

And also, item on the impact of AI and Big Data (mean = 4.29, SD = 0.701) reflects a positive perception, though with variability due to differing levels of access or familiarity with advanced analytics tools. Overall, the average scores across all five items fall within the range of the average mean of 4.41 (mean > 3.80), indicating that data-driven decision-making is a core strength of HBSC’s digital leadership practice

4.3.2 Descriptive Statistics Digital Competencies of leader

In this section evaluates the digital skill leadership capacity for digital transformation.

Table 4.4 Digital Competencies of leader

Item	Mean	Std. Deviation
HBSC Leaders show strong digital skills and adaptability	4.26	0.548
Leaders in HBSC promote innovation and tech responsiveness	4.52	0.599
HBSC Leaders champion culture of digital transformation initiatives	4.50	0.682

A digital culture is promoted across the HBSC employees and external third party stakeholders	4.31	0.706
Average	4.4	0.634

SPSS Result Computed output (2025)

The responses in Table 4.4 employees at Heineken Brewery Share Company (HBSC) see their leaders as digitally competent and forward-thinking. People agreed in HBSC leaders are adaptable and skilled in using digital tools (mean = 4.26), And they encourage innovation and responsiveness to new technologies, the highest-rated aspect, with a mean of 4.52. Leaders are seen as champions of digital transformation efforts (mean = 4.50), which suggests that they're not talking about change but actually leading it. And promoting a digital culture among employees and even external partners also received positive feedback (mean = 4.31), opinions here were mixed. Overall, the results show a strong confidence in HBSC's leadership when it comes to navigating the digital age, though there is still room to strengthen how this culture is shared across and beyond the company.

4.3.3 Descriptive Statistics Digital communication and Coordination

This section explores how digital communication is making people work together.

Table 4.5 Digital communication and Coordination

Item	Mean	Std. Deviation
Digital Tools used by HBSC support collaboration and teamwork	4.55	0.502
Digital transformation in HBSC has enhanced teamwork and collaboration	4.62	0.524
Average	4.59	0.513

SPSS Result Computed output (2025)

The results in Table 4.5 show digital communication at Heineken Brewery Share Company (HBSC) is making a real difference in people work together. Employees strongly agree digital transformation has boosted collaboration and teamwork, with high marks for it has enhanced overall teamwork (mean = 4.62) and the digital tools support collaboration (mean = 4.59). The low variation in responses shows people feel the same way, pointing to a shared positive experience. In short, it's clear that HBSC's efforts to improve digital communication are paying off, helping teams connect easily and work together effectively.

4.3.4 Descriptive Statistics Organization's IT infrastructure readiness

This section investigate Organization's IT infrastructure readiness for digital transformation.

Table 4.6 Organizational Readiness & IT Infrastructure

Item	Mean	Std. Deviation
In HBSC big digital infrastructure costs hinder the progress in digitalization	3.24	1.368
Limited Digital and Technology capacity in terms of knowledge slow down digital leadership progress of HBSC.	2.93	1.449
Integrating digital platforms is challenging process for effective leadership in HBSC	2.97	1.376
Average	3.05	1.398

SPSS Result Computed output (2025)

As shown in Table 4.6, the responses reflect moderate to low levels of agreement, suggesting areas of concern or limitation. In HBSC, digital infrastructure costs hinder the progress in digitalization receiving a mean score of 3.24 (SD = 1.368); a considerable number of leaders perceive cost as a significant barrier to scaling digital infrastructure. And the items on the Limited digital and technology capacity in terms of knowledge slows digital leadership progress (mean = 2.93, SD = 1.449). And additionally, the item integrating digital platforms is a challenging process for effective leadership (mean = 2.97, SD = 1.376), both below the moderate

threshold of 3.40, reflecting low agreement and potentially pointing to skills gaps, integration issues, or lack of readiness at the organizational level.

These findings on leadership at HBSC embracing digital tools and practices at the individual level, but the broader IT infrastructure is not fully equipped to support widespread digital transformation. As a result, challenges related to cost, system integration, and internal technical capacity to be addressed to ensure a smoother and more effective transition to a digitally mature organization.

4.4 Descriptive Statistics for Digital Leadership Effectiveness

To assess the perceptions of digital leadership effectiveness at Heineken Brewery Share Company (HBSC), sixteen survey items were administered to members of the leadership team. The items measured digitalization's influence on leadership practices, the use of data, innovation, employee confidence, professional development, and readiness for future technological advancement.

Table 4.7 presents the descriptive statistics, mean scores, standard deviations, and ranks on the perceived leadership effectiveness of each item.

Table 4.7 Descriptive Statistics for Digital Leadership Effectiveness

Item	Mean	Std. Deviation	Rank
Resistance to technological change management is a barrier for HBSC.	3.03	1.414	16
Cybersecurity concerns in HBSC affect leadership trust and certainty.	3.45	1.314	15
HBSC employees receive sufficient digital training and support.	4.29	.773	14
Digitalization has increased overall job satisfaction in HBSC.	4.36	.667	13
The leadership in HBSC communicates the	4.36	.613	12

benefits of digital change.			
HBSC deployed a dedicated team leads in the digital initiatives of the company.	4.40	.815	11
In HBSC digital training is available for leadership development.	4.47	.681	10
Emerging technologies will reshape leadership effectiveness in HBSC.	4.48	.569	9
Leaders in HBSC encourage a digital-first company culture.	4.48	.599	8
Digitalization has improved daily work efficiency in HBSC.	4.60	.528	7
HBSC has a clear digital transformation strategy.	4.62	.489	6
Digital tools used by HBSC have positively impacted professional development.	4.62	.524	5
HBSC invests in future-ready digital solutions.	4.66	.579	4
The leadership in HBSC is committed to continuous digital improvement.	4.67	.473	3
I feel confident using digital tools in my role in HBSC.	4.72	.488	2
Digital leadership will drive future competitiveness of HBSC.	4.76	.432	1

SPSS Result Computed output (2025)

The descriptive results show employees at HBSC hold a positive perception of digitalization and leadership effectiveness. The highest-rated items “Digital leadership will drive future competitiveness of HBSC” (mean = 4.76) and “I feel confident using digital tools in my role” (mean = 4.72), indicating confidence in leadership’s digital vision and employees’ competence. Leadership commitment to continuous digital improvement, investment in future-ready digital solutions, and a clear transformation strategy also ranked highly. Conversely, the lowest-rated

items were “Resistance to technological change management” (mean = 3.03) and “Cybersecurity concerns affect leadership trust and certainty” (mean = 3.45), highlighting barriers require attention.. The findings suggest that HBSC leadership demonstrates effectiveness in embracing digital tools and strategies, although resistance to change remains a challenge.

4.5 Relationship between Digitalization and Digital Leadership Effectiveness

4.5.1 Pearson Correlation Analysis

Pearson Correlation Analysis, a statistical method to examine the strength and direction of the relationship between two continuous variables. This technique provides a correlation coefficient, denoted by r , ranging from -1 to +1. A coefficient closer to +1 indicates a strong positive relationship, meaning as one variable increases, the other tends to increase as well. Conversely, a coefficient closer to -1 suggests a strong negative relationship, implying one variable increases as the other decreases. A value near zero indicates little to no linear relationship between the variables.

The interpretation of the correlation coefficient values used in this study is presented in Table 4.8.

Table 4.8: Interpretation of Correlation Coefficient Values

Correlation Coefficient (r)	Strength and Direction of Relationship
-1.00	Perfect Negative Relationship
Less than -0.70	Strong Negative Relationship
-0.30 to 0.00	Moderate to Weak Negative Relationship
0.00	No Relationship
0.00 to 0.30	Weak Positive Relationship
0.30 to 0.70	Moderate (Normal) Positive Relationship
0.70 to 1.00	Strong Positive Relationship
+1.00	Perfect Positive Relationship

Source: Adapted from Peter (2014)

This correlation framework guided the interpretation of relationships between the variables of digitalization and leadership effectiveness in this study.

4.5.2 Pearson Correlation

To explore the relationships between digitalization dimensions and digital leadership effectiveness at Heineken Brewery Share Company (HBSC), a Pearson correlation analysis was conducted. This statistical technique helps determine the strength and direction of linear relationships between variables.

The key variables examined include:

- Use of digital tools for decision-making
- Leaders' digital competencies
- Digital communication and coordination
- Organizational IT readiness
- Perceived digital leadership effectiveness

Table 4.9. Pearson Correlation analysis for variables

Correlations						
		1	2	3	4	5
Use of digital tools on decision making	Pearson Correlation	1				
	Sig. (2-tailed)					
Digital competencies	Pearson Correlation	.549**	1			
	Sig. (2-tailed)	.000				
Digital communication and coordination	Pearson Correlation	.572**	.648**	1		
	Sig. (2-tailed)	.000	.000			
Organizational IT readiness	Pearson Correlation	-.043	-.053	-.017	1	
	Sig. (2-tailed)	.749	.693	.897		
Digital leadership	Pearson Correlation	.391**	.454**	.563**	.441**	1
	Sig. (2-tailed)	.002	.000	.000	.001	
**. Correlation is significant at the 0.01 level (2-tailed).						

SPSS Result Computed output (2025)

The results are summarized digital tools for decision-making and digital leadership ($r = 0.391$, $p < 0.01$): There is a positive and statistically significant relationship. Leaders use digital tools for strategic decisions tend to demonstrate leadership effectiveness.

Digital competencies and digital leadership ($r = 0.454$, $p < 0.01$) show a positive correlation found which implies leaders with digital skills and adaptability are effective in navigating digital transformation.

Digital communication and coordination and digital leadership ($r = 0.563$, $p < 0.01$) also show relationship is statistically significant, indicating effective digital communication and coordination tools enhance leadership performance within HBSC.

Organizational IT readiness and digital leadership ($r = 0.441$, $p < 0.01$): A positive correlation was observed. This highlights a supportive digital infrastructure in strengthening leadership capabilities.

The interrelationships among the predictors that digital tools, competency, and communication are strongly interconnected. Digital competency is positively correlated with digital tools ($r = .549$, $p < .001$), digital communication ($r = .648$, $p < .001$), and digital tools are positively correlated with communication ($r = .572$, $p < .001$). These findings suggest leaders are digitally competent tend to use tools effectively, in turn enhances communication and coordination across the organization. Notably, digital IT readiness does not show significant correlations with tools, competency, or communication, implying that IT readiness independently supports leadership effectiveness, it is not directly linked to these individual capabilities in this sample. Implying infrastructure is important but does not directly influence individual digital behaviors.

The findings from the correlation analysis on digital tools, digital skills, and effective communication platforms are significantly associated with digital leadership effectiveness at HBSC. These results underscore the role digitalization plays in enhancing modern leadership practices when aligned with individual competencies and organizational support systems.

4.6 Regression Analysis

Regression analysis was employed in this study to examine the extent to which digitalization-related factors influence leadership effectiveness at Heineken Brewery Share Company (HBSC). As a widely used statistical method, regression allows researchers to evaluate the predictive power of one or more independent variables on a dependent variable (Field, 2013). Given that multiple linear regression can yield reliable results with a minimum sample size of 36 (Green, 1991), the available sample size of 58 in this study was deemed adequate.

This analysis was useful for assessing the dimensions such as the use of digital tools, communication and coordination, leadership competency, and IT readiness that collectively and individually contribute to explaining variations in digital leadership effectiveness. The findings offer quantitative evidence of the relationships between digitalization practices and digital leadership outcomes, supporting the objective of understanding the transformative role of digital technology in organizational leadership.

4.6.1 Multicollinearity Test

Before conducting regression analysis, it is important to examine whether multicollinearity exists among the independent variables. Multicollinearity occurs when two or more independent variables in a regression model are highly correlated, which distorts the estimation of regression coefficients and the model's predictive validity (Hair et al., 2014). This issue can arise when one variable is strongly associated with another or with a combination of several others (Paul, 2004). To assess multicollinearity in this study, two diagnostic indicators were used: tolerance and the variance inflation factor (VIF). Tolerance indicates how much of the variability in an independent variable is not explained by the other variables in the model. VIF is the reciprocal of the tolerance value and measures the degree to which the variance of a regression coefficient is inflated due to multicollinearity.

As per standard thresholds:

Tolerance values should be ≥ 0.10 , and

VIF values should be ≤ 10.0 to indicate the absence of multicollinearity concerns.

Table 4.10 Multicollinearity of Variables

		Coefficients^a						
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
Model		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.663	.393		4.228	.000		
	Use Digital tools on decision	.072	.095	.091	.758	.452	.617	1.621
	Digital competencies	.126	.094	.174	1.349	.183	.530	1.886
	Digital communication & coordination c	.307	.104	.390	2.962	.005	.509	1.964
	Organization IT readiness	.126	.027	.447	4.729	.000	.991	1.009

a. Dependent Variable: Digital Leadership Effectiveness

SPSS Result Computed output (2025)

Multicollinearity Diagnosis

The multicollinearity test, as shown in Table 4.10, the degree of intercorrelation among the independent variables. All Variance Inflation Factor (VIF) values below the commonly accepted threshold of 10, indicating no multicollinearity issues. VIF values ranged from 1.009 to 1.964, and the corresponding tolerance values were all above 0.1, these confirming the absence of multicollinearity concerns.

4.6.2. Coefficients

The multiple regression analysis was conducted to examine the impact of various digitalization dimensions on leadership effectiveness. The model includes four independent variables: digital tools for decision-making, digital competencies, digital communication and coordination, and organizational IT readiness, with leadership effectiveness as the dependent variable.

Digital Tools for Decision-Making: The coefficient is positive ($B = 0.072$), suggesting a positive relationship with leadership effectiveness. However, this relationship is not statistically significant ($p = 0.452$), indicating digital tools alone do not predict leadership outcomes.

Digital Competencies show a positive on leadership effectiveness ($B = 0.126$, $p = 0.183$). This implies that leaders with digital skills and competencies lead effectively in a digital environment.

Digital Communication and Coordination: The coefficient for Digital Communication and Coordination is $B = 0.307$, $p = 0.005$, highlighting that effective digital communication and collaboration systems enhance leadership performance.

Organizational IT Readiness: Presents the strongest among all predictors ($B = 0.126$, $p < 0.001$). Despite its smaller unstandardized coefficient, the standardized coefficient ($Beta = 0.447$) suggests that organizational readiness in terms of IT infrastructure contributes to leadership effectiveness.

4.6.3 Multiple Regression Analysis

To assess the combined effect of digitalization-related variables on leadership effectiveness, a multiple regression analysis was conducted. This analysis examined how well the independent variables digital tools for decision-making, digital competencies, digital communication and coordination, and organizational IT readiness explain variations in leadership effectiveness.

4.6.3.1 Model Summary

The model summary of the correlation coefficient (R) of 0.729, indicating a positive relationship between independent variables and leadership effectiveness. The R-Squared value of 0.531 implies 53.1% of the variation in leadership effectiveness is explained by the four predictors included in the model. The adjusted R-Square, which accounts for the number of predictors and sample size, is 0.496, confirming the model's explanatory power and minimizing the risk of overfitting. Additionally, the Standard Error of the Estimate (0.25139) reflects the average deviation of observed values from the predicted ones, suggesting a reasonably tight fit of the model.

Table 4.11. Regression Analysis of Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.729 ^a	.531	.496	.25139

Predictors: (Constant), digital tools for decision-making, digital competencies, digital communication and coordination, and organizational IT readiness.

SPSS Result Computed output (2025)

4.6.3.2. Anova Table

Table 4.12. Anova Table

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.795	4	.949	15.012	.000 ^b
	Residual	3.350	53	.063		
	Total	7.114	57			

a. Dependent Variable: Leadership Effectiveness

b. Predictors: (Constant), digital tools for decision-making, digital competencies, digital communication and coordination, and organizational IT readiness

SPSS Result Computed output (2025)

The ANOVA (Analysis of Variance) table 4.12 evaluates the regression model and provides a statistical fit to the data. The F-value is 15.012, and the corresponding p-value is .000, which is less than the standard level of 0.05. This result indicates the overall regression model is statistically significant, and the combination of digitalization variables has a meaningful and reliable effect on leadership effectiveness.

These results suggest that the model is statistically sound and explains a substantial portion of leadership effectiveness at Heineken Brewery Share Company. The predictors, particularly

organizational IT readiness and digital communication practices, are effective in explaining differences in leadership outcomes within a digitally transforming organizational context.

4.6.4 Hypothesis Testing

In this study, hypothesis testing was conducted using the standardized beta coefficients (β) and p-values obtained from the multiple regression analysis. These values help to determine if each hypothesis is supported by the data.

Hypothesis 1 (H_1): Digital tools have a significant positive relationship with leadership effectiveness at Heineken Brewery Share Company.

The analysis showed a positive beta coefficient for digital tools ($\beta = 0.091$), but the p-value is greater than 0.05 ($p = 0.452$), indicating that the result is not statistically significant.

H_1 is not supported. Digital tools contribute positively, but the impact on leadership effectiveness is not enough to be considered statistically significant in the model.

Hypothesis 2 (H_2): Digitalization significantly shapes the roles and responsibilities of leaders, thereby improving leadership effectiveness.

The beta coefficient for digital communication and coordination, a component of leadership role transformation, was 0.390 with a p-value of 0.005. This is statistically significant at the 0.05 level.

H_2 is supported. Digitalization transforms communication and collaboration significantly enhances leadership effectiveness.

Hypothesis 3 (H_3): Leaders who adopt adaptive digital strategies are successful in overcoming digital transformation challenges at HBSC.

The variable representing organizational IT readiness (a proxy for adaptive strategies) showed a strong and statistically significant relationship with leadership effectiveness ($\beta = 0.447$, $p < 0.001$).

H₃ is strongly supported. Leaders who adapt and align with digital infrastructure are significantly effective in managing digital transformation challenges.

4.7 Qualitative Findings from Document Review at HBSC

To complement the quantitative survey findings, a review of internal documents from Heineken Brewery Share Company (HBSC) was conducted. This qualitative analysis provides the company's digital practices, leadership strategies, and organizational readiness in the context of digital transformation.

The reviewed documents included:

- HBSC digital roadmap (2023–2025)
- Internal Leadership Strategy Report (2023)
- Digital Capability Assessment Report (2024)
- Employee Feedback Summaries on Digital Tool Usage (2024)
- Infrastructure Audit Report (2024)

These documents offered valuable context on how HBSC is navigating its digital journey and how leadership is responding to the challenges and opportunities of digitalization.

a) Digital Tools in Leadership Practices

The Digital Transformation Roadmap outlined HBSC's investment in tools such as Power BI, SAP-based analytics platforms, and digital dashboards, improving decision-making efficiency. And the same document acknowledged uneven adoption across departments at the middle management level due to varying levels of digital literacy and limited hands-on training. This supports the survey finding and digital tools associated with leadership effectiveness, but the impact is not statistically significant ($\beta = 0.091$, $p = 0.452$). It suggests that tools alone do not yield strong leadership outcomes without adequate user engagement and support systems.

b) Leadership Competency and Development Initiatives

The Internal Leadership Strategy Report revealed that HBSC has launched leadership development programs with digital competency components. These include short-term workshops and peer-learning sessions for senior managers. These programs for lower and mid-level leaders remain limited, potentially contributing to inconsistent digital leadership across the company.

This qualitative insight aligns with survey responses indicating a gap in digital leadership capacity, reinforcing the idea that leadership effectiveness in a digital context depends on tools and the skills and preparedness of leaders at all levels.

c) Organizational IT Readiness

The IT Infrastructure Audit Report showcased HBSC's progress in upgrading core systems and integrating enterprise software. These efforts indicate technical readiness; employee feedback reports expressed concern over the lack of accessible digital support, delays in resolving system issues, and limited user training. This discrepancy between infrastructure and user experience explains the correlation between organizational IT readiness and leadership effectiveness a weak and statistically insignificant ($r = -0.017$, $p > 0.05$). It highlights the importance of the systems in place and ensures the usability and supportiveness of day-to-day leadership functions.

d) Communication and Change Management

The review of employee feedback documents revealed top-level communication around digital transformation improved, but it often remains hierarchical and one-directional. Leaders reported feeling under-informed; digital changes affect the roles and responsibilities, leading to resistance or disengagement.

This observation provides context for survey findings indicating moderate challenges in communication and change management during the digital transition. It underscores the need for participatory approaches to digital leadership to foster innovation and engagement.

And the document review offers valuable confirmation and context for the survey-based results. HBSC has made commendable strides in digital investment and strategic planning; however, the effectiveness of these initiatives appears constrained by gaps in digital competencies, communication practices, and user engagement. These findings reinforce the broader conclusion of digital tools not being sufficient to ensure effective leadership. Instead, a holistic approach combining tools, training, communication, and inclusive leadership is essential for realizing the full benefits of digital transformation.

4.8 Discussion of Findings

This section discusses the main findings of the study in relation to the research objectives, hypotheses, and the broader literature on digitalization and leadership. The aim is to interpret the numerical trends and statistical results and the insight into the meaning behind them in light of the qualitative insights obtained from internal documents at Heineken Brewery Share Company (HBSC).

4.8.1 Digital Tools and Leadership Effectiveness

The first hypothesis said that digital tools have a significant positive relationship with leadership effectiveness at Heineken Brewery Share Company. The regression analysis found a positive beta value ($\beta = 0.091$); the link was not statistically significant ($p = 0.452$). This means digital technologies help with leadership tasks; their effects alone are not powerful enough to make a statistically sound prediction about how well a leader would do.

This conclusion means having access to digital tools doesn't always make someone a better leader. The HBSC Digital Transformation Roadmap and Employee Feedback Reports show that products like Power BI and SAP dashboards can't be used strategically since they aren't being used consistently and there isn't enough training. These problems are similar to what has already been said about how digital technologies need to be used in a supportive leadership context to be useful (Westerman et al., 2014; Kane et al., 2019). So, digital technologies are vital, they aren't enough on their own without the right skills and alignment inside the business.

This finding reflects the reality that digital tools alone do not automatically lead to effective leadership. The HBSC Digital Roadmap and Employee Feedback Reports, inconsistent adoption,

and a lack of adequate training limit the strategic use of tools such as Power BI and SAP dashboards. These challenges echo existing literature emphasizing that digital tools are embedded in a supportive leadership environment to create real value (Westerman et al., 2014; Kane et al., 2019). Therefore, digital tools are necessary, they are not sufficient without corresponding competencies and organizational alignment.

4.8.2 Digital Leadership Competencies and Team Engagement

The second hypothesis proposed that leaders with higher digital competencies demonstrate greater team engagement and innovation. The regression results showed a positive but statistically non-significant relationship between digital competency and leadership effectiveness ($\beta = .174, p = .183$). This suggests digitally skilled leaders contribute to navigating technological change and creating environments that empower and involve teams, the independent effect of digital competency is not strong enough to reach statistical significance when other factors such as communication and IT readiness are considered. Nevertheless, the positive direction of the coefficient aligns with theoretical expectations and prior empirical studies that highlight the role of leadership competencies in supporting digital transformation.

And, this finding aligns with the adaptive and transformational leadership theories that underpin this study. Leaders with digital fluency inspire others, adapt to change, and communicate vision (Northouse, 2016; Bass, 1990). The HBSC Leadership Strategy Report further supports this, noting improvements in team collaboration and decision-making among digitally trained managers. And, the report also highlights that such competencies are concentrated at the senior level, leaving gaps in leadership quality at other layers of the organization. Bridging this gap enhances overall leadership effectiveness.

4.8.3 Organizational IT Readiness and its Influence

Contrary to expectations, the third hypothesis, which proposed that organizational IT readiness moderates the relationship between digital tools and leadership effectiveness, was not supported. The correlation between IT readiness and leadership effectiveness was weak and statistically insignificant ($r = -0.017$).

This result suggests a disconnect between the technical infrastructure and its effective utilization in leadership practice. According to the IT Infrastructure Audit Report, while HBSC has made considerable progress in system upgrades and integration, challenges remain around end-user accessibility, technical support, and digital inclusion across all leadership levels. This gap between infrastructure and application mirrors findings by Vial (2019), who argues that digital transformation requires both technology and people to evolve in tandem.

4.8.4 Communication and Change Management Gaps

The qualitative findings revealed communication barriers within HBSC's digital transformation efforts. Top-level leaders are actively engaged and informed; many mid-level managers and frontline employees reported feeling excluded from the transformation narrative. This limits alignment and explains why certain digital strategies fail to gain traction.

This observation is consistent with Goleman's (2000) emotionally intelligent and communicative leaders in organizational change. And the lack of two-way communication challenges the adaptive leadership principle of engaging stakeholders in problem-solving. Addressing this gap strengthens digital leadership outcomes and helps build a culture of trust and innovation.

4.8.5 Integrating Quantitative and Qualitative Insights

The integration of survey data with document review findings provides a complete picture. The quantitative data identified relationships exist, and the qualitative insights explain why the expected results do not reach statistical significance. For instance, the positive yet non-significant relationship between digital tools and leadership effectiveness becomes clearer when considering the lack of training and uneven adoption documented internally.

This complementary use of mixed methods underscores digital transformation and leadership. And success depends on adopting new technologies and cultivating the right leadership mindset, communication habits, and organizational support systems.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

5.1 Summary of Key Findings

The goal of this study was to look into digitalization making leaders effective, with a focus on the Heineken Brewery Share Company (HBSC) in Ethiopia. Both quantitative data from questionnaires and qualitative data from reviews of internal documents are used to figure out how digital tools, leadership skills, organizational readiness, and good leadership practices are related. The main findings are summarized below based on the hypotheses and thematic areas:

1. Digital Tools and Leadership Effectiveness

The quantitative analysis showed a positive beta value ($\beta = 0.091$), which means that using digital tools is linked to leadership. The p-value ($p = 0.452$), on the other hand, was higher than 0.05, which means the result was not statistically significant. The qualitative results showed the same trend; however, even though HBSC has spent money on dashboards like Power BI and ERP platforms, they are not always used effectively by middle managers. This means that digital technologies alone are not enough to become a good leader.

2. Digital Leadership Competencies and Team Outcomes

The findings showed leaders are better at using technology tend to get their teams involved, communicate effectively, and encourage innovation ($\beta = 0.174$, $p = 0.183$). The relationship was not statistically significant, however the positive direction of the coefficient of digital competency plays an enabling role in fostering engagement and creativity. This aligns with the prior research which highlight the importance of technologically skilled leaders in managing change, motivating staff, and driving innovation in digital contexts. Internal reports from HBSC support this perspective, noting that leadership development programs increasingly emphasize digital skills, even though current efforts remain concentrated on senior management.

3. Organizational IT Readiness as a Moderating Factor

It was thought that organizational IT readiness would have a big effect on the link between digital tools and leadership effectiveness, but it didn't. There was a weak and not statistically significant link between IT readiness and leadership results ($r = -0.017$). This was backed up by reports from employees that pointed out problems with usability, a lack of training, and insufficient technical support, even though the infrastructure had been updated.

4. Leadership Communication and Change Management

The document evaluations and the survey responses showed that there are gaps in communication, and digital transformation strategies are shared among executives. Top management focuses on strategic goals, but lower-level executives and teams don't feel connected to the digital vision, which makes it harder to get people on board and put it into action.

5.2 Conclusion

This study set out to understand how digitalization influences leadership effectiveness at Heineken Brewery Share Company (HBSC) in Ethiopia. The findings show digital tools and systems are important; their true value depends on people, skills, and organizational readiness. Digital transformation means introducing new technologies and preparing leaders and teams to use those technologies in meaningful ways.

General Objective: Understanding the role of digitalization on leadership effectiveness

The research found that implementing digitalization using digital tools like dashboards and enterprise platforms supports leadership work but is not enough on their own to guarantee effective leadership. And the tools are helpful for data access and decision-making; they don't automatically lead to better outcomes unless leaders know how to use them and apply them strategically. This confirms what other researchers have found: that technology must be paired with the right human capabilities (leader digital skill) to make a difference.

Objective 1: To explore what digital tools and methods leaders at Heineken Brewery Share Company (HBSC) use in their daily work.

The study shows HBSC leaders' use of digital tools and platforms in daily routines, including SAP S/4HANA, Power BI dashboards, and digital platforms for legal, HR, payroll, procurement, and logistics functions. In real-time decision-making, performance monitoring, and cross-functional coordination. And data dashboards for visibility in supply chain performance, sales, and customer engagement. In addition, leaders at various levels use these tools to support strategic and operational tasks, although the level of digital fluency varies across leadership tiers. Therefore, the study successfully explores and documents the digital tools and methods used by HBSC leaders in their daily work, satisfying the first research objective.

Objective 2: To find out how digitization is changing the way HBSC leaders do their jobs and how it is affecting their overall effectiveness.

Digitalization is reshaping leadership at Heineken Brewery Share Company (HBSC) by enabling data-driven decision-making, improving communication, and fostering cross-functional collaboration with the help of digital tools like Power BI, cloud platforms, and ERP systems, by shifting their roles toward strategic guidance. But the impact is uneven, with senior leaders showing more digital skills than mid-level managers. And even though IT systems are in place, inconsistent training and limited user support reduce overall effectiveness. The study shows that true digital leadership at HBSC requires not only infrastructure but also people-focused support, inclusive communication, and continuous skill development.

Objective 3: What strategic approaches have helped HBSC leaders to deal with challenges during digital transformation?

To address the objective of understanding how HBSC leaders manage challenges during digital transformation, the study found that leaders use a combination of digital tools and strategic methods. Key tools include Power BI dashboards, SAP S/4HANA, and department-specific platforms that support daily decision-making and operations.

To overcome obstacles, HBSC introduced peer-led support through digital champions, held regular tool clinics, and embedded digital practices into leadership routines. Inclusive

communication and feedback loops further helped leaders adjust strategies, making the transformation process more adaptive and effective.

5.3 Recommendations

Based on the findings and conclusions of this study, several practical and actionable recommendations are proposed to help Heineken Brewery Share Company (HBSC) strengthen leadership effectiveness in the digital age. To ensure digitalization is a technological shift and leadership and cultural transformation. This recommendation is aligned with the issues identified and considers what should be done, who should be responsible, and how it should be implemented.

1. HBSC need to build digital leadership skills across the organization

What to do: Provide structured digital leadership training to middle managers and team leaders, not top managements.

Who should lead it: The HR department in partnership with the digital transformation and IT teams.

How to implement it:

- Begin with a quick digital skills assessment to identify current gaps.
- Design practical workshops and online modules on using data tools, managing virtual teams, and digital decision-making.
- Include digital leadership as part of regular performance reviews and leadership development plans.

2. Encourage better use of existing digital tools

What to do: Improve how digital platforms like Power BI and SAP are used in day-to-day leadership.

Who should lead it: Departmental managers with support from the IT assistant team.

How to implement it:

- Assign "digital champions" within each department to guide others and answer everyday questions.
- Organize regular, hands-on "tool clinics" to troubleshoot problems and share best practices.
- Link digital tool usage to personal and team performance goals to create motivation.

3. Strengthen IT readiness with practical user support

What to do: Go beyond infrastructure and ensure leaders and teams feel supported in using digital systems.

Who should lead it: The IT department in collaboration with HR and operations.

How to implement it:

- creates a fast and user-friendly support system to resolve issues quickly.
- provides short refresher sessions after new system updates or tool rollouts.
- provides field managers and frontline supervisors with the digital access and devices they need.

4. Improve communication around digital transformation

What to do: by making the communication in digital changes inclusive, transparent, and ongoing.

Who should lead it: Corporate communications and top Leadership.

How to implement it:

- By sharing updates through regular digital newsletters, team meetings, and visual dashboards.
- By hosting quarterly town halls or virtual forums where employees can ask questions and provide feedback.

- By involving the mid-level managers early in digital planning to cascade the message and support change.

5. Make digital strategy part of everyday leadership

What to do: Embed digital transformation planning, decision-making, and leadership conversations.

Who should lead it: Top or Executive management and department heads.

How to implement it:

- Include digital targets and initiatives in department work plans and leadership goals.
- Require each team to report progress on digital adoption in their regular meetings.
- Launch small pilot projects where teams test and refine new tools with measurable results.

6. Track and learn from digital leadership progress

What to do: Regularly monitor how digital leadership efforts are working and use that feedback to improve.

Who should lead it: Strategy and Innovation unit with support from the Monitoring & Evaluation Team.

How to implement it:

- Develop an annual survey to measure digital leadership effectiveness and staff experiences.
- Track key indicators such as tool usage rates, team engagement, and innovation activity.
- Use this data to continuously improve training, systems, and leadership support.

These recommendations reflect the study's central message: digital tools are not enough. HBSC unlocks the full potential of digital transformation by investing in people, fostering open communication, and creating an environment in which digital leadership is understood, practiced, and supported at every level.

5.4 Future research suggestions

Based on the gaps identified in the literature and the findings of this study, several avenues for future research are recommended:

1. Exploring Sector-Wide Applications

Future studies expand the investigation of digital leadership beyond the brewing industry to other sectors, such as healthcare, logistics, and agriculture. For a comparative analysis of the unique challenges and practices associated with digital leadership across different organizational contexts.

2. Focusing on Middle and Operational-Level Leadership

This study concentrated on top, middle management and team leaders; future research should also consider the impact of digitalization on employees. This is because employees also play a vital role in implementing digital initiatives, and their experiences provide valuable insights into the practical aspects of digital leadership.

3. Measuring Digital Emotional Intelligence

There is a need to examine how emotional intelligence, in digital contexts, influences technology adoption and team engagement. Understanding this relationship highlights the importance of digital emotional intelligence as a mediator in virtual leadership environments.

4. Conducting Longitudinal Studies on Digital Transformation

Long-term studies track the progression of digital maturity within organizations like Heineken Brewery Share Company (HBSC) to understand how evolving digital capabilities shape leadership roles and organizational culture over time.

5. Developing a Digital Leadership Competency Model for Ethiopia

There is an opportunity to create and validate a competency framework tailored to the Ethiopian context, identifying the core digital leadership skills and attributes to drive successful digital transformation in local organizations.

6. Policy and Ecosystem Factors

Investigating government ICT policies, digital infrastructure, and national digital strategies that influence digital leadership at the organizational level provides insights into the broader ecosystem supporting or constraining digital transformation efforts.

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APPENDIX – I

Research Questions

Addis Ababa University: Department of Business Leadership

Dear Respondent,

First, I would like to thank you for your consent to give your responses for this survey questionnaire. My name is Tewodros, and I am master's program graduate candidate at Addis Ababa University, School of Commerce. This questionnaire is meant to collect primary data on the "Role of Digitization for Effective leadership". The purpose of this research is to collect relevant primary information through a structured questionnaire for the topic entitled above. It will only take 15 minutes to complete; all information collected here will be kept confidential and only be used for these purposes. Please email me through teddymail44@gmail.com for any queries.

Digitalization: refers to the integration of digital technologies into everyday business processes, significantly reshaping how organizations operate and deliver value (Brennen & Kreiss, 2016).

SECTION 1: Demographic Information

(Please select the appropriate response)

1. Gender:

☐ Male

☐ Female

2. Age Group:

☐ 18 - 25

☐ 26 - 35

☐ 36 - 45

☐ > 46 and above

3. Highest Level of Education:

☐ Bachelor's Degree

☐ Master's Degree

4. Years of Experience in the Brewing Industry:

☐ 1 - 5 years

☐ 6 - 10 years

☐ 11 - 15 years

☐ More than 15 years

5. Current Position in the Company:

☐ Top Management

☐ Mid-Level Management

☐ Team Leader

6. Department of Work:

☐ Supply Chain Management

☐ Sales

☐ Marketing

- ☐ Information Technology (IT)
- ☐ Corporate Relations/Public Affairs
- ☐ Human Resources
- ☐ Finance
- ☐ Legal Management
- ☐ Security Management

SECTION 2: Digitalization and Leadership Effectiveness

Instructions: Rate your agreement on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree).

2.1 Use of Digital Tools on Leadership Decision-Making (5 items)

6. Digital tools used by HBSC have improved leadership decision-making.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

7. As Leader in HBSC, I use real-time data and dashboards for strategic decisions.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

8. AI and Big Data enhanced leadership decision-making in HBSC.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

9. Digital tools used by HBSC have improved leadership transparency and accountability.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

10. In HBSC Cross-functional collaboration has improved through digital tools.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

2.2 Digital Competencies Leaders (4 items)

11. HBSC leaders show strong digital skills and adaptability.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

12. Leaders in HBSC promote innovation and technological update responsiveness.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

13. HBSC Leaders champion culture of digital transformation initiatives.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

14. A digital culture is promoted across the HBSC employees and external third party stakeholders.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

2.3 Digital Communication and Coordination (3 items)

15. Digital tools used by HBSC support collaboration and teamwork.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

16. Digital transformation in HBSC has enhanced teamwork and collaboration.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

17. In HBSC Cross-functional collaboration has improved through digital tools.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

2.4. Organizational IT infrastructure Readiness for Digitalization (3 items)

18. In HBSC big digital infrastructure costs hinder the progress in digitalization.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

19. Limited Digital and Technology capacity in terms of knowledge slow down digital leadership progress of HBSC.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

20. Integrating digital platforms is challenging process for effective leadership in HBSC.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

2.5 Digital Leadership (9 items)

21. Resistance to technological change management is a barrier for HBSC.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

22. I feel confident using digital tools in my role in HBSC.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

23. Digital tools used by HBSC have positively impacted professional development.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

24. Digitalization has increased overall job satisfaction in HBSC.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

25. The leadership in HBSC is committed to continuous digital improvement.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

26. Emerging technologies will reshape leadership effectiveness in HBSC.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

27. HBSC invests in future-ready digital solutions.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

28. As Leader in HBSC, I use real-time data and dashboards for strategic decisions.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

2.6 Perceptions of Digital Strategy, Culture, and Leadership Development at HBSC (9 items)

29. HBSC has a clear digital transformation strategy.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

30. Leaders in HBSC encourage a digital-first company culture.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

31. HBSC employees receive sufficient digital training and support.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

32. The leadership in HBSC communicates the benefits of digital change.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

33. HBSC deployed a dedicated team leads in the digital initiatives of the company.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

34. Digitalization has improved daily work efficiency in HBSC.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

35. Digital leadership will drive future competitiveness of HBSC.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agr

36. In HBSC digital training is available for leadership development.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

37. Cybersecurity concerns in HBSC affect leadership trust and certainty.

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree