






# “Driving HR performance through digital transformation in educational directorates: A strategic imperative”

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# DRIVING HR PERFORMANCE THROUGH DIGITAL TRANSFORMATION IN EDUCATIONAL DIRECTORATES: A STRATEGIC IMPERATIVE

**Abstract**

The rapid advancement of digital technology has significantly affected various sectors, including education. Integrating digital tools and platforms in human resource management offers opportunities to enhance efficiency and organizational performance. This study investigates the impact of digital transformation on human resource performance in educational directorates in Egypt. A descriptive analytical methodology was employed, utilizing a structured questionnaire distributed to 450 administrative officials across eight randomly selected directorates out of the 27 directorates in Egypt, constituting approximately 30% of the total. The study retrieved 413 questionnaires, with about a 91% response rate. Data analysis reveals a significant positive correlation between digital transformation and the quality of human resource performance. Strategic planning ( $R^2 = 0.901$ ), leadership development ( $R^2 = 0.699$ ), skills acquisition ( $R^2 = 0.899$ ), and institutional infrastructure ( $R^2 = 0.907$ ) are identified as key factors that significantly influence HR performance. The findings suggest that embracing digital transformation and investing in these dimensions can lead to enhanced human resource performance in educational institutions. The study concludes that digital transformation can significantly improve human resource performance in the education sector, emphasizing the need for strategic planning, leadership development, skills acquisition, and a supportive organizational culture to fully leverage the potential of digital technologies.

**Keywords**

digital transformation, human resource management, job performance, organizational efficiency, performance improvement

**JEL Classification**

M10, M55, O33, O15, J24

**INTRODUCTION**

In today's rapidly evolving educational landscape, institutions are facing mounting pressure to modernize their operations and improve efficiency through digitalization (Gadzali et al., 2023). Traditional approaches to human resource management (HRM) often rely on manual processes and fragmented systems, limiting their ability to respond to the complex and dynamic needs of educational environments. As digital technologies become more prevalent, educational organizations are increasingly turning to digital transformation to streamline HR functions, enhance decision-making, and achieve improved organizational outcomes (Alshammari & Thomran, 2023). Digital transformation, defined as the adoption and integration of digital tools to reshape organizational processes, has become a strategic imperative for educational directorates seeking to optimize HR practices and maintain operational efficiency in the face of growing demands (Behrend et al., 2022; Hee & Shanmugam, 2019). However, the application of digital transformation in educational directorates remains underexplored, particularly in the context of developing countries such as Egypt.

In Egypt, the adoption of digital transformation in educational directorates presents unique challenges and opportunities. Educational institutions in this context are often characterized by structural and resource limitations, resistance to change, and a lack of strategic alignment (Fernandez & Gallardo-Gallardo, 2020). Implementing digital transformation successfully in such settings requires a comprehensive approach that encompasses strategic planning, leadership development, skills acquisition, and a supportive institutional infrastructure (Al-Alawi et al., 2023). Strategic planning is essential for aligning digital initiatives with broader organizational goals, while leadership development ensures that managers have the competencies to guide their teams through the transformation process (Gadzali et al., 2023). Furthermore, equipping employees with the necessary digital skills and establishing a robust infrastructure can foster an environment that supports innovation and sustainable performance improvement (Behrend et al., 2022).

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## 1. LITERATURE REVIEW AND HYPOTHESES

Digital transformation has emerged as a strategic necessity for organizations seeking to optimize HR performance and maintain a competitive edge. It involves integrating advanced technologies such as AI, HR analytics, and cloud computing into HRM functions to enhance efficiency and employee experiences. Several studies emphasize that digital transformation is not merely a technological shift but a comprehensive change that affects organizational culture, leadership, and employee competencies (Gadzali et al., 2023; Pradana et al., 2023). Effective digital transformation requires strategic planning and the development of digital skills among employees. Doka and Tan (2023), examining digitalization in Italian factories, highlighted that the adoption of training programs for both technical and soft skills was found essential to prepare employees for Industry 4.0.

The adoption and implementation of digital HR practices have been examined in various contexts, revealing that while digital tools can enhance HR operations, their successful implementation depends on organizational culture, leadership support, and employee readiness (Al-Alawi et al., 2023; Mia & Faisal, 2020). For example, Al-Alawi et al. (2023) identified seven critical factors – including IT infrastructure, digital skills, and top management support – that influenced the adoption of digital HRM in Bahrain during the COVID-19 pandemic. The role of HR analytics has also been explored, with Fernandez and Gallardo-Gallardo (2020) highlighting the challenges in its conceptualization and implementation, which require a clear understanding of its potential to drive data-informed decision-making.

Despite these advancements, challenges persist in implementing digital HR strategies, particularly in traditional industries. Resistance to change, data privacy concerns, and inadequate technical support are often cited as barriers (Fernandez & Gallardo-Gallardo, 2020; Pradana et al., 2023). Touriano et al. (2023) found that digital transformation in talent management can significantly improve recruitment and skill development, yet it also introduces new challenges, such as the digital divide and data security risks. In the context of Bangladesh's garment industry, Mia and Faisal (2020) stressed that digital HR practices can streamline operations but require robust support systems to handle real-time responses and recruitment processes efficiently.

The strategic role of HRM in digital transformation is further emphasized by Varadaraj and Al Wadi (2021), focusing on the adoption of Social, Mobile, Analytics, and Cloud (SMAC) technologies, which have been shown to enhance HR processes and overall organizational performance. Similarly, Martínez-Morán et al. (2021) discussed the importance of aligning digital HR strategies with broader business goals, noting that talent management is becoming increasingly reliant on digital tools for effective implementation. Rustiawan et al. (2023) underlined that HR's role in building a competitive business environment requires not only digital tools but also strategic investments in employee life cycle management. This alignment is crucial in ensuring that digital transformation efforts contribute to sustainable performance outcomes.

While digital HRM practices show promise, the impact of leadership and organizational culture cannot be overlooked. Transformational leader-

ship, which promotes adaptability and continuous learning, is pivotal in driving successful digital initiatives (Udin, 2023; Ausat et al., 2022). On the other hand, rigid leadership styles may impede digital adoption, leading to lower employee morale and reduced organizational performance (Jarrah et al., 2023). Effective leadership in the digital age is characterized by the ability to foster a culture of innovation and resilience, which supports employees through the transition to digital environments.

In addition to leadership, the role of technology acceptance and employee readiness has been explored in several studies. Schlachter et al. (2018) found that user involvement and innovation support can mitigate the negative effects of technostress, while Jaya (2023) emphasized the need for a supportive organizational culture that aligns with HR digital transformation strategies. The interaction between individual readiness and organizational support is a critical determinant of the success of digital HR initiatives (Donati et al., 2021).

In the education sector, digital transformation has had a profound impact on teaching and learning practices. Shenkoya and Kim (2023) and Hammond (2023) argue the need to guide the implementation of digital technologies in educational institutions via the development of comprehensive theoretical frameworks. Meanwhile, Rubalcaba (2022) explores the role of service characteristics in shaping digital education strategies, emphasizing the need for balancing customization and standardization in educational services. Wippermann and Schmidberger (2023) further advocate for the use of design thinking in driving innovation in educational settings, highlighting its potential to address complex educational challenges through stakeholder integration.

Empirical studies on digital transformation in education reveal varying levels of technology adoption and readiness among educators and students (Afzal et al., 2023). Afzal et al. (2023) identified significant disparities in technology access based on age, location, and socioeconomic status, suggesting that digital divides remain a significant barrier to effective digital transformation.

Emerging technologies such as the Metaverse and AI are also gaining traction in educational contexts. Yue (2022) and Rahman et al. (2023) examined the potential of the Metaverse to create immersive learning experiences, while Chhatwal et al. (2023) discussed AI's role in personalizing learning and improving administrative efficiency. The integration of these technologies is expected to reshape the educational landscape by providing new avenues for collaboration and interactive learning (Baross, 2023).

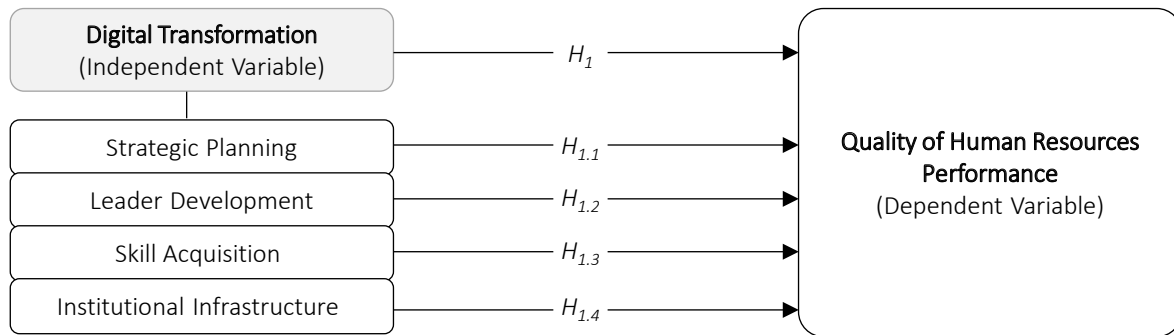
Despite these advancements, several research gaps remain. There is a need for more empirical research on the long-term impacts of digital transformation on employee performance, particularly in remote and hybrid work environments (Khin & Ho, 2020; Yasa et al., 2019). Additionally, the role of digital transformation in enhancing employee motivation and job satisfaction is not fully understood, especially in diverse cultural contexts (Udin, 2023; Gigauri, 2020). Understanding the interplay between digital tools, employee well-being, and organizational culture is essential for designing effective digital HR strategies (Al-Alawi et al., 2023).

This study aims to examine the impact of digital transformation on HR performance within the education sector, focusing on strategic planning, leadership development, skills acquisition, and institutional infrastructure. The paper seeks to identify the key factors that facilitate or hinder the effective implementation of digital HRM practices and analyze their subsequent influence on employee performance and organizational success.

Using an analysis of existing literature and pertinent references, a research model was developed to visually represent the correlation between the research variables, as shown in Figure 1.

Based on the study variables model and its measurements, the research hypotheses can be expressed as follows:

*H1: There is a statistically significant impact of digital transformation, with its dimensions (strategic planning, leader development, skill acquisition, institutional infrastructure), on the quality of human resource performance within the educational directorates in Egypt.*



**Figure 1.** Theoretical framework

*H1.1: There is a statistically significant impact of strategic planning on the quality of human resource performance in the educational directorates in Egypt.*

*H1.2: There is a statistically significant impact of leader development on the quality of human resource performance in the educational directorates in Egypt.*

*H1.3: There is a statistically significant impact of skill acquisition on the quality of human resource performance in the educational directorates in Egypt.*

*H1.4: There is a statistically significant impact of institutional infrastructure on the quality of human resource performance in the educational directorates in Egypt.*

cluster sampling technique was utilized to ensure representativeness, selecting eight directorates constituting approximately 30% of the total. From this subset, a random sample of 450 participants was drawn to achieve a reliable sample size. Data were gathered using a structured questionnaire, which was distributed electronically and in person. The final number of completed questionnaires was 413, representing a response rate of 91.8%.

The data collection process lasted three months, starting in February 2024 and ending in April 2024. The questionnaire included four sections: demographics, strategic planning, leadership development, and HR performance. A 5-point Likert scale (ranging from strongly agree to strongly disagree) was used to measure participants' perceptions of digital transformation dimensions and HR performance.

## 2. METHOD

The study employed a descriptive-analytical methodology to accurately interpret and describe the relationship between digital transformation and human resource (HR) performance in educational directorates. It aimed to represent the phenomenon quantitatively and qualitatively, focusing on its dimensions such as strategic planning, leadership development, skills acquisition, and institutional infrastructure. Additionally, an analytical approach was adopted to examine and interpret the relationship between these variables and their impact on HR performance.

The target population consisted of administrative professionals working across the 27 educational directorates in Egypt, totaling 6058 individuals. A

Data analysis was conducted using SPSS software. Descriptive statistics were employed to summarize the data and correlation and multiple regression analyses were used to test the study's hypotheses. The reliability and validity of the questionnaire were ensured through rigorous pre-testing and Cronbach's alpha assessment. The reliability of the study tool was ensured through Cronbach's alpha coefficient, which was calculated to assess the internal consistency reliability of the questionnaire (Table 1).

Cronbach's alpha coefficient for all study variables (independent and dependent) was calculated to be 0.950, indicating a strong level of reliability for the study sample. The questionnaire also exhibited a high level of dependability. Alpha values greater than 0.6 suggest that the scales possess internal consistency and accurately quantify the studied



**Table 1.** Reliability and internal consistency coefficients

Study Dimensions	Number of Statements	Reliability Coefficient	Validity Coefficient
<b>Independent Variable: Dimensions of Digital Transformation</b>			
Strategic Planning	5	0.940	0.969
Leader Development	5	0.937	0.967
Skill Acquisition	4	0.980	0.989
Institutional Infrastructure	5	0.979	0.988
<b>Dependent Variable: Quality of Human Resource Performance</b>			
	12	0.915	0.956
(Total Dimensions of Independent, and Dependent Variables)	31	0.950	0.974

phenomenon. This is further demonstrated by the internal validity coefficient, which is represented by the square root of reliability and has a value of 0.974.

Additionally, the dependability coefficients for the digital transformation dimensions, used as the independent variable, showed high values ranging from 0.937 to 0.980. Similarly, the dependability coefficients for the dimensions of competitive advantage, used as the dependent variable, exhibited a high value of 0.915. These results indicate the reliability of the assessment scales and validate the generalization of the study's findings to the broader population.

### 3. RESULTS

This study examines the impact of digital transformation across its four dimensions (strategic planning, leadership development, skills acquisition, and institutional infrastructure) on the quality of human resource performance within educational directorates in Egypt. The results indicate that all dimensions have a statistically significant influence on HR performance, confirm-

ing the hypotheses set out in this research. Table 2 presents the variance analysis results, validating the effectiveness of the model. The results are shown in Table 2.

The  $R^2$  value of 0.860 indicates a significant proportion of the total variance in the studied fields explained by the independent variables. The model's validity for predicting the impact of digital transformation on the quality of human resource performance is confirmed by the significance of the  $F$ -value at 0.000.

Table 3 indicates that the digital transformation variable has a  $t$ -value of 12.801, which is statistically significant. This shows that digital transformation can predict the quality of human resource performance. The positive slope ( $B$ ) means that improvements in digital transformation enhance HR performance in the educational directorates in Egypt.

These results explain that the enhancement in digital transformation in the educational directorates in Egypt facilitates the utilization of technological advantages in supervision and

**Table 2.** Variance in digital transformation and the quality of human resources performance

Dependent Variable	Source	$R^2$	Sum of Squares	Degrees of Freedom	Mean Squares	$F$ -value	Significance Level
Quality of Human Resource Performance	Regression	0.860	17.534	1	17.534	155.550	0.000**
	Error		3.362	412	0.155		
	Total		20.896	413			

Note: \*\* Significant at the 0.01 level or lower.

**Table 3.** Multiple linear regression analysis: H1

Independent Variables	$B$	Standard Error	Beta	$t$ -value	Significance Level
Constant	0.177	0.282	-	0.650	0.521
Digital Transformation	0.934	0.075	0.966	12.801	0.000**

Note: \*\* Significant at the 0.01 level or lower.

**Table 4.** Variance in strategic planning and quality of human resource performance

Dependent Variable	Source	R <sup>2</sup>	Sum of Squares	Degrees of Freedom	Mean Squares	F-value	Significance Level
Quality of Human Resource Performance	Regression	0.901	17.981	1	17.981	170.525	0.000**
	Error		2.800	412	0.109		
	Total		20.781	413			

Note: \*\* Significant at the 0.01 level or lower.

**Table 5.** Multiple linear regression analysis: H1.1

Independent Variables	B	Standard Error	Beta	t-value	Significance Level
Constant	0.048	0.221	–	0.165	0.050
Strategic Planning	0.989	0.088	0.994	14.722	0.000**

Note: \*\* Significant at the 0.01 level or lower.

control activities, thereby improving the quality of human resource performance. This confirms the main hypothesis: There is a statistically significant impact of digital transformation with its dimensions (strategic planning, leader development, skill acquisition, institutional infrastructure) on the quality of human resource performance in the educational directorates in Egypt.

Table 4 shows an R<sup>2</sup> value of 0.901, indicating that strategic planning for digital transformation explains a significant proportion of the total variance in HR performance. The model is valid for predicting the impact of strategic planning due to the significance of the F-value at 0.000.

The results in Table 5 indicate that strategic planning has a t-value of 14.722, which is statistically significant. The positive slope (B) means that improvements in strategic planning enhance HR performance in the educational directorates in Egypt.

These results explain that improved strategic planning in the educational directorates in Egypt ensures the provision of necessary requirements and the training and development of human resources, thereby enhancing HR performance. This confirms the first sub-hypothesis: There is a statistically significant impact of strategic planning on the quality of human resource performance in the educational directorates in Egypt.

Table 6 shows an R<sup>2</sup> value of 0.699, indicating that leader development explains a significant proportion of the total variance in HR performance. The model is valid for predicting the impact of leader development due to the significance of the F-value at 0.000.

The results in Table 7 indicate that leader development has a t-value of 7.233, which is statistically significant. The positive slope (B) means that improvements in leader development enhance HR performance in the educational directorates in Egypt.

**Table 6.** Variance in leader development and the quality of human resource performance

Dependent Variable	Source	R <sup>2</sup>	Sum of Squares	Degrees of Freedom	Mean Squares	F-value	Significance Level
Quality of Human Resource Performance in the Educational Directorates in Egypt	Regression	0.699	15.222	1	14.323	63.652	0.000**
	Error		5.555	412	0.233		
	Total		20.777	413			

Note: \*\* Significant at the 0.01 level or lower.

**Table 7.** Multiple linear regression analysis: H1.2

Independent Variables	B	Standard Error	Beta	t-value	Significance Level
Constant	0.654	0.419	–	1.263	0.191
Leader Development	0.892	0.108	0.944	7.233	0.000**

Note: \*\* Significant at the 0.01 level or lower.

**Table 8.** Variance in skill acquisition and the quality of human resource performance

Dependent Variable	Source	R <sup>2</sup>	Sum of Squares	Degrees of Freedom	Mean Squares	F-value	Significance Level
Quality of Human Resource Performance in the Educational Directorates in Egypt	Regression	0.899	18.801	1	18.801	124.536	0.000**
	Error		4.727	412	0.152		
	Total		23.528	413			

Note: \*\* Significant at the 0.01 level or lower.

**Table 9.** Multiple linear regression analysis: H1.3

Independent Variables	B	Standard Error	Beta	t-value	Significance Level
Constant	0.549	0.281	–	1.870	0.050
Skill Acquisition	0.870	0.082	0.932	12.523	0.000**

Note: \*\* Significant at the 0.01 level or lower.

These results explain that enhanced leader development in the educational directorates in Egypt improves the skills and capabilities of leaders, thus enhancing HR performance. This confirms the second sub-hypothesis: There is a statistically significant impact of leader development on the quality of human resource performance in the educational directorates in Egypt.

Table 8 shows an  $R^2$  value of 0.899, indicating that skill acquisition explains a significant proportion of the total variance in HR performance. The model is valid for predicting the impact of skill acquisition due to the significance of the  $F$ -value at 0.000.

Table 9 indicates that skill acquisition has a  $t$ -value of 12.523, which is statistically significant. The positive slope (B) means that improvements in skill acquisition enhance HR performance in the educational directorates in Egypt.

These results explain that improved skill acquisition in the educational directorates in Egypt supports the availability of human requirements necessary for digital transformation, thus improving HR performance. This confirms the third sub-hypothesis: There is a statistically significant impact of skill acquisition on the quality of human resource performance in the educational directorates in Egypt.

Table 10 shows an  $R^2$  value of 0.907, indicating that institutional infrastructure explains a significant proportion of the total variance in HR performance. The model is valid for predicting the impact of institutional infrastructure due to the significance of the  $F$ -value at 0.000.

Table 11 indicates that institutional infrastructure has a  $t$ -value of 14.521, which is statistically significant. The positive slope (B) means that improvements in institutional infrastructure enhance HR performance in the educational directorates in Egypt.

**Table 10.** Variance in institutional infrastructure and the quality of human resource performance

Dependent Variable	Source	R <sup>2</sup>	Sum of Squares	Degrees of Freedom	Mean Squares	F-value	Significance Level
Quality of Human Resource Performance in the Educational Directorates in Egypt	Regression	0.907	18.221	1	18.221	190.740	0.000**
	Error		4.260	412	0.108		
	Total		22.481	413			

Note: \*\* Significant at the 0.01 level or lower.

**Table 11.** Multiple linear regression analysis: H1.4

Independent Variables	B	Standard Error	Beta	t-value	Significance Level
Constant	0.221	0.270	–	1.201	0.221
Institutional Infrastructure	0.906	0.068	0.951	14.521	0.000**

Note: \*\* Significant at the 0.01 level or lower.



These results explain that improved institutional infrastructure in the educational directorates in Egypt provides an environment conducive to digital transformation, thus improving HR performance. This confirms the fourth sub-hypothesis: There is a statistically significant impact of institutional infrastructure on the quality of human resource performance in the educational directorates in Egypt.

The results demonstrate that digital transformation, with its various dimensions, significantly enhances the quality of human resource performance in the educational directorates in Egypt. Each dimension – strategic planning, leader development, skill acquisition, and institutional infrastructure – has a positive and statistically significant impact on HR performance. These findings confirm the main hypothesis and all sub-hypotheses of the study, providing a comprehensive understanding of the importance of digital transformation initiatives in improving HR performance.

The findings of this study confirm that digital transformation, with its four dimensions (strategic planning, leadership development, skills acquisition, and institutional infrastructure) has a significant positive impact on the quality of human resource performance within the educational directorates in Egypt. The acceptance of all proposed hypotheses highlights the importance of adopting these dimensions to achieve sustainable improvements in institutional performance.

*H1: There is a statistically significant impact of digital transformation, with its dimensions, on the quality of human resource performance within the educational directorates in Egypt.*

Result: Accepted ( $F = 155.550, p < 0.01$ ).

*H1.1: Strategic planning has a statistically significant impact on the quality of human resource performance.*

Result: Accepted ( $t = 14.722, p < 0.01$ ).

*H1.2: Leadership development has a statistically significant impact on the quality of human resource performance.*

Result: Accepted ( $t = 7.233, p < 0.01$ ).

*H1.3: Skill acquisition has a statistically significant impact on the quality of human resource performance.*

Result: Accepted ( $t = 12.523, p < 0.01$ ).

*H1.4: Institutional infrastructure has a statistically significant impact on the quality of human resource performance.*

Result: Accepted ( $t = 14.521, p < 0.01$ ).

These results demonstrate that improvements in digital transformation contribute meaningfully to enhancing human resource performance across the identified dimensions. Each dimension plays a crucial role in achieving strategic objectives and elevating the overall performance of the educational directorates.

## 4. DISCUSSION

The findings of this study reveal a significant positive impact of digital transformation on the quality of human resource performance within the educational directorates in Egypt, aligning with previous research that emphasizes the transformative potential of digitalization in public sector (Gadzali et al., 2023; Pradana et al., 2023). The high correlation between digital transformation dimensions and HR performance indicates that adopting digital strategies in HR management can streamline processes, enhance decision-making, and ultimately lead to improved organizational outcomes. This is consistent with the results of Al-Alawi et al. (2023), who highlighted that successful digital transformation is contingent on comprehensive planning, leadership support, and employee engagement.

The present study's results, which show a strong impact of strategic planning on HR performance ( $R^2 = 0.901$ ), support Martínez-Morán et al. (2021) and Rustiawan et al. (2023), who argue that strategic alignment is crucial for digital initiatives to translate into performance gains. This underscores the importance of having clear strategic frameworks that guide the implementation of digital tools in HRM, ensuring that technological adoption is aligned with broader organizational goals.

Leadership development also emerged as a critical factor influencing HR performance, with a significant effect ( $R^2 = 0.699$ ). This finding echoes Udin's (2023) article, which emphasizes the role of transformational leadership in promoting digital adaptability and fostering a culture of continuous learning. In contrast, rigid leadership styles have been shown to impede digital adoption, leading to lower employee morale and reduced organizational performance (Jarrah et al., 2023). The results of this study suggest that educational institutions must invest in developing leadership competencies to support digital change, which in turn can enhance employee engagement and performance.

The influence of skill acquisition on HR performance ( $R^2 = 0.899$ ) aligns with the findings of Galanti et al. (2023), who highlighted the need for upskilling and reskilling in the face of Industry 4.0. The positive association between digital proficiency and HR outcomes indicates that training and development initiatives are vital for maximizing the benefits of digital transformation. Without such investments, employees may struggle to adapt to new systems, leading to suboptimal performance and resistance to change.

Institutional infrastructure, including the technological and organizational support necessary for digital transformation, also strongly impacted HR performance ( $R^2 = 0.907$ ). This finding supports Touriano et al. (2023), who found

that a robust IT infrastructure is essential for effective talent management and HR operations. Inadequate infrastructure can hinder digital adoption and create bottlenecks, preventing organizations from fully leveraging the potential of digital tools.

The findings of this study contribute to the existing literature by providing empirical evidence on the specific factors that influence digital transformation in the context of educational directorates. The strong relationships between digital transformation dimensions and HR performance highlight the need for a holistic approach that integrates strategic planning, leadership development, skill acquisition, and institutional infrastructure. While the results are context-specific to Egypt's educational sector, they have broader implications for other public sector organizations undergoing digital transformation.

One of the key contributions of this investigation is the identification of strategic planning as the most significant predictor of HR performance. This finding suggests that digital transformation efforts must begin with a clear strategy that aligns digital initiatives with institutional goals. Moreover, the role of leadership development in supporting digital change cannot be overstated. Leaders who are equipped to navigate digital transformation are more likely to foster a culture of innovation and resilience, which is critical for sustaining digital initiatives.

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## CONCLUSION

The purpose of this study was to analyze the impact of digital transformation on human resource (HR) performance within the educational directorates in Egypt, focusing on the dimensions of strategic planning, leadership development, skill acquisition, and institutional infrastructure. The findings revealed a significant positive relationship between digital transformation and the quality of HR performance across all dimensions, indicating that digital initiatives, when effectively implemented, can substantially enhance HR outcomes.

Strategic planning was found to be the most influential factor, highlighting the importance of aligning digital strategies with institutional goals to ensure successful implementation. Leadership development also played a pivotal role in fostering a culture of digital adaptability, which in turn supported employee engagement and performance. Similarly, skill acquisition emerged as a key contributor, suggesting that continuous training and upskilling are essential for leveraging digital tools effectively. Lastly, a strong institutional infrastructure provided the necessary support for sustaining digital transformation, further improving HR processes and overall performance.

The results suggest that educational institutions seeking to enhance HR performance should prioritize a comprehensive approach to digital transformation that integrates strategic planning, leadership development, targeted skill acquisition, and robust infrastructure. Such an approach will enable these institutions to fully realize the benefits of digitalization and achieve sustainable improvements in HR performance.

## AUTHOR CONTRIBUTIONS

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Writing – review & editing: Abdelrehim Awad, Mohamed Shemais, Muhammad Al-Embabi.

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