



Digital Transformation And Its Impact On Human Resources Management Performance At Hsa Group (Hq) In Yemen

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Keywords

1. Digital transformation
2. HRM performance
3. HSA Group

Abstract:

This study was aimed at examining digital transformation and its impact on the performance of human resources management (HRM) at Hayel Saeed Anam (HSA) Group (HQ) in Yemen. The study sample consisted of 164 employees at HSA Group. A quantitative approach was adopted using SPSS v21.0 to analyze the correlation and regression results.

The findings indicate that the independent variables—digital transformation components such as technological infrastructure, organizational culture, and transformational leadership—have a significant positive effect on HRM performance. The regression analysis explains 59.8% of the variation in HRM performance. A plausible interpretation of this positive result is that the selected independent variables are effective tools for enhancing HRM performance in that they can reshape HR functions and thus make them more effective and efficient.

Based on these findings, the study offers some practical recommendations for HSA Group should it wish to improve HRM performance and obtain a competitive status among other businesses.

The study also recommends that other industrial and commercial sectors in Yemen take into consideration these factors as they appear to have an immediate impact on HRM performance. Given the obvious limitations of the study, future research could pay closer attention to additional variables that may substantially enhance HRM performance as well as challenges that may undermine HRM practices.

التحول الرقمي وأثره على أداء إدارة الموارد البشرية في مجموعه هائل سعيد انعم (المقر الرئيسي) - الجمهورية اليمنية

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الكلمات المفتاحية

2. أداء إدارة الموارد البشرية

1. التحول الرقمي

3. مجموعة هائل سعيد انعم

الملخص:

هدفت هذه الدراسة إلى تحليل التحول الرقمي وأثره على أداء إدارة الموارد البشرية في مجموعة هائل سعيد انعم بالجمهورية اليمنية (المقر الرئيسي). استخدم الباحث أسلوب المعاينة العشوائية البسيطة لاختيار عينة مكونة من 164 موظفًا يعملون في المجموعة. اتبعت الدراسة منهجًا كميًا، وتم استخدام برنامج SPSS 21.0 لتحليل الارتباط والانحدار للبيانات. تشير النتائج إلى أن المتغيرات المستقلة — وهي مكونات التحول الرقمي مثل البنية التحتية التكنولوجية، والثقافة التنظيمية، والقيادة التحولية — لها تأثير مباشر على أداء إدارة الموارد البشرية، لا سيما في مجالات التوظيف والاختيار، والتدريب والتطوير، والامتثال والحوكمة. علاوة على ذلك، كشفت تحليلات الانحدار أن التحول الرقمي يمكن أن يفسر نسبة 8.59% من التباين في أداء إدارة الموارد البشرية. كما أن لكل من البنية التحتية التكنولوجية، والثقافة التنظيمية، والقيادة التحولية تأثير إيجابي على هذا الأداء. وبناء على هذه النتائج، تقدم الدراسة توصيات عملية لمجموعة هائل سعيد انعم (المقر الرئيسي) في اليمن للتركيز على العوامل الرئيسية التي تؤثر في أداء إدارة الموارد البشرية وتسهم في تحقيق ميزة تنافسية. أوصت الدراسة مجموعة هائل سعيد انعم في اليمن بالتركيز على العوامل المؤثرة في أداء إدارة الموارد البشرية، لما لها من دور في تحقيق ميزة تنافسية. كما تشجع الدراسة جميع القطاعات في اليمن على الاهتمام بهذه العوامل وغيرها من العوامل التي تؤثر بشكل مباشر على أداء إدارة الموارد البشرية. وتوصي أيضًا الباحثين الآخرين بإيلاء هذا الجانب اهتمامًا أكبر، وإجراء دراسات تركز على التحديات المؤثرة في أداء إدارة الموارد البشرية.

1. Introduction

Digital transformation can be interpreted as a process of change and modification that businesses initiate to overhaul their existing ways and processes of business by adopting modern digital technology. This process of adoption and implementation takes place as a result of the emergence of new and more efficient tools and systems inside companies and in the world around them. Businesses need to update how they do things, how they communicate with their workers and customers, and how they keep up with more recent market changes. As new technologies keep coming into existence, customers expect faster and better services. To ensure customer satisfaction, a business must improve its existing workflows should it wish not to fall behind other competing organizations. Digital transformation helps businesses become more creative and find new ways to work. It's not just about turning paper into digital files it's about using technology to make better decisions and create new value (Sakarina et al.,2022).

Another essential component of an organization is Human Resource Management (HRM). HRM refers to a set of structured practices that support the effective management of people within an organization. Key HRM functions include recruitment, training, performance evaluation, compensation, and employee development, all of which are essential for enhancing staff performance and overall productivity. These practices aim to provide employees with the skills, knowledge, and motivation needed to fulfill their roles effectively and contribute to the achievement of institutional objectives. By aligning human resources with strategic goals, HRM plays a vital role in building a capable and committed workforce (Lou et al.,2024). In general, HRM across organizations has been significantly reshaped by digital transformation in terms of efficiency, strategic alignment, and data-driven decision-making. (Eprianto et al., 2025). In particular, digital transformation of HRM represents the systematic integration of technology

to replace traditional, paper-based HR data with computerized formats, enhancing efficiency and accessibility (Lou et al., 2024). It also means using digital technology to improve HR-related processes, such as automating routine tasks, analyzing data for decision-making, enhancing employee experience through digital platforms, and developing training strategies with online learning programs. This integration ultimately enhances HR performance, leading to improved overall efficiency of the organization and increased employee satisfaction.

1.1. Problem Statement

Digital transformation of HRM often leads to effective and efficient HRM performance, which contributes to job satisfaction, higher productivity, and overall organizational success. However, the understanding of how digital tools can be leveraged to enhance HRM performance is still quite limited, which in turn hinders the achievement of long-term organizational objectives.

In today's fast-paced business environment, digital transformation has become essential, particularly in HRM. Traditional HR processes, which rely on manual methods and paper-based systems, are often inefficient and time-consuming, leading to increased operational costs (Bahari, 2025). For big companies such as Hayel Saeed Anam (HAS) Group, the need to face intense competitive pressures through streamlining HR functions and improving productivity is more urgent than ever.

Reliance on outdated HR practices can hinder organizational effectiveness. By adopting digital solutions, organizations can achieve automation, improve data management, and strengthen employee engagement. Nevertheless, uncertainty remains of the specific impact of these tools on HRM performance (Zhang & Chen, 2024).

Bhat and Sheikh (2024) addressed the challenges of digitization in human resources and recommended more empirical research in this area. Embracing digital transformation in HRM is crucial for organizations seeking operational efficiency and enhanced employee satisfaction. Therefore, this study aims to examine the effect of digital transformation on HRM performance.

1.2. Research Questions

This study attempts to examine the effect of digital transformation (Technological Infrastructure, organizational culture, transformational leadership) on HRM performance in the private sector, taking HSA Group as a case study. The study thus addresses the following main question:

1. What is the impact of digital transformation on HRM performance at HSA Group?

In addition, the study aims to answer the following sub-questions:

1.a Does technological infrastructure have a significant effect on HRM performance at HSA Group?

1.b Does organizational culture have a significant effect on HRM performance at HSA Group?

1.c Does transformational leadership have a significant effect on HRM performance at HSA Group?

1.3. Objectives of the Study

This study aims to understand the effect of digital transformation on HRM performance in the private sector, taking HSA Group as a case study. Furthermore, this aims to achieve the following objectives:

1.To examine the effect of digital transformation on HRM performance at HSA Group.

1.a To examine the effect of technological infrastructure on HRM performance at HSA Group.

1.b To examine the effect of organizational culture on HRM performance at HSA Group.

1.c To examine the effect of transformational leadership on HRM performance at HSA Group.

1.4. Significance of the Study

First: Practical Significance of the Study

The importance of this study lies in the fact it shows how digital transformation can help improve human resource management in the private sector, especially in Yemen. By looking closely at HSA Group, the research will, hopefully, yield insights that can help managers and decision-makers make better choices about how they manage people. It helps them see where current HR practices might be weak and

how digital tools can be utilized to make workflows more efficient. This includes improving the processes of recruitment, employee training, and employee support. The study also offers ways to avoid future problems by making use of digital technology for better planning and management.

Second: Theoretical Significance of the Study

This study examines the relationship between digital transformation and HRM performance, offering a framework for analysis in administrative contexts. In doing so, the study adds to the existing literature on private sectors in Yemen and other Arab countries and thus helps future research, especially in Yemen and other developing countries.

1.5. Scope of the Study

The scope of this research focuses on the impact of digital transformation on HRM performance within HSA Group. Digital transformation is treated as the independent variable, while HRM performance is the dependent variable. Data was collected through a questionnaire survey targeting HSA Group employees, as the study aims to explore internal factors affecting HRM outcomes at the target organization.

1.6. Definitions of Terms

This section describes the key terms that are adopted to this study:

1.6.1 HRM Performance

HRM performance refers to how well human resource activities (e.g. hiring, training, and evaluation) can help improve employee productivity and help achieve company's goals (Lou et al.,2024).

1.6.2 Digital Transformation

Digital transformation is the process of using digital technologies to improve organizational performance, efficiency, and adaptability (Sakarina et al., 2022).

A. Technological Infrastructure

Technological infrastructure refers to the integrated system of hardware, software, networks, and digital tools that support and enable the efficient operation of technological processes within an organization or society. It encompasses components such as servers, databases, communication systems, and cloud

platforms, which collectively facilitate data management, connectivity, and the delivery of digital services (Adeoye & Osibo, 2023).

1.6.3 Organizational Culture

Organizational culture refers to values, beliefs, and behaviours that guide how employees think, work, and relate to one another within the organization (Akpa et al., 2021).

1.6.4 Transformational Leadership

Transformational leadership represents a pivotal approach to fostering employee engagement and enhancing organizational performance by inspiring individuals to align with a shared vision and collective values. By creating an open environment for learning and problem-solving, transformational leadership fosters affective commitment and empowers employees to contribute meaningfully to organizational objectives, especially during periods of change or crisis (Almohtaseb et al., 2021).

2: Literature Review.

This section covers research framework and development of the hypotheses in addition to providing a comprehensive literature review of the studies and research endeavours that have been conducted on the relationship between digital transformation and HRM performance, with HRM performance as the dependent variable and digital transformation as the independent variable.

2.1 Human Resource Management Performance

Human resources “are considered one of the most important resources of an enterprise” (Nguyen & Dao, 2023). Building on this, an effective HRM Strategy “is a planned and coordinated approach to managing the workforce and human resources within an organization” (Agustian et al., 2023).

2.1.1 Importance of HRM Performance in HSA Group

HRM refers to the strategic process of managing individuals within an organization to ensure that company goals and objectives are achieved in an effective and efficient manner (Wahdaniah et al., 2023).

2.1.1.1 Recruitment and Selection:

Among the key components of HRM, recruitment and selection “include strategies to attract and select individuals most suitable for the organization's needs. This involves recruitment processes, interviews, assessments, and decision-making regarding the hiring of new employees” (Agustian et al., 2023).

2.1.1.2 Training and Development:

Training and development, which are defined as “Employee training has a positive effect on organizational performance, as well as person as well.” (Anwar & Abdullah, 2021).

2.1.1.3 Compliance and Governance:

Compliance and governance are “strives to ensure that the organization complies with laws and regulations related to work and employees” (Alahmadi, 2024).

2.2 Digital Transformation

Digital transformation is defined as reshaping organizations as a result of continuous technological advancements and shifting external environments. These changes compel businesses to revisit and adjust their internal processes, leading to new dynamics in how companies engage with both employees and customers. As market conditions evolve, organizations must respond with agile strategies and innovative solutions that reflect the growing influence of digital tools. This transformation is not just operational, it signals a deeper shift in organizational culture, communication, and value delivery, requiring leaders to rethink conventional models and embrace a more interconnected and adaptive way of working (Sakarina et al., 2022).

To grow and maintain a competitive position in today's fast-paced and technology-driven environment, it is essential to invest in digital technologies and integrate digital capabilities into core business processes. This strategic shift, commonly referred to as digital transformation, involves rethinking traditional operations, embracing innovation, and leveraging digital tools to enhance efficiency, agility, and customer value. It represents a

fundamental change in how organizations operate and deliver services, enabling them to adapt to evolving market demands and technological advancements (Ribas & Teixeira, 2021)

Digital transformation dimensions: Digital transformation is defined as “a process aimed at improving an entity, by bringing about significant changes in its characteristics, through combinations of information, computing, communication and technologies” (Khatib & Alshwabkeh, 2022).

2.2.1 Technological Infrastructure

In response to the exponential growth of information, organizations must fully embrace digital transformation through all its stages. This process necessitates the establishment of advanced and modern infrastructure, the deployment of qualified human resources, significant financial investments, and rigorous planning. Only through the careful orchestration of these elements can institutions harness the full potential of digital technologies to improve access to information, streamline operations, and support strategic decision-making (Alshaibani, 2024).

2.2.2 Organizational Culture

Organizational culture embodies the principle of shared meaning, emerging through collective interactions and behaviors within groups. It is shaped by the socio-historical context of organizations, including their geographic location, institutional history, workplace dynamics, and formative experiences. As a multidimensional and layered phenomenon, organizational culture encompasses cognitive patterns, symbolic representations, and implicit norms that guide employee perceptions and actions. Moreover, it is often perceived as a holistic entity deeply rooted in tradition and shaped over time by influential figures such as founders and leaders forming an enduring foundation that informs organizational identity and continuity (Akpa et al., 2021).

2.2.3 Transformational Leadership

Transformational leadership represents a pivotal approach to fostering employee engagement and enhancing organizational performance by inspiring individuals to align with a shared vision and collective values. By creating an open environment for learning and problem-solving, transformational leadership fosters affective commitment and empowers employees to contribute meaningfully to organizational objectives, especially during periods of change or crisis (Almohtaseb et al., 2021).

2.3 Digital Transformation in Human Resource Management Performance

Digital Human Resource Management (Digital HRM) refers to the application of digital technologies such as computer systems, communication networks, and interactive platforms to carry out HR functions (Zhang & Chen, 2024).

2.4 Pervious Studies

This section presents an overview of previous studies which are relevant to the primary aim of the current study.

2.4.1 HRM Performance

Anwar & Abdullah (2021) investigated the influence of human resource management practices on organizational performance within governmental institutions facing globalization, rising stakeholder expectations, and intensified market competition. Their quantitative analysis, based on responses from 240 participants, revealed that decentralization was the only HRM factor positively associated with institutional effectiveness, underscoring its strategic value in enhancing performance.

Eltaher et al. (2025) examined the relationship between HRM practices and healthcare service quality in the Libyan health sector, focusing on Waddan General Hospital. Drawing on survey data from 71 employees, the study assessed the impact of selection, appointment, training, and compensation. While compensation emerged as the most influential factor, training showed a modest yet statistically significant effect. Selection and appointment practices had limited impact. Despite recognizing the relevance of training programs, respondents

expressed dissatisfaction with salary structures and perceived reward systems, highlighting the need for HRM strategies that align with employee expectations to improve service delivery.

Nguyen & Dao (2023) explored the mediating role of innovation in the link between high-performance HRM practices and firm performance, using data from 312 CEOs across Vietnam's industrial and service sectors. Their findings demonstrated that HRM practices directly foster innovation and indirectly enhance performance through innovation pathways. Additionally, organizational size moderated these outcomes. The study emphasized the importance of designing HRM systems that promote innovation and adaptability.

Radha & Aithal (2024) provided a conceptual analysis of HRM's role in the banking sector, focusing on its impact on operational efficiency, customer satisfaction, and financial outcomes. Through descriptive research and secondary data analysis, they highlighted the significance of strategic recruitment, continuous training, performance management, and employee engagement. The study also addressed challenges such as technological disruption and regulatory compliance, while identifying opportunities in artificial intelligence and data analytics. It concluded that fostering a positive organizational culture and embracing diversity are essential for driving innovation and sustainable growth.

2.4.2 Digital Transformation:
Alghuwairi (2022) examined the extent to which municipal employees accept digital transformation, employing a descriptive-analytical methodology. The study surveyed 75 directors from communications and IT departments across various municipalities. Findings revealed a statistically significant relationship between key dimensions of digital transformation—namely strategy, organizational culture, transformational leadership, and human resource practices and enhanced employee performance. The research emphasized that digital transformation extends beyond technological upgrades, representing a

comprehensive strategic shift that involves adopting new business models and redesigning organizational structures to suit the unique demands of municipal environments.

Bakkar (2021) investigated the effect of digital transformation on job performance among employees in the regular courts of the Jordanian Ministry of Justice during the COVID-19 pandemic. Employing a descriptive-analytical approach and utilizing a 39-item questionnaire, the study surveyed 278 judicial staff across various roles. The findings indicated that digital transformation was actively implemented and had a statistically significant positive impact on job performance ($\alpha \leq 0.05$). Key dimensions of digital transformation—technological infrastructure, legislation and policies, digital skills, and availability of funding recorded high arithmetic means (ranging from 3.55 to 3.918), highlighting their critical role in enhancing performance during the crisis period.

Thamri (2024) investigated the impact of digital transformation on the performance of higher education institutions, focusing on the University of M'sila. The study targeted six key dimensions: strategy, organizational culture, security and legislative requirements, technological requirements, and human resource factors. Based on 306 valid responses from approximately 1,400 faculty members, the analysis revealed that these dimensions collectively explained 70.6% of the variance in institutional performance. Among them, security and legislative requirements (56.2%) and technological infrastructure (55.1%) emerged as the most influential. While no significant performance differences were observed based on gender, variations were noted across age groups, academic ranks, and levels of professional experience. The study proposed strategic recommendations including enhanced stakeholder engagement, reform of legislative frameworks, phased implementation of digital platforms, and consistent training supported by adequate funding.

Al-Romeedy & Abu Zaid (2021) explored the impact of digital transformation on the attainment of strategic objectives within EgyptAir, with particular attention to the

mediating roles of strategic vigilance and organizational innovation. Employing a descriptive-analytical methodology, the study analyzed 344 valid responses from employees based in Cairo and Giza. The results demonstrated that digital transformation significantly enhanced both strategic vigilance and innovation, which in turn positively influenced the achievement of organizational goals. The study confirmed the mediating effect of these two factors, underscoring the necessity of aligning digital transformation initiatives with strategic foresight and innovation capacity to maximize organizational performance.

Dragomirov & Boyanov (2021) investigated the challenges of digital transformation within Bulgaria's logistics sector. Their study introduced a methodological framework for assessing digitalization levels, incorporating both intraorganizational and interorganizational indicators. Based on survey data collected from small, medium, and large logistics enterprises, the research evaluated the adoption of contemporary digital technologies and classified information systems. The findings revealed a considerable unrealized potential for digital transformation, indicating that digitalization initiatives remain in early developmental stages particularly among smaller firms.

Almahdi & Al-manzuo (2025) examined the role of digital transformation in shaping strategic orientation within Yemeni private universities. Drawing on survey responses from 297 academic and administrative leaders in Sana'a, the study employed a descriptive-analytical approach to assess the influence of key digital transformation dimensions—namely digital vision, infrastructure, human resources, organizational culture, and transformational leadership. The findings indicated a positive relationship between these dimensions and strategic orientation, with transformational leadership emerging as the most influential factor. Furthermore, the study identified an optimal assessment model comprising digital vision, human resources, organizational culture, and transformational leadership, emphasizing the strategic importance of

leadership and cultural alignment in advancing digital transformation initiatives.

2.4.3 Digital Transformation in HRM Performance:

Magherbi (2022) examined the impact of digital transformation on human resource performance through a case study of the Social Welfare Fund in Zawiya. Utilizing a descriptive-analytical approach and survey data from 200 participants analyzed via SPSS, the study identified statistically significant positive relationships between digital transformation initiatives—particularly digital strategy and digital structure—and HR performance. The findings emphasized that digital transformation is not limited to technological adoption but represents a comprehensive system that reconfigures both internal and external operational dynamics. The research further highlighted the critical role of human resources in implementing these systems, facilitating integration, and enhancing institutional performance and service quality.

Abdelhamid (2023) investigated the impact of digital transformation on human resource management practices within business organizations, using Algeria Telecom as a case study. Employing a mixed-methods approach—quantitative data from 219 survey participants analyzed via SPSS V26, alongside four structured qualitative interviews—the study assessed three core dimensions of digital transformation: operational, relational, and transformational digital management. The findings indicated that digital transformation contributed significantly (76%) to changes in HRM practices, with transformational digital management exerting the greatest influence (29.9%), followed closely by relational digital management (28.6%). The research underscored the transformative role of digitalization in reshaping HRM mechanisms, while also acknowledging the influence of contextual factors on the effectiveness of these changes.

Aldabbas (2022) examined the impact of digital transformation requirements on human resource management practices within the Jordanian government services sector. Utilizing a structured questionnaire distributed

to a randomly selected sample of 384 respondents from a population of approximately 524,000 employees, the study employed SPSS and multiple linear regression for data analysis. The results indicated that both digital transformation requirements and HRM practices were present at a moderate level; however, a significant relationship was observed, with digital transformation requirements accounting for 70.9% of the variance in HRM practices ($R^2 = 0.709$). The study recommended enhancing the alignment between digital transformation enablers and HRM systems, strengthening structural and technological foundations, and improving implementation consistency in areas such as performance evaluation, compensation, and incentives.

Alahmadi (2024) explored the role of digital transformation in enhancing the efficiency of human resource management at the Saudi Telecom Company in Medina. Adopting a descriptive-analytical approach, the study surveyed 52 employees during the second semester of the 2024 academic year. The findings indicated that digital transformation in HRM was perceived as highly effective, contributing to task acceleration, reduced effort and time, and improved employee performance. However, the study also identified several challenges, including weaknesses in technical infrastructure, high operational costs, and limited technical expertise in managing transformation systems. Recommendations included building a robust technical infrastructure, investing in skilled technical personnel and continuous employee development, implementing secure encryption technologies and digital performance tracking systems, and enhancing employee feedback mechanisms through satisfaction surveys.

Hiba & Harouini (2023) examined the role of digitization in enhancing the quality of human resource performance within public institutions, focusing on the National Social Insurance Fund for Salaried Workers (CNAS) in Ghardaïa. The study surveyed a voluntary sample of 74 participants, representing 29.13% of the total staff ($N = 254$), and employed SPSS

v22 for data analysis. Findings indicated that CNAS effectively fulfills the technical, human resource, and administrative prerequisites for digitalization. Moreover, the results revealed statistically significant differences between the implementation of digital initiatives and improvements in HR performance, confirming a positive correlation between digitization and institutional efficiency.

Jalialh (2021) explored the role of digitization in human resource management, acknowledging its conceptual entanglement with broader political interpretations. Through an applied institutional assessment, the study demonstrated that digitization plays a meaningful role in shaping both the operational and strategic dimensions of HRM. Furthermore, the institution expressed a clear intent to extend digital management across all HR functions and practices, signaling a commitment to comprehensive digital integration.

Arjan (2023) investigated digital transformation in human resource management within the Palestinian Ministry of Education, focusing on its current state, future prospects, prevailing challenges, and employee attitudes. The study surveyed 283 administrative staff across 18 directorates, representing 37.7% of the ministry's workforce, and employed a descriptive-analytical methodology supported by SPSS analysis. Findings indicated that while digital transformation in HRM was moderately implemented, employees expressed highly optimistic attitudes and strong expectations regarding its future potential. Challenges such as infrastructure limitations and strategic ambiguity were present to a moderate degree. Notably, gender differences emerged, with male employees reporting more favorable perceptions across all dimensions, whereas other demographic variables—such as location, experience, qualification, and job role—showed no significant influence, except in relation to strategy clarity. A positive correlation was observed between the existing digital landscape and employee attitudes, reinforcing the idea that visible progress enhances staff engagement. The study

recommended strengthening support for the ministry’s digital strategy, improving IT infrastructure, promoting a culture of transformation among employees, and raising awareness of the strategic importance of digital HRM reform—offering valuable contributions to the regional discourse on public sector modernization.

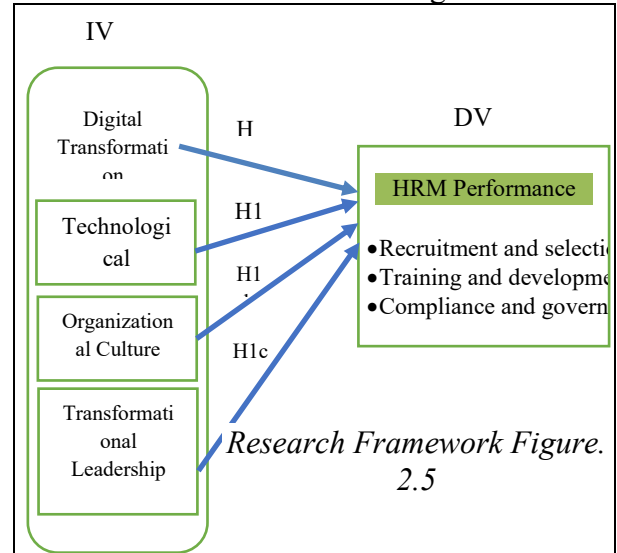
Wahdaniah et al., (2023) examined the transformation of human resource management in the digital age, highlighting recent trends and strategic implications. The study emphasized the integration of advanced technologies—such as automation, artificial intelligence (AI), and digital platforms—as key drivers reshaping core HR functions and the competencies required of HR professionals. In response to evolving employee needs and industry dynamics, HR practitioners are now expected to demonstrate technological fluency, data literacy, and adaptive capabilities. The research also underscored the importance of continuous learning and skill development to maintain workforce competitiveness amid rapid technological change. Organizational readiness was identified as a critical enabler, encompassing policy reform, structural adjustments, and workforce retraining. Concluding with a balanced perspective, the authors argued that while digital HR transformation presents significant strategic opportunities, it also introduces complex challenges that demand integrated, flexible, and forward-looking organizational responses.

Mehdi (2022) investigated the role of digital transformation in enhancing human resource management practices, focusing on a case study of the National Retirement Fund Agency in Saida. Using a descriptive-analytical methodology, the study examined the influence of digital transformation across economic and service-oriented organizations. Findings revealed that the adoption of new information and communication technologies significantly improved HRM performance within the agency. Key results highlighted measurable shifts in HR activities, including increased efficiency, responsiveness, and strategic alignment. These enhancements were attributed to digital tools that streamlined

communication, enabled data-driven decision-making, and reinforced administrative operations.

2.5 Research Framework

The goal of creating the research framework is to investigate the connections among the research variables as shown in figure. 2.5.



Research Framework Figure. 2.5

Chapter 1

2.6 Development of Hypotheses

To address the research concerns and drawing on the theoretical development and existing literature review covered in earlier parts, the following hypotheses have been established:

Main hypothesis:

H1: Digital transformation has a significant impact on HRM performance at HSA Group.

Sub-hypotheses:

H1a: Technological infrastructure has a significant effect on HRM performance at HSA Group.

H1b: Organizational culture has a significant effect on HRM performance at HSA Group.

H1c: Transformational leadership has a significant effect on HRM performance at HSA Group.

3: RESEARCH METHODOLOGY

This section presents a detailed description of the population, sample, questionnaire and instruments used in collecting the data for the purposes of the study.

3.1 Population and Sample of the Study

The population of the study is the staff of HSA Group in Yemen in the year 2024-2025. The entire staff (totaling 400 employees) was

selected as the study sample. A structured survey questionnaire was distributed to all the 400 participants. Out of this total number, 164 employees responded to the questionnaire, making up a response rate of 41%, as is displayed in Table 3.1.

Table 3.1 Sample Profile

Sample	Number of staff	Respondents	Response rate	Valid
HSA Group (HQ)	400	164	41%	164

Source: human resources management at HSA Group

3.2 Data Collection Instruments

To answer the research questions and test the hypotheses, a structured Liker 5-point scale questionnaire ranging from ‘Strongly Disagree’ to ‘Strongly Agree’ was designed and then distributed to the study subjects. It comprised three dimensions. The first dimension was intended to briefly introduce respondents to the topic and purposes of the research and to collect their demographic data (i.e. gender, age, education, position, and experience). The second dimension consisted of sixteen statements prepared to measure the dependent variable (i.e. digital transformation) with three factors (i.e. recruitment and selection, training and development, and compliance and governance) that can assess the level of HRM performance. The last dimension consisted of twelve statements that measure the independent variables (i.e. technological infrastructure, organizational culture and transformational leadership), the variable that can help assess digital transformation at HSA Group. The data were analyzed using Statistical Package for Social Sciences (SPSS) version 21.0.

3.3 Scale Validity and Reliability

The reliability of the questionnaire was measured by Cronbach’s alpha coefficient. A high value (alpha = 0.96, 28 items) was obtained, indicating strong reliability among the questionnaire items, with internal consistency among the 16 items of HRM

Performance (DV) scoring a value of 0.97 and that of the 12 items of digital transformation (IV) having a value of 0.99. See Table 3.4 for more details.

Table 3.4 Cronbach’s Alpha

	Cronbach’s Alpha	No of Items
HRM Performance	0.97	16
Digital Transformation	0.99	12
All Items	0.96	28

Chapter 2 4: DATA ANALYSIS

This part presents a detailed discussion of the descriptive data analysis.

4.1 Overall descriptive statistics for digital transformation in organization dimensions

The overall descriptive statistics of digital transformation at HSA Group shows that dimension (Technological Infrastructure) was ranked as the highest with a mean value of 4.24 and standard deviation of 0.58, while dimension (Transformational Leadership) ranked as the lowest with a mean of 3.76 and standard deviation of 0.77. The overall statistics of the independent variable (i.e. digital transformation at HSA Group) are a mean of 4.07 and standard deviation of 0.56 (as shown in Table 4.1.), which indicates that there is over average digital transformation at HSA Group.

Table 4.1 Descriptive Analysis of digital transformation at HSA group

No	Dimension	Mean	Std. Deviation	Verbal Evaluation
1	Technological Infrastructure	4.24	0.58	Strongly Agree
2	Organizational Culture	4.21	0.59	Strongly Agree
3	Transformational Leadership	3.76	0.77	Agree
	Average	4.07	0.56	Agree

4.2 Descriptive analysis of HRM performance and digital transformation at HSA Group:

The results presented in Table 4.2 indicate that both digital transformation and HRM performance at HSA Group are perceived positively by employees, with mean scores of 4.07 and 3.91 respectively, both falling within the “Agree” range. Digital transformation received a higher rating, suggesting that employees recognize the organization’s strong commitment to technological infrastructure, organizational culture, and transformational leadership driving digital initiatives. The slightly lower score for HRM performance implies that, while recruitment, training, and compliance practices are effective, they have not yet fully matched the strength of the digital transformation efforts. Furthermore, the lower standard deviation for digital transformation (0.56 compared to 0.65 for HRM performance) reflects greater consistency in employees’ views about digital initiatives, whereas perceptions of HRM performance are somewhat more varied.

Table 4.2 Descriptive Analysis of HRM Performance and Digital Transformation at HSA Group

No.	Variable	Mean	Std. Deviation	Verbal Evaluation
1	HRM Performance	3.91	0.65	Agree
2	Digital Transformation	4.07	0.56	Agree

4.3 Correlation Analysis

Correlation analysis was done to look at the link between variables. Table 4.3 displays the matrix of correlation between the primary variables. In general, the results show that there is a correlation between technological

infrastructure, organizational culture, and transformational leadership and the HRM performance at HSA Group.

Table 4.3 Correlation Analysis

		HRM Performance
technological infrastructure	Pearson Correlation	.607**
	Sig. (2-tailed)	.000
	N	164
organizational culture	Pearson Correlation	.708**
	Sig. (2-tailed)	.000
	N	164
transformational leadership	Pearson Correlation	.684**
	Sig. (2-tailed)	.000
	N	164
Digital Transformation	Pearson Correlation	.770**
	Sig. (2-tailed)	.000
	N	164

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

The above results indicate that there is positive significant relationship between technological infrastructure and HRM performance at HSA Group, where $r=.607$, with a statistically significant value of $=0.000$, which is less than 0.01 . In addition, there is positive significant relationship between organizational culture and HRM performance, where we have $r=.708$, with a statistically significant value of $= 0.000$, which is less than 0.01 . Similarly, transformational leadership has positive significant relationship with HRM performance, where there is $r=.684$, with a statistically significant value of $= 0.000$, which is less than 0.01 . Finally, a positive significant relationship was obtained between digital transformation and HRM performance, where we have $r=.770$, with a statistically significant value $= 0.000$, which is less than 0.01 . These statistical data mean that there are positive

significant relationships between all independent variables (technological infrastructure, organizational culture, transformational leadership and digital transformation) and HRM performance at HSA Group.

4.4 Multiple regression analysis

The four independent variables (technological infrastructure, organizational culture, and transformational leadership) were tested for their direct effects using multiple regression analysis of HRM performance at HSA Group (the dependent variable). The data displayed in Table 4.4 indicate that the R square = .598, suggesting that the percentage of variability of HRM performance is 59.8%, which can be explained as indicating good influence by independent variables. In another context, technological infrastructure, organizational culture, and transformational leadership predict or explain HRM Performance at HSA Group with a percentage of 59.8%.

Table 4.4 Model Summary (Multiple Regression IV and DV)

Model	R	R Square	Adjusted Square	Std. Error of the Estimate
1	.773a	.598	.591	.41283

a. Predictors: (Constant), technological infrastructure, organizational culture, and transformational leadership

Based on the ANOVA test as shown in Table 4.4.1, the value of F for an independent variable and a dependent variable is 79.378 >1, where statistically significant value = 0.000 was obtained, which is less than 0.01, indicating that there is a significant association between the technological infrastructure, organizational culture, and transformational leadership (independent variable) and HRM performance at HSA Group (dependent variable).

Table 4.4.1 ANOVA a (Multiple Regression)

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	40.586	3	13.529	79.378	.000b
Residual	27.269	160	.170		
Total	67.855	163			

a. Dependent Variable: HRM Performance at HSA group

b. Predictors: (Constant), technological infrastructure, organizational culture, and transformational leadership

Based on the coefficients of the multiple regression test shown in Table 4.4.2, the B value for technological infrastructure is =.171, where a statistically significant value = 0.043 was obtained, which is less than 0.05, and which means that technological infrastructure will have positive impact on HRM performance at HSA Group, and every increase in the technological infrastructure leads to an HRM Performance increase by 17.1%. This is in support of hypothesis H1a. In addition, the B value for organizational culture is =.380, where there is a statistically significant value of = 0.000, which is less than 0.01, and which in turns means that organizational culture will have positive impact on HRM performance at HSA Group, and that every increase in the organizational culture means that HRM Performance increases by 38.0%. This is in support of hypothesis H1b. Finally, the B value for transformational leadership is =.317, where there is a statistically significant value = 0.000, which is less than 0.01, indicating that transformational leadership will have positive impact on HRM performance at HSA Group,

and that every increase in the transformational leadership will lead to an increase in HRM Performance by 31.7%, which is in support of hypothesis H1c. All the above results support all the sub-hypotheses.

Table 4.4.1 Coefficients a (Multiple Regression)

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1						
	(Constant)	.391	.253		1.549	.123
	Technological Infrastructure	.171	.084	.154	2.040	.043
	Organizational Culture	.380	.094	.346	4.039	.000
	Transformational Leadership	.317	.055	.380	5.738	.000

Dependent Variable: HRM Performance at HSA Group
4.5 Hypotheses Testing Summary

Based on the results discussed in the previous sections, a summary of the results of testing the study hypotheses is offered in Table 4.5.

To test the main hypothesis (i.e. Digital Transformation has a significant impact on HRM Performance at HSA Group), a linear regression analysis was carried out.

Table 4.5 Summary of Hypotheses Testing Results

Hypothesis	Statement	Result
H1	Digital Transformation has a significant impact on HRM Performance at HSA Group.	Supported
H1a	Technological Infrastructure has a significant effect on HRM Performance at HSA Group.	Supported
H1b	Organizational Culture has a significant effect on HRM Performance at HSA Group.	Supported
H1c	Transformational Leadership has a significant effect on HRM Performance at HSA Group.	Supported

5: DISCUSSION and CONCLUSION

This study was carried out to mainly examine the impact of digital transformation on HRM performance at HSA Group (HQ) in Yemen, focusing on technological infrastructure, organizational culture, and transformational leadership as independent variables and HRM performance as dependent variable. The research population consisted of employees at HSA Group (HQ), who also served as the study sample, since a convenience sampling method was applied. The study adopts a quantitative approach to analyze the data collected by means of a structured questionnaire survey personally distributed to and collected from the study participants. The reliability of the instrument was confirmed with a Cronbach’s Alpha value of 0.96. The results demonstrated that technological infrastructure, organizational culture, and transformational leadership are significantly related to and have a direct effect on HRM performance at HSA Group.

In addition, the analysis of the descriptive statistics has shown that data distribution was

symmetric with high dispersion among variables. Pearson's correlation analysis was made to estimate the relationship between the independent variables (technological infrastructure, organizational culture and transformational leadership) and the dependent variable (HRM performance).

By the same token, the results of the regression analysis showed that there was a significance effect of the independent variables on the dependent variable at HSA Group.

Finally, multiple regression analysis results show that digital transformation in HRM performance can explain 59.8% of the variation in HRM performance and that technological infrastructure, organizational culture and transformational leadership will have positive impact on HRM performance, which in turns means that every increase in the technological infrastructure will lead to an increase in HRM Performance by 17.1%, every increase in the organizational culture will result in an increase in HRM Performance by 38.0%, and every increase in the transformational leadership will lead to an increase in HRM Performance by 31.7%.

5.1 Discussion

To investigate the effect of technological infrastructure, organizational culture and transformational leadership on HRM performance at HSA Group in Yemen in the light of the first hypothesis, the study surveys the HRM performance at HSA Group using survey questionnaire as a data collection instrument. The correlation analysis results show that technological infrastructure, organizational culture and transformational leadership have a positive significant effect on HRM performance at HSA Group. The finding of the correlation analysis presents the following relationships between the variables:

1. The correlation coefficient (r) between digital transformation and HRM Performance is shown to be $r=.770$, $p = 0.000$, $p \text{ value} \leq 0.01$.
2. The correlation coefficient (r) between technological infrastructure and HRM Performance is shown to be $r=.607$, $p = 0.000$, $p \text{ value} \leq 0.01$.

3. The correlation coefficient (r) between organizational culture and HRM Performance is shown to be $r=.708$, $p = 0.000$, $p \text{ value} \leq 0.01$.

4. The correlation coefficient (r) between transformational leadership and HRM Performance is shown to be $r=.684$, $p = 0.000$, $p \text{ value} \leq 0.01$.

The findings of this study suggest a strong association between the adoption of digital transformation and the improvement of HRM performance at HSA Group. That is, there is a direct effect of practicing digital transformation at HSA Group on the HRM performance, where $r \text{ square}=.592$ means that the digital transformation at HSA Group explains 59.2% of variance of the HRM performance, while 40.8% of the variance accounted for other variables and the digital transformation at HSA Group have a positive impact on HRM performance, where the b value for digital transformation at HSA Group is $=.884$, with a significant value of $= 0.000$, which means that every increase in the digital transformation at HSA Group will produce an increase in HRM performance by 59.8%., and this in turn leads to the acceptance of the main hypothesis H1.

The result of this study aligns with the previous studies by Wahdaniah et al. (2023), Mehdi (2022), Alahmadi (2024) and Jaliah (2021), which found a positive and significant relationship between digital transformation and HRM performance. This study confirms that digital transformation continues to play a direct and influential role in enhancing HRM performance within HSA Group in Yemen.

Thus, HSA Group should adopt and implement the digital transformation across all its business processes should it wish to ensure a high level of HRM performance.

This study gives the answer for the main question:

Question NO 1: What is the impact of digital transformation on HRM performance at HSA Group?

The results of the study show that all factors support the first hypothesis:

H1: Digital transformation has a significant impact on HRM performance at HSA Group.

With respect to technological infrastructure, the findings of the study revealed that there is a relationship between technological infrastructure and HRM Performance at HSA Group, with technological infrastructure having a positive effect on HRM Performance and every increase in the technological infrastructure leading to an increase in HRM Performance at HSA Group by 17.1%. Based on these results, one can conclude that the sub-hypothesis H1a is accepted.

The results of this study are also in alignment with the previous studies conducted by Magherbi (2022), Bakkar (2021), Thamri (2023), Al-Romeedy & Abu Zaid (2021), Hiba & Harouini (2023) and Arjan (2023), all of which found a positive and significant relationship between technological infrastructure and HRM performance at HSA Group in Yemen. The findings provide a clear answer to the first sub-question of the study, confirming that technological infrastructure plays a critical role in enhancing HRM outcomes at the organization.

Question NO 1a: Does Technological Infrastructure have a significant effect on HRM performance at HSA Group?

Hence, the result of the study supports the second hypothesis:

H1a: Technological Infrastructure has a significant effect on HRM Performance at HSA Group (HQ).

The finding of this study confirmed the relationship between organizational culture and HRM Performance at HSA Group, which shows that the organizational culture has effects on HRM Performance at HSA Group, with the B value for organizational culture being =.380 and a significant value of = 0.000, which means that, organizational culture has positive impact on HRM Performance at HSA Group, and every increase in the organizational culture leads to an increase by 38% in HRM performance at HSA Group. All this is in support of the sub-hypothesis H1b.

The results are in alignment with the previous studies by Alghuwairi (2022), Thamri (2024), Aldabbas (2022) and Al-Romeedy & Abu Zaid (2021), all of which found a positive and significant relationship between organizational

culture and HRM performance within HSA Group in Yemen. These findings address the second sub-question of the study, confirming that organizational culture plays a pivotal role in enhancing HRM performance in the organization.

Question NO 1b: Does Organizational Culture have a significant effect on HRM performance at HSA Group?

Hence, the results of the study support the third hypothesis:

H1b: Organizational Culture has a significant effect on HRM Performance at HSA Group.

The finding of this study confirmed the relationship between transformational leadership and HRM Performance at HSA Group, which shows transformational leadership effects on HRM Performance at HSA Group, with the B value for transformational leadership being =.317 and with a significant value of = 0.000. This means that transformational leadership has a positive impact on HRM Performance at HSA Group, and every increase in the transformational leadership results in an HRM Performance increase by 31.7%. Accordingly, the sub-hypothesis H1c is accepted.

The results of this study are alignment with the previous studies by Alghuwairi (2022) and Aldabbas (2022), both of which found a positive and significant relationship between transformational leadership and HRM performance at HSA Group in Yemen. These findings address the third sub-question of the study, confirming that transformational leadership plays a vital role in enhancing HRM performance in the organization.

Question NO 1c: Does Transformational Leadership have a significant effect on HRM performance at HSA Group?

Hence, the results of the study support the fourth hypothesis:

H1c: Transformational Leadership has a significant effect on HRM Performance at HSA Group (HQ).

Based on the results discussed above, the study concludes that technological infrastructure, organizational culture, and transformational leadership each have a positive and significant effect on HRM performance at HSA Group. All

research hypotheses (H1, H1a, H1b, H1c) are therefore supported. The regression analysis showed that digital transformation explains 59.2% of the variance in HRM performance ($R^2 = .592$). The standardized coefficient ($\beta = .884$, $p < 0.01$) further confirms that digital transformation has a strong positive effect.

These findings are consistent with previous research which has shown that digital transformation enhances HRM performance. For example, Wahdaniah et al. (2023), Mehdi (2022), and Alahmadi (2024) confirmed that digital transformation significantly improves HRM practices, while Magherbi (2022) and Bakkar (2021) emphasized the importance of technological infrastructure. Similarly, Alghuwairi (2022) and Aldabbas (2022) highlighted the role of organizational culture and transformational leadership. The results of this study confirm these relationships, showing that while technological infrastructure and organizational culture are strong enablers, transformational leadership requires further reinforcement. This comparison demonstrates that the study not only validates global evidence but also offers context-specific insights from Yemen.

5.3 Recommendations

Based on the findings of the study, the following recommendations are suggested for adopting digital transformation practices (technological infrastructure, organizational culture and transformational leadership) to help improve and increase the HRM performance at HSA Group. The results and the recommendation are important and useful for strategic leaderships at the private and public sectors in Yemen.

1. HSA Group should adopt digital transformation and implement it across all its business processes and activities should it wish to improve HRM performance.
2. Authorities represented by the state, government, and private sector should encourage and facilitate the adoption of digital transformation systems.
3. HSA Group Management should promote a learning and growth perspective across the entire organization, which can be

encouraged through knowledge management strategies, such as allowing employees to put their ideas into practice. To encourage employee innovation, selected organizations should mandate training opportunities.

4. HSA Group Management should continue investment in employee training and corporate capital.

5.4 Limitations

This study was limited to HAS Group (HQ), the company which can represent the private sector in Yemen. Therefore, further research can be extended to other businesses representing the public sector. Secondly, this study focuses on the economic and financial crises in Yemen during the 2024-2025 period. Future research could compare the HRM performance at HSA Group before and after the crisis. Future studies could also consider incorporating other dimensions to provide a more comprehensive analysis of HRM performance. Future Research should expand beyond HSA Group to include other sectors and regions in Yemen, allowing for broader comparisons and validation of these findings. Additional studies could explore further dimensions of digital transformation—such as corporate governance, shareholder expectations, and the role of independent board members—that may influence HRM performance. While this study confirmed that digital transformation practices are being implemented effectively, future work should also examine the practical challenges organizations face, including limited resources, infrastructure constraints, and employee readiness. Moreover, governance-related aspects, such as board structure, oversight mechanisms, and shareholder involvement, deserve closer attention, as they play a critical role in aligning HRM strategies with organizational goals. By addressing these areas, future research can provide a more comprehensive and in-depth understanding of how digital transformation shapes HRM performance in Yemen's complex and evolving environment.

5.5 Conclusion

In conclusion, this study affirms that digital transformation—supported by robust

technological infrastructure, a conducive organizational culture, and transformational leadership—significantly enhances HRM performance at HSA Group. These findings not only align with global research but also provide context-specific evidence from Yemen, highlighting that while infrastructure and culture are strong enablers, transformational leadership requires further reinforcement to maximize the benefits of digital transformation.

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