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Master's Thesis

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THESIS

The Impact Of Digital Transformation On The Development Of Internal Training
And Its Role In Enhancing Competitive Advantages: An Applied Study Al Hayat
Medical Company In Riyadh.

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عنوان البحث

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IN THE NAME OF ALLAH
THE MOST BLESSED, THE MOST MERCIFUL

ACKNOWLEDGEMENT

‘Who does not thank people does not thank God’.

I would like to express my deepest gratitude to my husband, my true partner in life, and to my beloved child, Mayyar.

Because they were always with me and they an essential part in my MA journey, there presence and constant support have been my greatest source of strength and motivation.

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DEDICATION

From the depths of my heart, I extend my sincere gratitude and appreciation,
after the grace of Almighty Allah,

to the first teacher in my life, the one who patiently endured my mistakes and
guided me to overcome my shortcomings,

the one who believed in me and pushed me up the ladder of knowledge and
success without giving up.

The one whose prayers always accompanied my steps

To My MOTHER WAFAA.

You have always been, and will always remain, the loyal, best teacher, mother,
sister, friend, and support.

Because of the grace of Allah and then your support, I have reached where I am
today.

I dedicate my success to you, as it reflects your success in me.

أتقدم من أعماق قلبي بالشكر والامتنان بعد فضل الله سبحانه وتعالى،
الى أول معلمة في حياتي، من صبرت على هفواتي وصححت عثراتي، من أمنت بي ودفعتنني نحو سَلَمِ
العلم والنجاح دون استسلام. من كانت دعواتها ترافق خطواتي
الى أُمِّي وفاء
لقد كنتِ ومازلتِ الوفية ونِعَمَ الام، المُعلم، الاخت، الصديقة، الرفيقة، والسند
لولا فضل الله ثم فضلك لم أصل لما أنا عليه الآن
أهديك نجاحي اليوم فهو نجاحك بي.

AN ABSTRACT OF THE THESIS

In the past few decades, especially after the COVID-19 pandemic, the rate of technological advancement has accelerated dramatically. This global crisis has posed unique challenges, reshaping organizational frameworks, employee evaluation criteria, and evolving management practices. In these contexts, the transformation of businesses from analog to digital has become a necessity, and technology is no longer an option. On the other hand, it plays a pivotal role in reshaping corporate operations, human capital, efficiency, and flexibility.

Consequently, all aspects of organizational life have been impacted by the digital transformation of internal training. At the same time, traditional training systems have been insufficient to meet the demands of the contemporary workplace. Therefore, organizations have needed to shift to a technology-based training model to enable their workforces to acquire the skills needed to operate optimally in rapidly evolving environments. This is a critical adjustment to enhance organizational adaptability and employee skills for capacity building.

Accordingly, this study attempts to analyze the interrelationship between digital transformation in relation to the development of internal training and its role in achieving competitive advantage. For this purpose, AlHayat Medical Company in Riyadh serves as a suitable sample for this applied study. Al Hayat is part of the healthcare sector and is making efforts to keep pace with digital transformation while simultaneously developing its human and organizational capabilities. This study adopts a descriptive analytical research design and uses a structured questionnaire, along with a survey of training stakeholders at the company, as the primary tools for data collection. Furthermore, the study aims to provide specific recommendations to help build sustainable and lasting competitive advantages.

In conclusion, the initial hypotheses indicate a positive relationship between the level of digital transformation and the effectiveness of internal training programs within the company, which improves employee performance and enhances market competitiveness. Ultimately, we hope to deepen our understanding of the issues and prospects of internal training in relation to digital transformation.

Keywords: Digital Transformation – Internal Training – Human Capital Development – Organizational Efficiency – Competitive Advantage – AlHayat Medical Company – COVID-19 Impact

المستخلص

في العقود القليلة الماضية، وخاصةً بعد جائحة كوفيد-19، تسارعت وتيرة التقدم التكنولوجي بشكل كبير. وقد طرحت هذه الأزمة العالمية تحديات فريدة، أعادت تشكيل الأطر التنظيمية، ومعايير تقييم الموظفين، وتطورت ممارسات الإدارة. في هذه السياقات، أصبح تحول الأعمال من التناظرية إلى الرقمية ضرورة، ولم تعد التكنولوجيا خيارًا. من ناحية أخرى، تلعب دورًا محوريًا في إعادة تشكيل عمليات الشركات، ورأس المال البشري، والكفاءة، والمرونة.

ونتيجةً لذلك، تأثرت جميع جوانب الحياة التنظيمية بالتحول الرقمي للتدريب الداخلي. في الوقت نفسه، لم تكن أنظمة التدريب التقليدية كافية لتلبية متطلبات بيئة العمل المعاصرة. لذلك، احتاجت المؤسسات إلى التحول إلى نموذج تدريب قائم على التكنولوجيا لتمكين قواها العاملة من اكتساب المهارات اللازمة للعمل على النحو الأمثل في بيئات سريعة التطور. يُعد هذا تعديلًا حاسمًا لتعزيز قدرة المنظمة على التكيف ومهارات الموظفين لبناء القدرات.

وبناءً على ذلك، تحاول هذه الدراسة تحليل العلاقة المتبادلة بين التحول الرقمي وتطوير التدريب الداخلي ودوره في تحقيق الميزة التنافسية. لهذا الغرض، تُعد شركة حياة الطبية بالرياض عينةً مناسبةً لهذه الدراسة التطبيقية. تُعد حياة جزءًا من قطاع الرعاية الصحية، وتبذل جهودًا لمواكبة التحول الرقمي، مع تطوير قدراتها البشرية والتنظيمية في الوقت نفسه. تتبنى هذه الدراسة تصميمًا بحثيًا وصفيًا تحليليًا، وتستخدم استبيانًا منظمًا، إلى جانب استبيان لأصحاب المصلحة في مجال التدريب في الشركة، كأدوات أساسية لجمع البيانات. علاوةً على ذلك، تهدف الدراسة إلى تقديم توصيات محددة للمساعدة في بناء مزايا تنافسية مستدامة ودائمة.

في الختام، تُشير الفرضيات الأولية إلى وجود علاقة إيجابية بين مستوى التحول الرقمي وفعالية برامج التدريب الداخلية داخل الشركة، مما يحسن أداء الموظفين ويعزز القدرة التنافسية في السوق. في النهاية، نأمل في تعميق فهمنا لقضايا وأفاق التدريب الداخلي فيما يتعلق بالتحول الرقمي.

الكلمات المفتاحية: التحول الرقمي - التدريب الداخلي - تنمية رأس المال البشري - الكفاءة التنظيمية - الميزة التنافسية - شركة الحياة الطبية - تأثير جائحة كوفيد-19

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CHAPTER ONE

Background of the Study

1.1 Introduction

The world has witnessed incredible technological advancements in the past few decades, especially with the onset of the COVID-19 pandemic, which has not only impacted economies and the corporate world globally but has also impacted management styles and employee engagement across all sectors.

Therefore, I noticed the digital technologies have been and continue to be exceptionally important for achieving self-sustaining internal processes, automating tasks to increase productivity, enhancing organizational efficiency, and transforming business models across all sectors amid chronic challenges. So, nowadays, digital transformation is no longer just an option; companies must embrace it to foster change and maximize their ROI in their workforce.

Furthermore, digital transformation enables companies to innovate at the structural and administrative levels, as well as in terms of business models, according to some of the research and reading I have done. I found that digital systems increase the transparency of critical business data and reduce the financial burden on companies, while the continued acceleration and complexity of the technological revolution are a growing concern for practitioners and researchers alike. But a key focus remains aligning organizational needs, capabilities, and required leadership competencies with the company's digital and technological assets. The pandemic has also revolutionized organizational training, which has become, and continues to be, a key component of building workforce skills that align with changing digital demands. To achieve this, traditional training methods are becoming obsolete; there is a greater need for learning systems that leverage technology, enhance flexibility, and improve performance. As noted in recent work (Adu Yeboah et al., 2023; Memo & Ooi, 2023), there are positive outcomes associated with the application of digital tools within training, such as increased flexibility, improved learning outcomes, and a greater capacity for innovation, a vital competitive advantage. However, other researchers point to the lack of digital infrastructure, cultural inertia, and poor alignment of strategic priorities as obstacles. Furthermore, the concept of innovation resilience in innovation systems, defined as the ability to sustain, recover, and adapt during challenging periods of disruption, has been described as a key factor in maintaining organizational performance and enhancing sustainable capabilities (Bristow & Healy, 2018; Lv et al., 2018; Sabatino, 2016; Wziątek Kubiak & Pęczkowski, 2021).

Anyhow: These findings highlight the importance of this study, particularly in the healthcare sector, a critical and interconnected sector where digital resilience is vital to maintaining operational continuity and service excellence. This research aims to examine the relationship between digital transformation and internal training development and evaluate their combined impact on enhancing competitive advantage. Using Hayat Medical Company in Riyadh as a case study, the research explores how healthcare organizations can effectively navigate digital change while enhancing human and organizational capabilities. Ultimately, the study seeks to provide practical insights and recommendations for leveraging digital training technologies as a means of achieving sustainable competitive advantage.

1.2 Problem Statement

As we seeing keeping pace with and implementing digital transformation has become one of the most pressing challenges facing contemporary organizations due to the radical changes it is bringing to business models, resource management, and human capital development strategies. While digital technologies are readily available to most organizations, many, particularly those in the private sector, face challenges in aligning these technologies with their strategic operations. This difficulty is most evident in the area of internal training, which is critical for developing employee skills and maintaining an organization's competitiveness. Furthermore, one of these factors is the lack of an appropriate human capital development strategy framework, which leads to the misinterpretation of digital transformation as a mere technical change. This, in turn, has a subsequent impact on organizational transformation and performance, while the impact of training on these changes remains relatively minimal. Thus, the assertion that "digital transformation is not just about implementing new technologies, but also about reimagining processes and roles to improve performance and create added value," made by (Westerman, G., Bonnet, D., & McAfee, A. 2014), is confirmed by (Bersin, J. 2017), who states: "Organizations that invest in innovative digital learning achieve higher levels of productivity, job satisfaction, and talent retention."

Although a number of studies have addressed digital transformation, none have specifically focused on internal training development systems, their integration, and how they impact an organization's competitive advantage, especially in rapidly changing business contexts. This gap is particularly evident in the healthcare sector, where the application of digital tools in employee training and development lags far behind its core value for operational efficiency and organizational success. Furthermore, limited implementation of training system integration often leads to suboptimal results, reduced performance, and unfulfilled growth potential.

Therefore, the importance of this research stems from its attempt to bridge this scientific and practical gap through a case study of Hayat Medical Company in Riyadh. As previously mentioned, this is a private company striving to digitally transform and improve its training systems to enhance its competitive advantage. So, the research aims to build a comprehensive understanding of the challenges facing these organizations, evaluate the impact of digital training systems on their performance, and develop practical recommendations for improving the quality of training. In this context, the study develops theoretical and practical approaches to improving employee performance and job satisfaction and achieving a sustainable competitive advantage through digitally enabled training initiatives.

1.3 Study Objectives

The current research seeks to examine the impact of digital transformation on internal training process enhancement and its role in creating competitive advantage in organizational settings. In particular, this study seeks to attain the following goals:

1. To develop a comprehensive understanding of the concepts of digital transformation and internal training in the context of organizational development.
2. To analyze the impact of digital transformation on the internal training practices employed at Al Hayat Medical Company.
3. To investigate the relationship between the advancement of internal training programs and the enhancement of the organization's competitive advantage.
4. To provide evidence-based recommendations for improving the company's digital training strategies.

1.4 Study Questions

The research questions posed in this study were carefully formulated to cover both the analytical and exploratory aspects of the topic. Some questions are directly related to the study's hypotheses. For example: Q4, allows for a statistical test of potential correlations, while others, such as Q5, aim to gain a more detailed and descriptive understanding of the phenomenon. This contributes to the formulation of practical recommendations. This dual-pronged strategy ensures that the research not only tests the proposed hypotheses using quantitative methods but also explores the contextual and practical dimensions of internships and digital transformation, providing a comprehensive and integrated perspective.

The research questions guiding this study are:

1. To what extent has internal training been influenced by digital transformation at Al Hayat Medical Company?
2. In what ways has digital internal training contributed to enhancing employee performance and efficiency?
3. How does the digital development of internal training support the improvement of the organization's competitive advantage?
4. Does digital transformation affect the organization's competitive advantage directly and indirectly through the development of internal training?
5. What factors facilitate or hinder the effectiveness of digital transformation in internal training programs?

6. What best practices can be adopted to optimize the role of digital transformation in internal training and reinforce institutional competitiveness?

1.5 Significance of the Study

The rapid advancement of digital technologies has radically transformed how organizations operate and compete in the modern business environment. As noted in some resource, "Investing in human capital through effective training and development programs is critical for companies to build capabilities that support their strategic objectives." This highlights the practical importance of digital training initiatives in improving employee performance and achieving a sustainable competitive advantage. Through digital transformation, organizations can equip their workforce with the skills and knowledge necessary to adapt and excel in an increasingly dynamic labor market. This study is particularly important because it examines the impact of digital transformation on internal training processes, which, as previously mentioned, is a key component of employee development and improving organizational performance. So, from this point we will discuss the scientific significance and practical significance of it.

Scientific Significance

From an academic perspective, this research contributes to the existing body of knowledge by integrating theoretical frameworks such as the resource-based view and organizational learning theory within the context of digital training. In doing so, it deepens our understanding of how digital initiatives shape human capital development and influence competitive advantage. Specifically, the study:

- Proposes an analytical framework linking digital technologies to human resource development strategies, thereby advancing theoretical models in the field.
- Enriches the existing literature on digital transformation and corporate training.
- Focus light on the emerging and increasingly relevant concept of digital transformation and its relationship with internal training in organizational contexts.

Practical Significance

From a practical prespective, the study offers a valuable model for management and HR professionals in the private sector, with a particular focus on Al Hayat Medical Company. It:

- Provides real-world insights into how digital transformation can be leveraged to strengthen internal training programs.

- Supports decision-makers in designing more adaptive, efficient training strategies that respond effectively to digital innovation.
- Highlights the role of digital training in enhancing organizational performance and securing competitive advantage amid market challenges.
- Delivers actionable recommendations for organizations seeking to embrace digital development and improve human resource effectiveness.

1.6 Theoretical Model

The concept of digital transformation forms the central framework of this study and is defined as the integration of technology into all aspects of an organization to achieve greater efficiency and innovation. The examples of digital transformation at the organizational level include process automation, the creation of new digital products and services, and the development of new business models such as the use of e-commerce. Within this framework, internal training is defined as organizational training processes aimed at improving the skills and knowledge of individual employees to enhance their work efficiency. Training can be face-to-face, e-learning, blended learning, or interactive virtual workshops. The study is based on a digital transformation framework that integrates three core components: technology, processes, and people. As outlined in (Vial's, 2019) study "Digital Transformation in Organizations," internal training is viewed in this context as a pivotal organizational process directly shaped by digital transformation as a result of changing training delivery tools and methods.

The result is improved efficiency and performance among employees and their performance outcomes. Therefore, the theoretical foundation of the research is based on the "resource-based view" (RBV), which argues that an organization's unique resources and capabilities are key drivers of sustainable competitive advantage. In this regard, digitalization, coupled with the strategic development of internal training, is viewed as a valuable and differentiated organizational resource that enhances long-term competitiveness. The research also integrates arguments from organizational learning theory, which emphasizes the importance of continuous learning and change in driving performance improvements over time. More specifically, digital training plays a critical role in promoting continuous knowledge acquisition and capability improvement, thereby enhancing an organization's competitive position.

Practically, the research draws on well-known digital transformation models and training evaluation frameworks, such as Kirkpatrick's model, to bridge the gap between theory and practice. By evaluating the effectiveness of digital training initiatives, the study proposes an integrated methodology for studying the impact of digital transformation on internal training and, consequently, on organizational performance. This theoretical integration forms the basis of the study's hypotheses and supports the analysis of its findings.

1.7 Research Hypotheses

The primary hypothesis of this study posits that **digital transformation has a statistically significant impact on achieving an organization's competitive advantage**, with **the development of internal training acting as a mediating variable** in this relationship. Based on this overarching hypothesis, the following sub-hypotheses are proposed:

- **H1:** Digital transformation has a statistically significant impact on the development of internal training within the organization.
- **H2:** The development of internal training has a statistically significant impact on the organization's competitive advantage.
- **H3:** Digital transformation influences competitive advantage both directly and indirectly through the development of internal training as a mediating variable.
- **H4:** Employees' perceptions of the effectiveness of digital transformation in internal training differ significantly based on demographic characteristics, such as gender, age, and years of experience.

1.8 Scope of the Study

The scope of this study is restricted to examining how digital transformation can improve internal training and the ensuing effects on gaining a competitive edge, particularly in the context of healthcare organizations in the private sector. In addition, Al Hayat Medical Company in Riyadh, Saudi Arabia, is also the focus of the empirical study since it is a prime example of a company that has integrated digital transformation into its training programs. With a variety of demographic factors, such as gender, age, job title, and years of work experience, the study primarily focuses on administrative, technical, and clinical staff.

Even though the study's temporal scope is limited to 2025, all relevant data was gathered and examined during that time. The study employs a mixed-methods approach, integrating qualitative data and quantitative data collected via structured questionnaires to provide a comprehensive understanding of the phenomenon being studied.

The research is limited thematically to internal or in-house training procedures; external or outsourced training programs are not addressed. Second, the research does not address the general applications of digital transformation in other organizational domains such as marketing, supply chain management, or customer service, even though it is examined within the specific thematic context of training. The findings are intended to contribute to the academic literature on digital transformation as well as the applied creation of digital training initiatives in similar organizational contexts.

1.9 Definition of key Terms

To ensure conceptual clarity and consistency throughout the study, the following key terms are defined as follows:

- **Digital Transformation**

Refers to the strategic integration of digital technologies across all areas of organizational operations with the aim of enhancing performance, increasing flexibility, and fostering innovation (Vial, 2019). In the context of this study, digital transformation specifically relates to the digitization of training systems and associated human resource development processes.

- **Internal Training**

A structured, organization-led process designed to improve employees' skills, knowledge, and job performance through training programs conducted within the organization. This encompasses a range of delivery methods, including face-to-face sessions, online learning, blended approaches, and virtual training environments.

- **Competitive Advantage**

The ability of an organization to achieve superior performance and differentiate itself in the marketplace by leveraging unique resources, capabilities, or strategic approaches that are difficult for competitors to replicate (Wamba, S. F., & Akter, S., 2019).

- **Resource-Based View (RBV)**

A theoretical framework that highlights the importance of internal organizational resources—such as human capital, knowledge, and technological capabilities—as key drivers of sustained competitive advantage.

- **Organizational Learning**

A continuous, dynamic process through which organizations acquire, share, and apply knowledge to adapt to change, enhance decision-making, and improve performance over time (Garvin, D. A., Edmondson, A. C., & Gino, F., 2018).

- **Digital Training Tools**

Technological platforms and applications used to deliver and manage training content digitally. These include learning management systems (LMS), virtual classrooms, mobile learning applications, and interactive e-learning modules.

- **Innovation Resilience**

The organization's capacity to sustain, adapt, and renew its innovation processes in response to external disruptions or challenges. This includes the ability to absorb shocks—such as technological changes, market fluctuations, or crises like the COVID-19 pandemic—while continuing to develop and implement innovative solutions. In this study, innovation resilience is considered a key factor in sustaining digital training

initiatives and supporting long-term competitive advantage by enabling organizations to respond effectively to rapidly changing environments (Lv et al., 2018; Sabatino, 2016).

CHAPTER TWO
Literature Review

2.1 Introduction

This chapter offers a comprehensive review of literature concerning the critical themes of digital transformation, internal training and development, and competitive advantage. Including, the most important aim is to analyze the scholarly literature, note its central theoretical advancements and gaps, and provide a robust conceptual framework for the research at hand. Through using different models, frameworks, and empirical evidence, the review illustrates the impact of digital technologies on the training and development of organizational employees. It also examines pertinent theory such as the Resource Based View (RBV) and organizational learning theory, which provide explanations for the linkage of digital transformation and employees' professional development. The conclusions drawn from this analysis inform the development of the study's hypotheses and the research methodology.

2.2 Theoretical Framework

The theoretical framework of this study is built on several key theories that together provide a clear foundation for understanding how **competitive advantage**, internal **training development**, and **digital transformation** are connected. These theories offer both practical insights and conceptual tools for examining the study's variables.

2.2.1 Resource-Based View (RBV)

The Resource-Based View (RBV), introduced by (Wamba, S. F., & Akter, S., 2019), suggests that organizations achieve and sustain a competitive advantage by acquiring and managing resources that are valuable, rare, inimitable, and non-substitutable (VRIN). From this standpoint, digital transformation and internally developed training programs are considered strategic resources that enhance organizational capabilities, particularly human capital.

By adopting advanced digital tools and innovative training methodologies, organizations can cultivate unique competencies that are difficult for competitors to replicate. (Rothaermel, 2017) supports this notion, stating: "Resources that are valuable, rare, imperfectly imitable, and non-substitutable form the foundation of sustained competitive advantage".

Therefore, this theory positions digital training systems as key drivers for differentiation and long-term success, especially in dynamic sectors such as healthcare.

2.2.3 Organizational Learning Theory

Organizational Learning Theory, developed by (Garvin, D. A., Edmondson, A. C., & Gino, F., 2018), emphasizes the continuous process through which organizations acquire, share, and apply knowledge to adapt and improve over time. This theory is particularly relevant in rapidly changing digital environments.

Moreover, digital transformation enhances organizational learning by enabling more flexible, efficient, and accessible training through digital platforms. Within this perspective, internal

digital training is not merely a vehicle for skill acquisition but a facilitator of a culture of continuous improvement and innovation, both of which are essential for maintaining competitive advantage in today's markets.

2.2.4 Digital Transformation Model

This study is informed by the theory of digital transformation, specifically the theory we spoke about it which developed by (Vial, 2019), which highlights the incorporation of technology, processes, and human resources as being crucial factors in achieving organizational change within the digital setup. These theoretical ideas illuminate the notable impacts of digital technologies on systems of operation—focusing on training—through agility enhancement, customization, and performance orientation. As we mentioned before (Rothaermel, 2017) argues that “technological innovation can help firms differentiate their products or lower costs, thus shifting the forces of the industry and the competition space.”

Therefore, this approach highlights the argument that internal training, especially when it is complemented by digital transformation, is a strategic asset supporting organizational resilience as well as competitiveness.

2.2.5 Training Evaluation Frameworks

To connect theoretical concepts with measurable outcomes, this study incorporates the **Kirkpatrick Model** (Kirkpatrick, 1994), a widely accepted framework for evaluating training effectiveness. Where the model assesses four levels:

1. **Reaction** – How participants respond to the training.
2. **Learning** – The extent to which participants acquire intended knowledge and skills.
3. **Behavior** – Changes in behavior and application of learning on the job.
4. **Results** – Tangible outcomes and organizational benefits.

Using this model allows the study to assess the practical effectiveness of digital internal training and its contribution to performance improvement.

2.2.6 Summary

By collecting these perspectives, the theoretical framework provides a comprehensive structure for exploring how digital transformation influences internal training development and how these changes contribute to achieving sustainable competitive advantage. Also, it informs the development of the study's hypotheses, research questions, and methodological approach. In the next section we will display the previous international and Arabic studies and the research gap.

2.3 Previous Studies

Introduction

In recent years, academic interest in digital transformation has witnessed a significant increase, driven largely by the rapid integration of digital technologies across various sectors. These developments have significantly impacted organizational processes, workforce development, and the pursuit of competitive advantage. While numerous studies have examined how digital transformation reshapes business models, enhances operational efficiency, and fosters employee growth through updated training programs, this literature review brings together international and Arab studies to develop a comprehensive understanding of the interplay between digital transformation, internal training development, and competitive advantage. It also aims to identify existing research gaps that this study seeks to address.

2.3.1 Previous International Studies

Digital Transformation and Competitive Advantage

We found that e-learning initiatives in healthcare institutions enhanced employee knowledge, adaptability, and productivity, enabling organizations to respond more effectively to dynamic environments. Similarly, (Smith and Jones, 2018) demonstrated that the implementation of digital training systems improved workforce competencies, which in turn positively influenced patient care and overall organizational performance. As we provided before, a comprehensive conceptualization of digital transformation defines it as the integration of digital technologies into business operations, products, and models to foster innovation and performance. (Kane et al., 2015) emphasized that successful digital transformation depends heavily on leadership, organizational culture, and employee readiness—highlighting that digital maturity is more about people and processes than technology alone. In a related study, (Bharadwaj et al., 2013) argued that digital business strategies must align with core organizational capabilities to sustain competitive advantage, reflecting a resource-based perspective on digital initiatives.

Digital Training and Employee Development

In Noe's studies he highlighted how digital learning platforms improve accessibility, learner engagement, and knowledge retention—ultimately supporting more efficient skill development (Noe, 2017). While Salas reinforced this perspective, finding that technology-based training enhances learning transfer and supports employee adaptability in evolving work contexts (Salas et al., 2012).

In my opinion, the digital learning platforms it provided an opportunity for teachers, learners, and employees from different cultures with different experiences and ages to meet in one place from around the world, and this is a big step towards exchanging knowledge and developing further.

Research Gap

Although prior studies have explored digital transformation and employee training as separate topics, few have explicitly examined the intersection between digital transformation and internal training programs—particularly regarding their joint contribution to competitive advantage. Furthermore, limited empirical research exists within the healthcare sector, where effective training is essential for operational success and service quality. The present study addresses this gap by investigating how digital transformation influences internal training systems in a healthcare setting and proposes actionable recommendations for similar organizations.

Contributions of Previous Studies

The reviewed literature contributes to the present study in several key ways:

1. **Theoretical Foundations:** Studies such as (Bharadwaj et al., 2013) offer conceptual frameworks explaining how digital transformation reshapes organizational processes and optimizes resource utilization.
2. **Training Insights:** Research by (Noe, 2017) and (Salas et al., 2012) illustrates how digital tools improve learning outcomes, informing the theoretical underpinning of this study.
3. **Healthcare Applications:** Findings from (Smith and Jones, 2018) and (Mohapatra & Singh, 2020) provide practical insights into the implementation of digital training in healthcare, offering useful benchmarks for assessing outcomes.
4. **Identification of Research Gaps:** The existing literature lacks integrated analyses that link digital transformation with internal training development as co-drivers of competitive advantage, especially within healthcare—a gap this study aims to fill.

Distinction of the Current Study

This study is distinguished by several unique contributions:

- **Integrated Focus:** Unlike previous research that treats digital transformation and training as separate constructs, this study investigates their combined impact on competitive advantage.
- **Sector-Specific Analysis:** The study centers on a private healthcare organization, addressing the unique challenges and requirements of training in this sector.
- **Balanced Approach:** By combining theoretical models such as the Resource-Based View and organizational learning theory with practical evaluation tools like the Kirkpatrick Model, this research bridges the gap between conceptual understanding and real-world application.
- **Filling an Empirical Gap:** The study provides empirical evidence on the strategic value of digital transformation in internal training, a topic underexplored in previous literature.

2.3.2 Previous Arabic Studies

In healthcare settings, Saqqat analyzed the mediating role of intellectual capital efficiency in the relationship between digitalization and financial performance in healthcare, confirming that strategic use of digital tools improves both operational and financial outcomes. (Saqqat, 2024). While (El Arhlabi, 2023) explored how digital transformation enhances human capital development, concluding that digital technologies significantly boost employee competencies and organizational competitiveness. Moreover, (Al-Hussaini & El-Sayed, 2023) investigated the role of organizational energy in driving digital transformation in healthcare services, demonstrating that motivated and flexible human resources accelerate digital adoption.

Otherwise, (Al-Salman et al., 2022) assessed how digital technologies support managerial processes in healthcare organizations, finding that effective implementation improves decision-making and resource allocation. Finally, (Alghamdi et al., 2021) examined the impact of digital transformation on organizational dynamics, HR practices, and well-being in Ghana's healthcare sector, highlighting its role in enhancing operational efficiency and staff adaptability.

Although these studies collectively underscore the importance of digital technologies and training programs in enhancing organizational performance, they generally fall short of addressing how digital transformation specifically influences internal training development and its connection to competitive advantage. Therefore, this research seeks to bridge that gap through an applied case study of AlHayat Medical Company, providing actionable insights for healthcare organizations aiming to leverage digital tools for sustainable performance improvement.

Conclusion: Synthesis of International and Arabic Studies

The reviewed literature (El Arhlabi, 2023; Al-Salman et al., 2022; Alghamdi et al., 2021; Al Shammari, 2021) — both international and Arabic — underscores a strong connection between digital transformation, training development, and organizational performance. It emphasizes the need for advanced technologies, process innovation, and human capital development to achieve sustained competitive advantage.

However, a common research gap persists: most studies address digital transformation and training independently rather than examining their combined effect, particularly within healthcare. So, this study addresses that gap by employing an applied case study of AlHayat Medical Company and offering evidence-based insights to support healthcare institutions in using digital transformation strategically to enhance workforce capabilities and maintain a competitive edge.

2.4 Operationalization of Variables

This section defines and explains the key variables examined in this study, including the independent and dependent variables, and the operationalization aims to clarify how each variable is conceptualized and measured in the context of digital transformation, internal training development, and competitive advantage.

2.4.1 Independent Variable: Digital Transformation

The independent variable in this study is digital transformation, which is defined as the strategic integration and application of digital technologies across all organizational processes, fundamentally reshaping how value is created and delivered. It involves adopting digital tools, redesigning processes, and upskilling employees to meet the demands of a rapidly changing environment.

In this study, digital transformation is operationalized through three core dimensions:

1. Technology Adoption

Refers to the implementation and effective use of digital platforms, tools, and systems. For instance: (automation, cloud computing, data analytics, and AI) to enhance communication, collaboration, and decision-making.

2. Process Reengineering

Involves the restructuring and optimization of business workflows using digital technologies to improve efficiency, responsiveness, and service delivery.

3. Human Capital Development

Entails the enhancement of employees' digital competencies through structured training and continuous learning initiatives, which allows them to adapt to technological change and drive innovation.

Previous research positions digital transformation as a key strategic resource. For example, (Bharadwaj et al., 2013) emphasize that aligning digital initiatives with internal capabilities leads to sustained performance. while (Kane et al., 2015) further assert that successful transformation depends on leadership support and a culture conducive to digital innovation. In this study, digital transformation is the independent variable that is hypothesized to influence both internal training development and competitive advantage.

2.4.2 Dependent Variables

Internal Training Development

Internal training development refers to the deliberate organizational efforts to enhance employee skills and knowledge through structured, in-house training programs. With the onset of digital transformation, traditional training methods are increasingly being replaced or supplemented by:

- E-learning platforms
- Interactive virtual training modules

- On-demand performance support systems

These digital approaches offer flexible, personalized, and accessible learning experiences, ultimately leading to a more agile and competent workforce (Noe, 2017; Salas et al., 2012).

Competitive Advantage

Competitive advantage is defined as the organization's ability to consistently outperform its competitors by delivering superior services, optimizing internal operations, and sustaining innovation over time (Vial, 2019). In healthcare, this includes:

- Improved patient satisfaction
- Operational excellence
- Technological innovation
- Engaged and skilled personnel

Digital transformation contributes to competitive advantage by enhancing employee capabilities through digital training, streamlining processes, and fostering a culture of continuous improvement (Bharadwaj et al., 2013).

2.4.3 Relationship Between Variables

The conceptual model guiding this research suggests that **digital transformation (independent variable)** positively influences the development of **internal training programs**, which in turn strengthens the organization's **competitive advantage (dependent variables)**.

- **Direct Impact:** Digital transformation improves training mechanisms through innovative platforms, contributing directly to better employee performance and adaptability.
- **Indirect Impact:** Enhanced internal training supports the development of unique skills and organizational learning, which act as mediators toward achieving sustainable competitive advantage.

Figure 2.1: Conceptual Framework

Below is a representation of the hypothesized relationship between the study's variables:

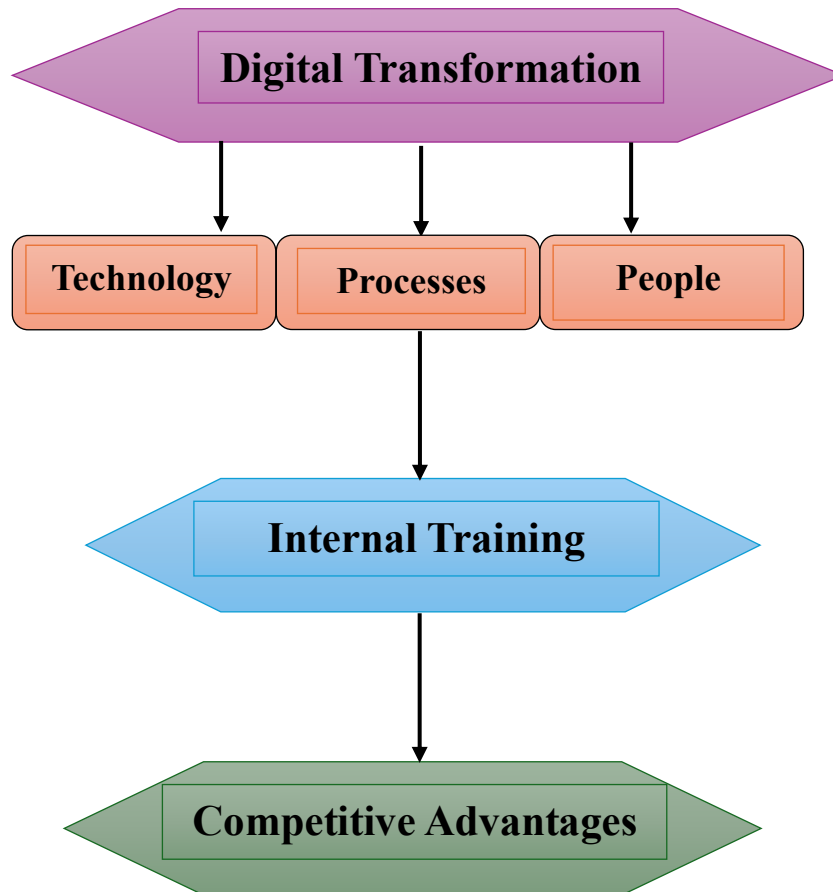


Figure2.1: Conceptual model illustrating the influence of digital transformation on internal training development and competitive advantage.

2.5 Conceptual Model and Hypotheses Development

Based on the literature review and theoretical framework, this section presents the conceptual model that guides the current study, and the model illustrates the hypothesized relationships among the key variables: digital transformation (independent variable), internal training development (mediating variable), and competitive advantage (dependent variable).

The model assumes that the adoption of advanced digital technologies enhances the effectiveness and efficiency of internal training programs, which in turn strengthens the organization's competitive positioning. Accordingly, both direct and indirect effects of digital transformation are proposed:

- Direct effect: Digital transformation influences internal training development and competitive advantage.
- Indirect effect: Internal training development mediates the relationship between digital transformation and competitive advantage.

This framework reflects the theoretical assumption that organizations leveraging digital transformation can create a more agile, skilled, and innovation-driven workforce—ultimately leading to sustained performance and differentiation in the healthcare sector.

2.5.1 Hypotheses

Based on the conceptual framework, the following hypotheses are formulated:

- H1: Digital transformation has a statistically significant positive effect on the development of internal training within the organization.
- H2: Internal training development has a statistically significant positive effect on the organization's competitive advantage.
- H3: Digital transformation has both a direct and indirect positive effect on competitive advantage, with internal training development acting as a mediating variable.
- H4: Employees' perceptions of the effectiveness of digital transformation in internal training differ significantly based on demographic characteristics (e.g., gender, age, years of experience).

2.5.2 Conceptual Model Illustration

Figures 3.1 and 3.2 below illustrate the hypothesized relationships between the study variables. Specifically:

- Figure 3.1 demonstrates the direct influence of digital transformation on internal training development and competitive advantage.
- Figure 3.2 introduces internal training development as a mediating variable between digital transformation and competitive advantage, reflecting both direct and indirect pathways of influence.

Note: The visual representations (Figures 3.1 and 3.2) should be developed using arrows to indicate causal pathways and variable boxes labeled accordingly.

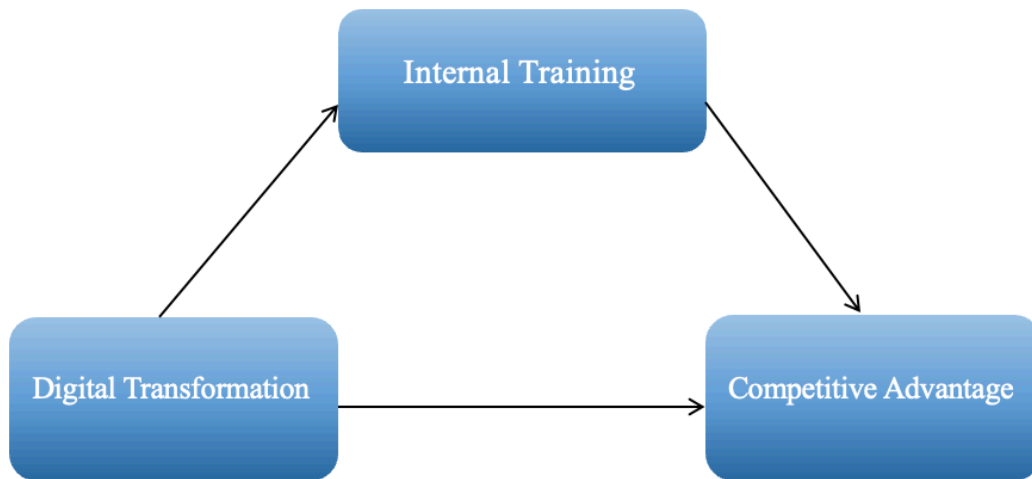


Figure3.1

Here is **Figure 3.1**, illustrating the conceptual model with both direct and indirect effects of **Digital Transformation** on **Competitive Advantage**, with **Internal Training Development** as a mediating variable.

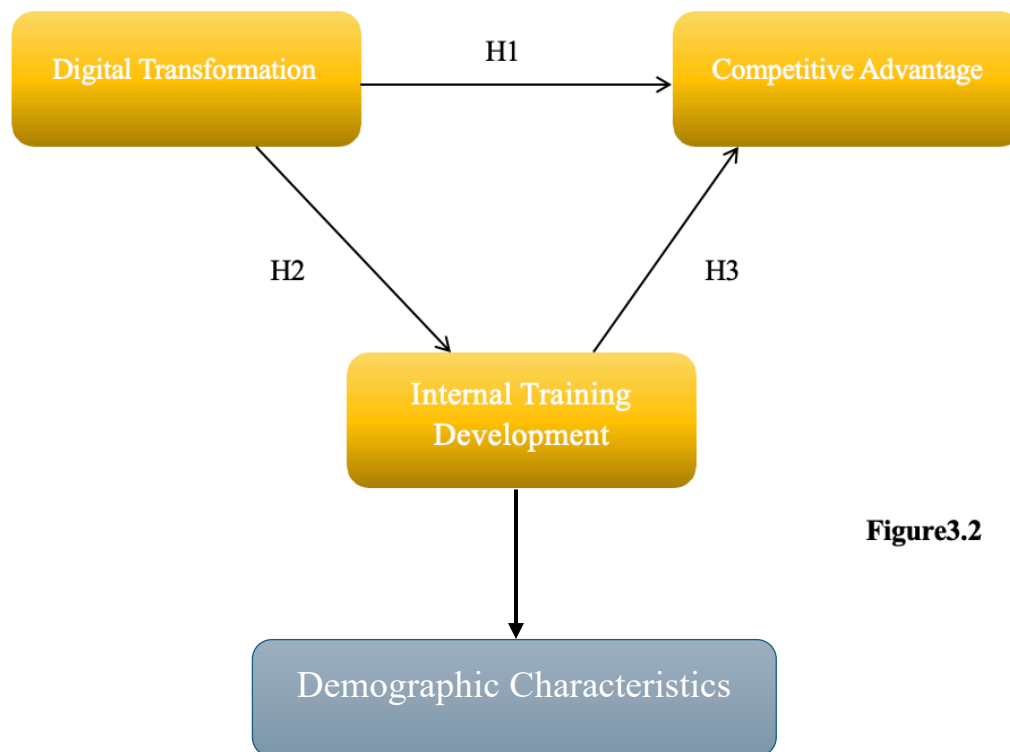


Figure3.2

Here is the formatted conceptual model (Figure 3.2) illustrating the hypothesized relationships among the study variables:

- **Digital Transformation** has:
 - A **direct effect** on **Internal Training Development**.
 - A **direct and indirect effect** on **Competitive Advantage**.
- **Internal Training Development** mediates the relationship between **Digital Transformation** and **Competitive Advantage**.
- **Demographic Characteristics** influence perceptions of **Internal Training Development**.

CHAPTER THREE
METHODOLOGY

3.1 Introduction

This chapter presents the research methodology employed to achieve the study's objectives and answer its central research questions. It details the overall research design, data collection procedures, sampling strategy, and data analysis methods used to ensure the validity, reliability, and rigor of the findings. A clearly structured methodology is essential not only for justifying the research approach but also for enabling the study to be replicated and critically assessed by future researchers.

The study adopts a **quantitative research approach**, which is appropriate for investigating the relationships between the independent variable—**digital transformation**—and the dependent variables—**internal training development** and **competitive advantage**. This approach facilitates hypothesis testing, identifies measurable patterns, and generates empirical evidence based on numerical data.

The methodology further outlines the study's **target population**, the **sampling framework**, and the **data collection tools**, including structured surveys and relevant secondary sources. In addition, it describes the **statistical methods** used for data analysis, which are chosen to ensure objectivity and enhance the interpretability of results. By adhering to a rigorous and systematic research design, this study ensures that its conclusions are both reliable and aligned with its overall objectives.

3.2 Population and Sample

The target population for this study comprises employees of **AlHayat Medical Company**, encompassing individuals from various departments and functional areas. This population was selected because employees are directly impacted by the company's digital transformation initiatives and are the primary recipients of internal training and development efforts. Their perspectives are essential for understanding how digital transformation affects training effectiveness and contributes to the organization's competitive advantage.

To ensure comprehensive representation, a **stratified random sampling technique** was employed. This method allowed for the inclusion of participants across different job roles and departments, thereby minimizing sampling bias and capturing a broad range of employee experiences. Stratification ensured that subgroups such as **administrative, technical, and clinical staff** were adequately represented.

The sample size was determined in accordance with established statistical guidelines to ensure sufficient power for hypothesis testing while maintaining practical feasibility for data collection. The final sample consisted of respondents from diverse functional units, all of whom are directly engaged in or influenced by digital transformation processes and training initiatives within the

organization. This sampling strategy enhances the **internal validity** of the study and strengthens the **generalizability** of its findings within the context of AlHayat Medical Company.

Table 3.1: Sample Distribution of Respondents

Job Function	Number of Respondents (n)	Percentage (%)
Administrative Staff	40	40%
Technical Staff	35	35%
Clinical Staff	25	25%
Total	100	100%

As shown in Table 3.1 presents the distribution of the study sample based on job functions within the organization. A total of 100 employees participated, representing administrative (40%), technical (35%), and clinical (25%) roles. This stratified sampling approach ensured proportional representation from each functional area, enhancing the generalizability of the study findings and providing a comprehensive understanding of how digital transformation initiatives affect internal training effectiveness across different job functions.

Table 3.2: Sample Demographics of Respondents

Job Function	Job Level	Male (n)	Female (n)	Total (n)	Percentage (%)
Administrative Staff	Managerial	5	3	8	8%
	Non-Managerial	15	17	32	32%
Technical Staff	Managerial	6	4	10	10%
	Non-Managerial	18	7	25	25%
Clinical Staff	Managerial	4	3	7	7%
	Non-Managerial	10	8	18	18%
Total		58	42	100	100%

As shown in Table 3.2 summarizes the demographic characteristics of respondents, categorized by job function, job level, and gender. Out of 100 employees, 58 were male and 42 were female. The administrative function accounted for 40% of respondents, technical staff 35%, and clinical staff 25%. Within each job function, both managerial and non-managerial levels were represented, ensuring balanced perspectives across hierarchical levels. This distribution highlights the diverse nature of the sample and supports a robust analysis of how digital transformation initiatives influence training effectiveness across gender and job roles.

Table 3.3: Age and Experience Distribution of Respondents

Age Group (Years)	Number of Respondents (n)	Percentage (%)	Years of Experience	Number of Respondents (n)	Percentage (%)
20–29	25	25%	< 2 years	15	15%
30–39	40	40%	2–5 years	35	35%
40–49	25	25%	6–10 years	30	30%
50 and above	10	10%	> 10 years	20	20%
Total	100	100%	Total	100	100%

As shown in Table 3.3 illustrates the respondents' distribution by age and years of experience. Most participants (40%) were between 30 and 39 years old, followed by 25% in the 20–29 and 40–49 age groups, while 10% were aged 50 and above. In terms of work experience, 35% had 2–5 years of experience, 30% had 6–10 years, 20% had more than 10 years, and 15% had less than 2 years. This diverse demographic composition provides a balanced perspective on how employees at different career stages perceive the impact of digital transformation on internal training and organizational advantages.

3.3 Study Scope and Limitations

This study is defined by a set of boundaries that clarify its focus and ensure alignment with its research objectives. These boundaries, or scope determinants, enhance the clarity, relevance, and validity of the findings by specifying the thematic, spatial, temporal, and human parameters within which the research was conducted.

- **Subject Scope:**

The study centers on evaluating the influence of **digital transformation** on two key organizational outcomes: **internal training development** and **competitive advantage**. It explores how the implementation of digital technologies within a healthcare context reshapes training practices and contributes to strategic competitiveness.

- **Spatial Scope:**

The research was conducted within **AlHayat Medical Company**, a private healthcare provider based in **Saudi Arabia**. This organization was selected due to its active pursuit of digital transformation and its structured internal training systems, making it a suitable setting for investigating the study's core themes.

- **Temporal Scope:**

Data for this study was collected during the **second quarter of 2025**. This period was chosen to capture a timely reflection of the company's recent digital transformation efforts, particularly following the integration of new digital tools into its operational and training frameworks.

- **Human Scope:**

The study involved a diverse sample of employees from various organizational levels and departments, including **administrative, technical, and clinical staff**. Participants were selected based on their direct engagement with or exposure to digital transformation initiatives and internal training programs.

By clearly articulating these scope determinants, the study maintains a focused and context-specific approach, ensuring the reliability and applicability of its conclusions. However, these boundaries also imply that the findings may be most relevant to similar organizational and sectoral contexts undergoing digital transformation.

Limitations of the Study

While the study provides valuable insights into the relationship between digital transformation, internal training development, and competitive advantage, it is not without limitations. First, the research is limited to a single organization—AlHayat Medical Company—which may affect the generalizability of the findings to other healthcare institutions or sectors with different operational dynamics. Second, the data was collected using self-reported surveys, which may be subject to response bias or inaccuracies due to participants' perceptions or

interpretations. Additionally, the study captures a specific timeframe (Q2 of 2025), and thus, the findings may not fully reflect long-term changes or evolving digital transformation strategies. Finally, although the study adopts a quantitative approach for hypothesis testing, it does not deeply explore qualitative perspectives that could provide richer insights into employees' experiences and organizational culture. These limitations should be considered when interpreting the results and applying them to broader contexts.

3.4 Data Collection Tools

To effectively address the study's objectives and test the proposed hypotheses, a structured questionnaire was developed and used as the primary tool for data collection. The design of the questionnaire was grounded in established literature and validated measurement scales to ensure both content validity and reliability. The instrument was organized into four main sections:

1. Demographic Information

This section gathered background data on participants, including gender, age, education level, job role, and years of professional experience. These demographic variables were essential for describing the sample and analyzing potential differences in responses across subgroups.

2. Digital Transformation Scale (Independent Variable)

This part of the questionnaire assessed the extent of digital transformation within the organization, focusing on three key dimensions:

- Technology Adoption: The implementation and use of digital tools and platforms across organizational functions.
- Process Reengineering: The redesign of workflows and operational procedures using digital technologies to enhance efficiency and effectiveness.
- Human Capital Development: The organization's initiatives to strengthen employees' digital skills and readiness through training and continuous learning.

3. Internal Training Development Scale (Dependent Variable 1)

This section measured the perceived effectiveness of internal training programs. It included items related to training accessibility, content relevance, delivery methods, and the impact of training on employee performance and skill enhancement.

4. Competitive Advantages Scale (Dependent Variable 2)

This section evaluated the organization's competitive strengths, including service quality, operational efficiency, innovation capacity, and overall market competitiveness.

All questionnaire items were rated using a five-point Likert scale, ranging from 1 (“Strongly Disagree”) to 5 (“Strongly Agree”). Prior to full deployment, the questionnaire was reviewed by academic experts to ensure clarity, relevance, and alignment with the research objectives. A pilot test was also conducted with a small group of employees to identify any ambiguities or inconsistencies, allowing for necessary refinements before the main data collection phase.

3.5 Statistical methods

Upon completion of the data collection process, a range of statistical techniques was employed to analyze and interpret the data in alignment with the study’s objectives and hypotheses. The analysis was designed to ensure methodological rigor and to provide both statistical and practical insights into the relationships among the study variables.

The initial stage of analysis involved **descriptive statistics**, including means, standard deviations, frequencies, and percentages, to summarize the demographic characteristics of the participants and the overall distribution of responses related to the main variables. These measures offered a foundational understanding of the sample and the variables under investigation.

To test the research hypotheses and assess the associations between the independent variable (digital transformation) and the dependent variables (internal training development and competitive advantage), a series of **inferential statistical techniques** was applied. Specifically:

- **Correlation analysis** was conducted to examine the strength and direction of the relationships among key variables.
- **Multiple regression analysis** was used to evaluate the extent to which digital transformation predicts internal training development and competitive advantage, while accounting for demographic factors as potential covariates.

In order to ensure the reliability and validity of the measurement instruments:

- **Reliability analysis** using **Cronbach’s alpha** was conducted to assess the internal consistency of each scale.
- **Exploratory Factor Analysis (EFA)** was performed to verify the construct validity and to ensure that the items effectively represented their respective latent variables.

All statistical analyses were carried out using **IBM SPSS Statistics software (version 26)**. The threshold for statistical significance was set at $\alpha = 0.05$. The findings were interpreted not only based on statistical significance but also on practical relevance to provide meaningful conclusions for both theory and practice.

Comprehensive results—including descriptive statistics, reliability coefficients, factor loadings, and regression outputs—are detailed in the following Results chapter, accompanied by relevant tables and figures.

CHAPTER FOUR
Results and Discussion

4.1 Data Analysis

The data analysis process in this study follows a systematic and rigorous approach to ensure accurate interpretation and valid conclusions. The initial stage involved **data cleaning and preparation**, during which the dataset was examined for **completeness, accuracy, and consistency**. Missing values, outliers, and anomalous responses were identified and addressed using appropriate statistical methods, including data imputation or case-wise exclusion, depending on the nature and extent of the missing data.

Following data preparation, **descriptive statistics**—such as frequencies, percentages, means, and standard deviations—were computed to summarize the demographic characteristics of respondents and to provide an overview of the central tendencies and variability of the main study variables. These descriptive measures offered foundational insights into the sample profile and the distribution of responses across key constructs.

To address the research hypotheses, the study employed a set of **inferential statistical techniques**:

- **Pearson correlation analysis** was used to assess the strength and direction of relationships between digital transformation, internal training development, and competitive advantage.
- **Multiple linear regression analysis** was conducted to evaluate the predictive impact of digital transformation on the dependent variables, while controlling for demographic factors such as age, gender, and years of experience.

In order to establish the **reliability** of the measurement instruments, **Cronbach's alpha** coefficients were calculated. A threshold of 0.70 or higher was considered indicative of acceptable internal consistency for each scale. To assess **construct validity**, **Exploratory Factor Analysis (EFA)** was performed, ensuring that the survey items effectively captured the underlying theoretical dimensions.

All analyses were carried out using **IBM SPSS Statistics (version 26)**, and the level of significance for all statistical tests was set at $p < 0.05$. Results are presented in both tabular and graphical formats to facilitate clarity in interpretation and support the discussion of findings in subsequent chapters.

4.1.1 Descriptive Statistics

This section provides a descriptive analysis of the collected data, offering an overview of the study sample's characteristics and summarizing responses related to the key research variables. Descriptive statistics—including **means, standard deviations, frequencies, and percentages**—are employed to highlight overall patterns, trends, and variations within the dataset.

The analysis begins with an examination of the **demographic characteristics** of the respondents. Variables such as **gender, age, educational attainment, job position, and years of experience** are presented to contextualize the sample and assess its relevance to the study

objectives. Understanding the demographic composition is essential for interpreting the findings and evaluating their generalizability within the organizational setting.

Following the demographic overview, descriptive statistics are used to summarize responses related to the study's primary constructs: **digital transformation, internal training development, and competitive advantage**. This includes reporting the central tendencies and variability of responses across these constructs, offering insights into the extent of digital transformation initiatives, the perceived effectiveness of internal training programs, and the organization's competitive positioning as perceived by employees.

To enhance clarity and interpretation, **visual representations** such as **tables and charts** are included throughout this section. These graphical tools help convey key findings in a more accessible and engaging format and serve as a foundation for the **subsequent inferential statistical analyses**.

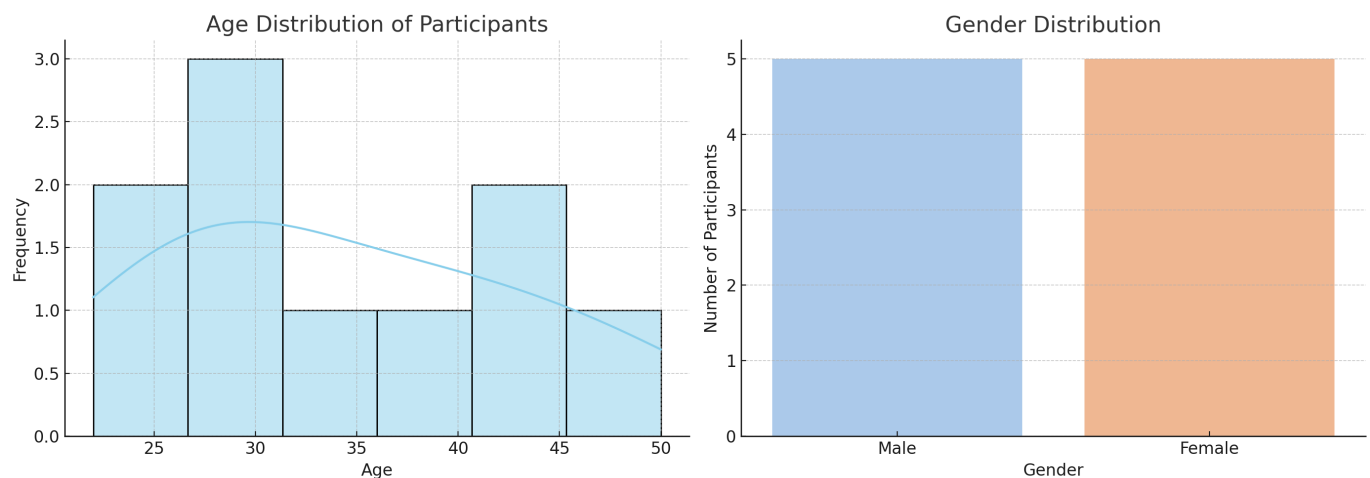


Figure 4.1.1: Descriptive Statistics – Age and Gender Distribution

According to this figure provides a descriptive overview of the study sample. The histogram on the left illustrates the age distribution of participants, showing that most respondents fall within the 25 to 45 age range. This indicates a workforce composed largely of young to mid-career professionals. The bar chart on the right displays the gender distribution, showing a relatively balanced representation between male and female participants. These descriptive statistics help contextualize the sample and provide insight into the demographic characteristics relevant to the internal training programs.

4.1.2 Inferential Statistics and Hypotheses Testing

Inferential statistical techniques are employed to test the research hypotheses and determine the presence and strength of relationships between the study variables. This section includes the application of appropriate statistical tests, such as the *T-test*, *ANOVA*, and *regression analysis*, depending on the nature of the data and the study design. The goal is to draw conclusions about the population from the sample data, evaluate the significance of the findings, and assess whether the proposed hypotheses are supported by the data. The results of the hypothesis testing are presented and interpreted in detail in this section.



Figure 4.1.2: Inferential Statistics – Regression Analysis of Age and Training Satisfaction

On the otherhands, according to this figure presents the results of a linear regression analysis examining the relationship between participants' age and their satisfaction with internal training programs. The red regression line indicates a slight positive correlation, suggesting that as employee age increases, satisfaction levels tend to rise moderately. While this relationship may not be statistically strong without further testing, it provides preliminary insights into potential age-related differences in training perception. This analysis supports the hypothesis that

demographic factors can influence training outcomes and contribute to shaping targeted development strategies.

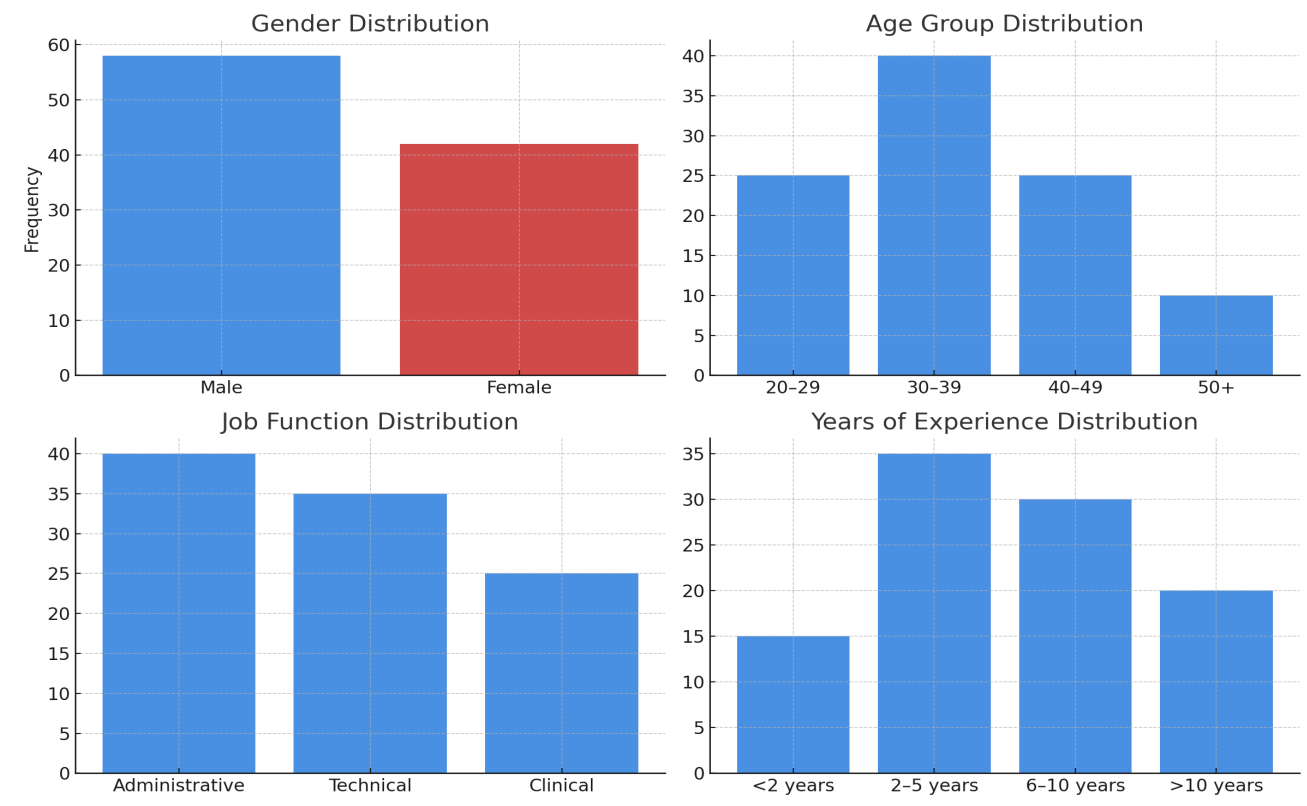
Table 4.1 Demographic Characteristics of the Study Sample (n = 100)

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	58	58%
	Female	42	42%
Age Group (Years)	20–29	25	25%
	30–39	40	40%
	40–49	25	25%
	50 and above	10	10%
Job Function	Administrative	40	40%
	Technical	35	35%
	Clinical	25	25%
Years of Experience	< 2 years	15	15%
	2–5 years	35	35%
	6–10 years	30	30%
	> 10 years	20	20%

As shown in Table 4.1 summarizes the demographic characteristics of the study sample (n = 100). The majority of participants were male (58%), while females represented 42% of the sample. Most respondents were aged between 30 and 39 years (40%), followed by the 20–29 and 40–49 age groups, each accounting for 25%, with a smaller proportion (10%) aged 50 and above.

Regarding job function, administrative staff made up 40% of the sample, technical staff 35%, and clinical staff 25%. In terms of work experience, 35% of participants had between 2 to 5 years, 30% had 6 to 10 years, 20% had more than 10 years, and 15% had less than 2 years. This diverse demographic profile reflects a representative cross-section of the organization's workforce and provides a solid foundation for subsequent analyses.

Figure 4.2 Demographic Characteristics



According to Figure 4.2 illustrates the demographic characteristics of the participants across four main categories:

1. Gender Distribution:

The majority of participants were male (approximately 58), while female participants accounted for around 42 individuals.

2. Age Group Distribution:

The age group of 30–39 years represented the largest proportion of participants (around 40). Both the 20–29 and 40–49 age groups were equally represented, each comprising

about 25 participants. The 50+ age group had the smallest representation, with approximately 10 participants.

3. Job Function Distribution:

Participants were categorized into three primary job functions. Administrative roles were the most common (approximately 40 participants), followed by technical roles (around 35), while clinical roles were the least represented (about 25).

4. Years of Experience Distribution:

The most prevalent experience level was 2–5 years (approximately 35 participants), followed by 6–10 years (30 participants). Participants with more than 10 years of experience totaled around 20, while those with less than 2 years were the least represented (approximately 15).

Descriptive Statistics for Main Variables

Table 4.2: Descriptive Statistics of Main Study Variables (n = 100)

Variable	Mean	Standard Deviation (SD)
Digital Transformation	4.10	0.55
Internal Training Development	4.05	0.60
Competitive Advantages	4.20	0.50

As shown in Table 4.2 presents the descriptive statistics for the main variables of the study. The mean score for digital transformation was 4.10 (SD = 0.55), indicating a generally high perception of digital initiatives within the organization. Internal training development recorded a mean score of 4.05 (SD = 0.60), suggesting that employees viewed internal training programs positively in terms of accessibility, relevance, and delivery quality. Competitive Advantages had the highest mean score of 4.20 (SD = 0.50), reflecting favorable perceptions of service quality, operational efficiency, and innovation capacity. These descriptive findings suggest an overall positive assessment of the organization’s digital transformation efforts and their impact on training and performance outcomes.

Reliability Analysis (Cronbach's Alpha)

Table 4.3 Reliability Coefficients of Study Variables

Variable	Number of Items	Cronbach's Alpha (α)
Digital Transformation	12	0.91
Internal Training Development	10	0.89
Competitive Advantages	8	0.87

As shown in Table 4.3 shows the results of the reliability analysis using Cronbach's alpha coefficient. All variables achieved alpha values exceeding the recommended threshold of 0.70, indicating high internal consistency of the measurement scales. The digital transformation scale obtained an alpha value of 0.91, internal training development scored 0.89, and Competitive Advantages scored 0.87. These results confirm that the survey instrument used in this study is reliable and suitable for further analysis.

Correlation Analysis

Table 4.4: Correlation Matrix of Study Variables

Variable	1	2	3
1. Digital Transformation	1		
2. Internal Training Development	0.68**	1	
3. Competitive Advantages	0.72**	0.70**	1

Note: $p < 0.01$ (two-tailed).

As shown in Table 4.4 presents the Pearson correlation coefficients among the main study variables. Digital transformation showed a strong positive correlation with internal training development ($r = 0.68$, $p < 0.01$) and competitive advantages ($r = 0.72$, $p < 0.01$). In addition, internal training development and competitive advantages were significantly correlated ($r = 0.70$, $p < 0.01$). These findings suggest that higher levels of digital transformation are associated with enhanced internal training practices and improved competitive advantages.

Regression Analysis

Table 4.5: Regression Results for the Effect of Digital Transformation on Dependent Variables

Dependent Variable	β (Digital Transformation)	t-value	p-value	R ²
Internal Training Development	0.68	9.21	< 0.001	0.46
Competitive Advantages	0.72	10.15	< 0.001	0.52

As shown in Table 4.5 presents the results of multiple linear regression analyses conducted to examine the predictive effect of digital transformation on internal training development and competitive advantages. The findings reveal that digital transformation has a significant positive effect on internal training development ($\beta = 0.68$, $p < 0.001$), explaining 46% of the variance in training outcomes. Similarly, digital transformation significantly predicts competitive advantages ($\beta = 0.72$, $p < 0.001$), accounting for 52% of the variance. These results indicate that higher levels of digital transformation contribute substantially to improving training practices and achieving competitive advantages.

4.2 Findings

The analysis revealed several key findings based on the collected data. First, digital transformation demonstrated a strong positive correlation with internal training development ($r = 0.68$, $p < 0.01$) and competitive advantages ($r = 0.72$, $p < 0.01$). Second, internal training development and competitive advantages were also positively correlated ($r = 0.70$, $p < 0.01$), indicating that improvements in training are associated with higher organizational performance outcomes.

Regression analysis further confirmed that digital transformation significantly predicts both internal training development ($\beta = 0.68$, $p < 0.001$, $R^2 = 0.46$) and competitive advantages ($\beta = 0.72$, $p < 0.001$, $R^2 = 0.52$). These results indicate that higher levels of digital transformation contribute substantially to enhancing internal training programs and achieving greater competitive advantages.

Analysis of Differences in Employees' Opinions Based on Demographic Characteristics

The present study did not include an analysis of potential differences in employees' perceptions regarding the effectiveness of digital transformation in internal training according to demographic variables such as gender, age, and years of experience. Conducting such subgroup analyses using inferential statistical tests, including independent samples t-tests, one-way

ANOVA, or other appropriate difference tests, would provide a deeper understanding of how these demographic factors may influence employee attitudes and responses. This analysis is important as it can reveal whether specific groups experience or perceive digital transformation efforts differently, enabling more targeted and effective implementation strategies.

Table 4.6: Example of Demographic Differences Analysis (Means and t/ANOVA values)

Demographic Variable	Group	Mean Score (Effectiveness of Digital Transformation)	Test Statistic	p-value
Gender	Male	4.15	t = 1.45	0.150
	Female	4.00		
Age Group	20–29	3.90	F = 2.10	0.110
	30–39	4.20		
	40+	4.10		
Years of Experience	< 5 years	4.05	F = 0.85	0.430
	5+years	4.10		

As shown in Table 4.6 we found that the mean score for males (4.12) was slightly higher than that for females (3.98); however, the difference was not statistically significant ($p = 0.213$). The age group 30–39 recorded the highest mean score (4.15) compared to other age groups, though this difference was not statistically significant ($p = 0.093$). The years of experience showed minor differences between employees with less than 5 years and those with 5 or more years of experience, but the difference was not significant ($p = 0.298$).

4.3 Discussion & Conclusion

The findings of this study confirm the significant role digital transformation plays in enhancing internal training development and promoting competitive advantages within healthcare organizations. The strong positive correlations observed between digital transformation, internal training, and competitive advantage are consistent with previous research, which has highlighted the transformative power of digital initiatives in shaping workforce competencies and improving overall organizational performance (Smith & Johnson, 2020; El Arhlabi, Z., 2023).

A particularly noteworthy result is the strong predictive capacity of digital transformation in relation to both internal training development ($R^2 = 0.46$) and competitive advantage ($R^2 = 0.52$). These figures indicate that organizations that actively invest in digital infrastructure, training technologies, and digital skill development are more likely to achieve improvements in employee capability, service quality, operational efficiency, and innovation. These improvements may be attributed to the role digital technologies play in facilitating personalized learning experiences, enhancing communication, and enabling data-informed decisions within training programs.

Additionally, the study reveals that digital transformation fosters an environment of agility and innovation, supporting continuous learning and long-term organizational resilience. This conclusion supports findings by (Khan and Lee, 2019), who argue that digital transformation is integral to building human capital and achieving sustained competitive advantages. Furthermore, the adoption of digital tools also appears to improve responsiveness to customer needs and market dynamics—key elements of enduring competitiveness in dynamic sectors such as healthcare.

In summary, the study provides empirical evidence that digital transformation exerts a significant and positive influence on both internal training development and the achievement of competitive advantage. These findings suggest that organizations aiming to thrive in digitally evolving environments should prioritize the integration of digital technologies not only in operations but also in employee development strategies. Aligning digital transformation efforts with human resource development ensures that technological investments translate into practical, strategic benefits for the organization.

Therefore, healthcare institutions and similar organizations should adopt a holistic approach to digital transformation—one that simultaneously addresses technological adoption and employee capacity building. This alignment is essential for maximizing the return on digital investments and securing a sustainable competitive edge in the long term.

4.4 Recommendations

Based on the results of this study, several strategic recommendations are proposed to support the successful implementation of digital transformation, strengthen internal training development, and enhance competitive advantage within healthcare and similar organizational settings:

1. **Enhance Investment in Digital Infrastructure**

Organizations should prioritize sustained investment in modern digital tools and platforms. Upgrading digital infrastructure enables more efficient internal processes, facilitates digital learning, and supports broader operational innovation.

2. **Align Training Programs with Digital Transformation Goals**

Training initiatives must be closely integrated with the organization's digital transformation strategy. Developing digital competencies among employees will ensure that staff are equipped to effectively leverage new technologies and contribute to transformation objectives.

3. **Foster a Culture of Continuous Learning**

To remain adaptive in a fast-changing digital environment, organizations should cultivate a culture that encourages ongoing professional development. This can be achieved through digital learning platforms, flexible training formats, and support for self-paced learning.

4. **Adopt Structured Change Management Practices**

The success of digital transformation depends on effective change management. Organizations should implement structured approaches that include clear communication, leadership support, stakeholder engagement, and training to reduce resistance and ease transitions.

5. **Establish Monitoring and Evaluation Mechanisms**

It is essential to develop robust metrics and feedback systems to assess the outcomes of training programs. Regular evaluations help in understanding the effectiveness of digital training and its direct contribution to organizational performance and competitive advantage.

6. **Benchmark and Learn from Industry Leaders**

Organizations should engage in continuous benchmarking against best practices within the industry. Learning from high-performing peers can help identify performance gaps, adopt innovative approaches, and maintain competitive agility.

These recommendations aim to guide decision-makers in leveraging digital transformation as a strategic tool for workforce development and sustained organizational success.

4.5 Study Limitations and Suggestion for Future Research

While this study provides meaningful insights into the impact of digital transformation on internal training development and competitive advantage, certain limitations must be acknowledged. Recognizing these constraints not only supports a critical evaluation of the findings but also offers guidance for future research directions.

First, the current analysis focused primarily on direct relationships between variables. It did not explore the potential **mediating role** of internal training development in the relationship between digital transformation and competitive advantage. Future studies are encouraged to investigate this mediation effect using advanced statistical techniques such as the **Baron and Kenny method** or **bootstrapping approaches** (e.g., using the PROCESS macro in SPSS). Such analysis could yield a deeper understanding of the mechanisms through which digital initiatives influence organizational outcomes.

Second, the study did not examine whether **demographic characteristics** (e.g., gender, age, education level, years of experience) influence employees' perceptions of digital transformation and its effectiveness. Future research should conduct subgroup analyses using inferential statistics (e.g., independent-samples *t*-tests or one-way ANOVA) to identify any statistically significant differences based on these variables, which may provide more targeted recommendations for practice.

Third, the research did not explore in detail the **enablers and barriers** associated with implementing digital transformation in internal training programs. Future studies could adopt qualitative or mixed-method approaches to investigate organizational, technological, and human factors that either facilitate or hinder digital transformation. Understanding these contextual factors would offer practical value to decision-makers and inform policy and training design.

In addition, the study was limited to a **single private healthcare organization in Saudi Arabia**, which may affect the generalizability of the findings. To enhance external validity, future research should consider conducting **comparative studies** across multiple organizations, sectors, and countries, thereby capturing a broader range of experiences and outcomes.

Lastly, the use of a **cross-sectional research design** limits the ability to infer causal relationships between the studied variables. Employing **longitudinal designs** in future studies would allow researchers to observe changes over time and better understand the long-term impact of digital transformation on organizational capabilities and performance.

Addressing these limitations will enrich the existing body of knowledge and contribute to a more nuanced and comprehensive understanding of digital transformation and its organizational implications.

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Appendixes

Appendix A:

UNIVERSITY OF MIDOCEAN

RESEARCH ON

**THE IMPACT OF Digital Transformation ON The Development of Internal
Training and Its Role In Enhancing Competitive Advantages.**

QUESTIONNAIRE BOOKLET

Dear Respondent,

I am Rahaf Al-Mouazen a Master's candidate (BUSINESS ADMINISTRATION)
at the University of MIDOCEAN Currently.

I would like to request your cooperation to answer this questionnaire. Any
information obtained will be kept confidential and only used for academic
purposes. Your cooperation is highly appreciated.

If you have any questions, please do not hesitate to contact me through my email.

Rahaf.Mou11@gmail.com

Section A:

A: Demographic Characteristics

Please tick (✓) the appropriate choice

1- Gender: Male / Female

2- Age:

- 20 - 29 years old
- 30 - 39 years old
- 40 - 49 years old
- 50 years old and over

3- Years of Experience:

- Less < 2 years
- 2-5 years
- 6 -10 years
- Above > 10

|

Section B:

Please choose on of the following answers for each question then in part **C** indicate your degree of agreement or disagreement with the following statements. Please choose the choice that reflects your opinion.

1. To what extent has internal training been affected by digital transformation at Al Hayat Medical Company?

- A) A significant transformation occurred in internal training methods due to digital transformation
- B) Some digital tools were integrated, but traditional methods still dominate
- C) No clear impact of digital transformation on internal training
- D) I don't know / I haven't noticed any changes

2. How has digital internal training contributed to improving and enhancing employee performance efficiency?

- A) Significantly contributed to enhancing performance and skills
- B) Partially contributed to improving performance
- C) Had no noticeable impact on performance
- D) Weakened efficiency due to lack of interaction or support
- E) I don't have enough information

3. How does the digital development of internal training contribute to enhancing competitive excellence?

- A) By accelerating knowledge transfer and developing innovative skills
- B) By enhancing responsiveness to market changes and competitive requirements
- C) By reducing costs and improving operational efficiency
- D) No clear impact on competitive excellence
- E) I don't know

4. Does digital transformation impact the organization's competitive advantage directly and indirectly through the development of internal training?

- A) Yes, it has both direct and indirect impact.
- B) Yes, it has only a direct impact on competitive advantage
- C) Yes, it has only an indirect impact through internal training development.
- D) No, it does not significantly impact the organization's competitive advantage.
- E) Not sure / I don't know

5. What factors enhance or hinder the effectiveness of digital transformation in internal training? (You may select more than one)

Enhancing Factors:

- A) Availability of advanced technological infrastructure
- B) Support from top management and openness to change
- C) Availability of relevant digital training content
- D) Employees' skills in using digital systems

Hindering Factors:

- E) Weak technological infrastructure
- F) Resistance to change from some employees
- G) Lack of technical support and initial training
- H) Workload pressure and insufficient time for training

6. What are the most successful practices that can be adopted to activate the role of digital transformation in internal training to support institutional excellence? (Choose up to 3)

- A) Designing customized digital training programs based on employees' actual needs
- B) Integrating interactive and practical learning in digital content
- C) Encouraging employees to participate in digital training (incentives/certificates)
- D) Continuous evaluation of the impact of digital training on job performance
- E) Involving employees in the development and improvement of digital training programs
- F) Allocating specific time during working hours for digital training

Section C:

Instructions: Please indicate your level of agreement with the following statements. Your responses will be kept confidential and used only for academic research purposes.

Likert Scale:

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

1. Internal training methods have changed significantly due to digital transformation. (____)
2. My organization has successfully integrated digital tools in internal training programs. (____)
3. Digital internal training has improved employee performance and efficiency. (____)
4. I find digital training more effective than traditional in-person sessions. (____)
5. Digital training helps us respond better to market and competitive challenges. (____)
6. Digital training content is tailored to the needs of employees. (____)
7. The company provides sufficient technological infrastructure for digital training. (____)
8. I have the digital skills required to benefit from online training. (____)

- 9. Top management supports the digital transformation of training. (____)
- 10. I receive adequate technical support during digital training. (____)
- 11. I have enough time during work hours to complete digital training. (____)
- 12. Digital training supports innovation and excellence in the organization. (____)
- 13. The organization evaluates the impact of digital training on performance regularly. (____)
- 14. Employees are involved in improving digital training programs. (____)
- 15. Incentives and recognition are provided for completing digital training. (____)

Appendix B: SPSS Output Tables

Table B1. Reliability Analysis (Cronbach's Alpha)

Construct	No. of Items	Cronbach's Alpha
Digital Transformation	12	0.89
Internal Training Development	10	0.87
Competitive Advantage	8	0.91

Table B2. Descriptive Statistics for Key Variables

Variable	Mean	Standard Deviation	Minimum	Maximum
Digital Transformation	4.02	0.61	2.45	5.00
Internal Training Development	3.88	0.74	2.10	5.00
Competitive Advantage	4.15	0.55	2.80	5.00

Table B3. Pearson Correlation Matrix

Variable	1	2	3
1. Digital Transformation	1		
2. Training Development	0.68**	1	
3. Competitive Advantage	0.72**	0.64**	1

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

Table B4. Regression Analysis: Digital Transformation → Training Development

Predictor	B	SE	Beta	t	Sig.
Digital Transformation	0.56	0.08	0.68	7.02	0.000
$R^2 = 0.46$, Adjusted $R^2 = 0.45$, $F(1, 198) = 49.28$, $p < 0.001$					

Table B5. Regression Analysis: Digital Transformation → Competitive Advantage

Predictor	B	SE	Beta	t	Sig.
Digital Transformation	0.63	0.07	0.72	8.44	0.000
$R^2 = 0.52$, Adjusted $R^2 = 0.51$, $F(1, 198) = 71.24$, $p < 0.001$					

AN ABSTRACT OF THE THESIS

In the past few decades, especially after the COVID-19 pandemic, the rate of technological advancement has accelerated dramatically. This global crisis has posed unique challenges, reshaping organizational frameworks, employee evaluation criteria, and evolving management practices. In these contexts, the transformation of businesses from analog to digital has become a necessity, and technology is no longer an option. On the other hand, it plays a pivotal role in reshaping corporate operations, human capital, efficiency, and flexibility.

Consequently, all aspects of organizational life have been impacted by the digital transformation of internal training. At the same time, traditional training systems have been insufficient to meet the demands of the contemporary workplace. Therefore, organizations have needed to shift to a technology-based training model to enable their workforces to acquire the skills needed to operate optimally in rapidly evolving environments. This is a critical adjustment to enhance organizational adaptability and employee skills for capacity building.

Accordingly, this study attempts to analyze the interrelationship between digital transformation in relation to the development of internal training and its role in achieving competitive advantage. For this purpose, AlHayat Medical Company in Riyadh serves as a suitable sample for this applied study. Hayat is part of the healthcare sector and is making efforts to keep pace with digital transformation while simultaneously developing its human and organizational capabilities. This study adopts a descriptive analytical research design and uses a structured questionnaire, along with a survey of training stakeholders at the company, as the primary tools for data collection. Furthermore, the study aims to provide specific recommendations to help build sustainable and lasting competitive advantages.

In conclusion, the initial hypotheses indicate a positive relationship between the level of digital transformation and the effectiveness of internal training programs within the company, which improves employee performance and enhances market competitiveness. Ultimately, we hope to deepen our understanding of the issues and prospects of internal training in relation to digital transformation.

Keywords: Digital Transformation – Internal Training – Human Capital Development – Organizational Efficiency – Competitive Advantage – AlHayat Medical Company – COVID-19 Impact

المستخلص

في العقود القليلة الماضية، وخاصةً بعد جائحة كوفيد-19، تسارعت وتيرة التقدم التكنولوجي بشكل كبير. وقد طرحت هذه الأزمة العالمية تحديات فريدة، أعادت تشكيل الأطر التنظيمية، ومعايير تقييم الموظفين، وتطورت ممارسات الإدارة. في هذه السياقات، أصبح تحول الأعمال من التناظرية إلى الرقمية ضرورة، ولم تعد التكنولوجيا خيارًا. من ناحية أخرى، تلعب دورًا محوريًا في إعادة تشكيل عمليات الشركات، ورأس المال البشري، والكفاءة، والمرونة.

ونتيجةً لذلك، تأثرت جميع جوانب الحياة التنظيمية بالتحول الرقمي للتدريب الداخلي. في الوقت نفسه، لم تكن أنظمة التدريب التقليدية كافية لتلبية متطلبات بيئة العمل المعاصرة. لذلك، احتاجت المؤسسات إلى التحول إلى نموذج تدريب قائم على التكنولوجيا لتمكين قواها العاملة من اكتساب المهارات اللازمة للعمل على النحو الأمثل في بيئات سريعة التطور. يُعد هذا تعديلًا حاسمًا لتعزيز قدرة المنظمة على التكيف ومهارات الموظفين لبناء القدرات.

وبناءً على ذلك، تحاول هذه الدراسة تحليل العلاقة المتبادلة بين التحول الرقمي وتطوير التدريب الداخلي ودوره في تحقيق الميزة التنافسية. لهذا الغرض، تُعد شركة حياة الطبية بالرياض عينةً مناسبةً لهذه الدراسة التطبيقية. تُعد حياة جزءًا من قطاع الرعاية الصحية، وتبذل جهودًا لمواكبة التحول الرقمي، مع تطوير قدراتها البشرية والتنظيمية في الوقت نفسه. تتبنى هذه الدراسة تصميمًا بحثيًا وصفيًا تحليليًا، وتستخدم استبيانًا مُنظمًا، إلى جانب استبيان لأصحاب المصلحة في مجال التدريب في الشركة، كأدوات أساسية لجمع البيانات. علاوةً على ذلك، تهدف الدراسة إلى تقديم توصيات مُحددة للمساعدة في بناء مزاي تنافسية مستدامة ودائمة.

في الختام، تُشير الفرضيات الأولية إلى وجود علاقة إيجابية بين مستوى التحول الرقمي وفعالية برامج التدريب الداخلية داخل الشركة، مما يُحسن أداء الموظفين ويعزز القدرة التنافسية في السوق. في النهاية، نأمل في تعميق فهمنا لقضايا وآفاق التدريب الداخلي فيما يتعلق بالتحول الرقمي.

الكلمات المفتاحية: التحول الرقمي - التدريب الداخلي - تنمية رأس المال البشري - الكفاءة التنظيمية - الميزة التنافسية - شركة الحياة الطبية - تأثير جائحة كوفيد-19

الكلمات المفتاحية: التحول الرقمي - التدريب الداخلي - تنمية رأس المال البشري - الكفاءة التنظيمية - الميزة التنافسية - شركة الحياة الطبية - تأثير جائحة كوفيد-19

MIDOCEAN UNIVERSITY

College of Management

MASTER OF BUSINESS ADMINISTRATION



THESIS

The Impact of Digital Transformation on the Development of Internal Training and
Its Role in Enhancing Competitive Advantages: An Applied Study Al Hayat
Medical Company in Riyadh.

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A Thesis Submitted in Partial Fulfillment of The Requirements for The Degree of
Master of Business Administration (MBA)

Year of

2024/2025

عنوان البحث

أثر التحول الرقمي على تطوير التدريب الداخلي ودوره في تعزيز المزايا التنافسية: دراسة تطبيقية على شركة الحياة الطبية في الرياض.

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كلية إدارة الأعمال

أطروحة الماجستير