THE IMPACT OF DIGITAL TRANSFORMATION STRATEGY ON HUMAN RESOURCE DEVELOPMENT IN COMMERCIAL BANKS

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Abstract

This paper examines the impact of digital transformation strategies on human resources (HR) development in Jordanian commercial banks. In an era where digital technologies are evolving rapidly, organizations must ensure their employees acquire the necessary skills to keep pace. The study investigates how these strategies influence employees' learning, growth, and performance. A survey was conducted with 691 senior and middle management employees across 13 Jordanian commercial banks, highlighting a significant relationship between digital transformation and the enhancement of employee skills, particularly in technology and innovation. These results align with prior research on the role of digitalization in boosting organizational efficiency and adaptability. The findings demonstrate that a well-implemented digital transformation strategy not only enhances employees' skills but also strengthens the overall competitive position of the organization. This research contributes to the growing body of knowledge on digital transformation and provides valuable insights for managers and policymakers seeking to integrate digital strategies into their HR practices.

Keywords: Digital Transformation Strategy, Human Resources Development, Jordanian Commercial Banks

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1. INTRODUCTION

In today's fast-paced world, globalization, technological advancements, and a communication revolution present significant challenges for organizations. To succeed and enhance competitiveness, companies must adopt modern management philosophies and undergo profound transformations through digital strategies aligned with their capabilities and the external environment. Developing human resources (HRs) to support this strategy is crucial, especially in light of rapid technological evolution, including artificial intelligence (AI), robotics, and the Internet of Things, to achieve organizational goals (Ekman et al., 2020).

This study highlights the integration of two crucial elements: digital transformation strategy and HR development, aiming to deepen our understanding of their interplay in the context of Jordanian commercial banks. Specifically, it seeks to explore the impact of digital transformation strategies on HR development within these banks, addressing a notable gap in the existing literature.

Currently, Jordanian commercial banks are confronted with swift changes and challenges in the banking sector at local, regional, and global levels. The essence of their operations now revolves around modern technology, shaped by developments in AI, the Internet of Things, and electronic banking applications. These advancements have introduced new dynamics into how these banks operate, intensifying competition among them. Consequently, the ability of employees to adapt to and utilize these modern technologies has become a crucial factor in determining the success of banks in delivering services that meet the evolving needs and expectations of customers. This adaptability is essential for achieving leadership and gaining a competitive edge in the banking sector (Al Shawabkeh & Al Najjar, 2016).

To effectively respond to these challenges and stay relevant, Jordanian commercial banks must adopt a digital transformation strategy. This approach encompasses leveraging modern technologies, restructuring organizations, and implementing genuine changes to create value for customers.

The research questions of this study are as follows:

RQ1: What are the perceptions of top and middle management regarding the availability of digital transformation strategies with their dimensions (technology usage, changes in value creation, and structural changes) in Jordanian commercial banks?

RQ2: What are the perceptions of top and middle management regarding the availability of HR development with its dimensions (attraction and selection, training and development, rewards and compensation) in Jordanian commercial banks?

The ultimate aim is to provide unique and exceptional services that cater to both current and future customer needs. By embracing this strategic transformation, banks can empower customers to take advantage of advanced technologies and innovative practices within their business models, thereby ensuring the delivery of modern and distinguished banking services that satisfy customer expectations.

The structure of this paper is as follows. Section 2 reviews the relevant literature, providing a detailed overview of existing research on digital transformation and its implications for HR development. Section 3 outlines the methodology employed in this study, including data collection and analysis techniques. Section 4 presents the findings, while Section 5 discusses these findings in the context of existing literature, offering recommendations for practice and future research. Finally, Section 6 concludes the paper.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The digital transformation strategy is essential for organizations to adapt to changes in their internal and external environments. It drives fundamental shifts in all components and updates business models to meet strategic objectives, fostering growth and innovative solutions for competitiveness. This strategy enhances organizational capabilities and workforce skills to align with modern technology. Both public and private sectors face challenges from local and international laws, particularly those related to intellectual property and information access, which are vital for improving efficiency and specialization (Chanias & Hess, 2016).

Several definitions can be identified for digital transformation according to the opinions of authors, researchers, and scholars, in the field of management. As there are several dimensions to this strategy, this study relies on studies (Hess et al., 2016; Chanias et al., 2019), to identify its dimensions, including technological use, changes in customer value creation, and structural changes.

According to Mithas et al. (2013), organizational technologies can be divided into two categories: information technology (IT) assets — encompassing hardware, software, and data storage systems — and the organizational capabilities to utilize these assets, including IT management skills and alignment with business goals. Both elements are essential for effectively implementing digital transformation strategies. De Mauro et al. (2018) noted that this technological shift requires a change in the skill set of the workforce. Organizations must retrain employees to develop skills aligned with modern software, facilitating their transition from operational roles to problem analysts. This necessitates investment in new technologies and attracting specialists while reducing reliance on unskilled labor.

Digital transformation strategies play a crucial role in bringing about changes in business models within organizations. Changes in customer value creation primarily involve the degree of transformation occurring in their core business amid or following digital transformation. This transformation shortens the supply chain to customers, delivering services and products quickly and efficiently without intermediary involvement. This, in turn, increases value for customers (Hess et al., 2016). Ekman et al. (2020) stated that changes in customer value creation are related to redesigning processes to maximize the benefits of customer experiences. This is achieved through tools, systems, and new IT models such as internal marketing and social media networks. It involves redesigning the value chain to align with the needs and desires of customers.

It is natural that any change in an organization's strategy and operations is accompanied by a change in its organizational structure, aligning with the occurring transformation. For example, when an organization changes its

strategies, policies, and strategic direction, this is followed by a change in its organizational structure. The organizational structure quickly changes according to the requirements of the stage and the current situation. Thus, when an organization enters a digital transformation strategy, it is accompanied by a change in its organizational structure (Marin-Idarraga & Hurtado Gonzalez, 2021).

Al-Nsour and Khlaifat (2020) indicated that the organizational structure regulates the entire organization's efforts toward achieving strategic goals, involving the distribution of resources, tasks, and authorities. Any change in business models contributes to altering the distribution of tasks, authorities, and resources, leading to a change in the organizational structure.

Matt et al. (2015) highlighted that digital transformation strategy works to change all aspects of organizations. Therefore, the primary concern for organizations is the change in the position and alignment of new digital business activities within their organizational structure. Organizations should decide whether to integrate new operations into their current structures, alternatively, it might be better to establish a separate subsidiary company responsible for digital transformation strategy-related activities.

HRs are considered the most crucial asset of an organization, and modern organizations have given them significant attention due to their ability to achieve sustainable competitive advantages based on the skills, knowledge, and experiences they possess. HR's development strategy focuses on building and enhancing the organization by developing the skills, knowledge, and experiences of its HR, enabling them to perform their tasks efficiently and effectively (Banton, 2019). The strategy of HR development plays a crucial role in achieving the strategic goals of the organization and outperforming competitors. Its significant contribution lies in addressing the difficulties and challenges the organization faces, particularly in the context of technological advancements, the communications revolution, and intense competition. The effectiveness of HR development is realized when it is optimally implemented.

Al-Taie and Al-Abadi (2015) emphasize that HR development constitutes the overall framework for all activities related to identifying the organization's workforce needs, nurturing, developing, and enhancing their productivity. Additionally, it involves providing suitable compensations and rewards while ensuring the retention of employees. The ultimate goal is to maximize the utilization of HR to achieve the organization's strategic objectives.

Several definitions of HR development have been articulated by scholars, researchers, and authors in the field of HR management. However, this study considers Mehta and Mehta (2019), Zala (2020), and Sheikh (2020) to identify the dimensions of HR development, which are: attraction and selection, training and development, and compensation and rewards.

The policy of attraction and selection represents one of the most important policies that HR management is based on and develops. It plays a fundamental role in increasing the efficiency and effectiveness of the organization. Attracting and selecting individuals with knowledge, skills, and experience helps the organization enhance its strategic performance. The aim of attracting and selecting individuals is not only to replace departing individuals but also to appoint suitable individuals capable of achieving its goals and strategies (Ballantyne, 2009). Hamoud and Al-Khursha (2015) defined it as the policy through which suitable individuals are sought and selected to fill vacant positions in the organization to compensate for the shortage of HR in the organization. Vlachos (2009) pointed out that attraction and selection are practices of HR management and development.

Training and development are highly significant for both the individual and the organization. They contribute to developing individuals' capabilities, refining their skills, and changing their behavior, attitudes, and beliefs to align with the organization's culture and its needs for progress and advancement in its field of work. It is a continuous process to update and develop individuals to ensure the continuity and success of the organization (Armstrong & Taylor, 2020).

It is essential to differentiate between the concepts of training and development in HR management. Training involves transferring the basic knowledge and skills to individuals to perform their work correctly, efficiently, and effectively. On the other hand, development involves refining and developing individuals' skills to make them more prepared to take on new tasks assigned to them in the future. Training is related to current jobs in the organization, while development is related to future jobs and tasks (Dessler, 2017). Mohajan (2017) pointed out that training and development are planned and organized processes aimed at modifying individuals' behavior and imparting knowledge and skills through teaching and learning to achieve organizational efficiency and effectiveness.

The compensation and rewards policy is essential for HR development, providing a foundation for retaining talent and enhancing performance. It also attracts external competencies aligned with the organization's evolving needs (Al-Jarrah & Abu-Doleh, 2015). According to Williams (2016), compensation and rewards include all forms of remuneration, such as salaries, allowances, benefits, and both financial and non-financial incentives. Al Shawabkeh and Al Najjar (2016) noted that this policy comprises mechanisms that deliver a cohesive benefits package in exchange for employees' work.

Several studies have examined the impact of digital transformation on HR development in various contexts. For instance, Khemis (2021) aimed to measure the effect of digital transformation dimensions — digitizing customer experience, internal operations, and banking business models — on job performance in Egyptian commercial banks. The study found a significant positive relationship between digital transformation and job performance, emphasizing the need for an organizational unit dedicated to managing digitization projects.

In comparing the situation of digital transformation and HR development in Jordanian banks with those in other Middle Eastern countries and developing economies, distinct differences and similarities emerge. For instance, while Jordan has made significant strides in integrating digital technologies within its banking sector, many neighboring countries, such as the United Arab Emirates (UAE) and Saudi Arabia, have adopted more aggressive digital transformation strategies. The UAE, for example, has positioned itself as a regional leader in fintech and digital banking innovation, propelled by substantial government support and investment in technology infrastructure

(Hamad, 2020; Guzmán-Ortiz et al., 2020). In contrast, Jordanian banks, despite demonstrating a high level of application of digital transformation strategies, particularly in the dimensions of value creation and technology usage, still face challenges related to regulatory frameworks and technological adoption rates that can hinder progress (Khemis, 2021; Wang et al., 2020). Furthermore, research by Al-Maani and Al-Thawabieh (2020) indicates that while HR development practices are well-established in the Jordanian banking sector, there is still a gap compared to the more developed HR practices observed in the Gulf Cooperation Council (GCC) countries, where banks tend to invest more heavily in employee training and development programs. This comparative analysis underscores the necessity for Jordanian banks to enhance their digital transformation efforts and HR practices to remain competitive within the broader regional context.

Thus, digital transformation is reshaping HR practices in Jordanian banks, particularly in recruitment, training, and performance management. Recruitment processes now leverage AI and data analytics, streamlining candidate selection and expanding outreach through online platforms (Al-Maani & Al-Thawabieh, 2020). Training methods have shifted towards e-learning and blended approaches, enhancing flexibility and engagement while fostering essential digital skills among employees (Wang et al., 2020). Additionally, performance management systems are evolving from traditional annual reviews to real-time feedback mechanisms, utilizing performance analytics to promote continuous improvement and accountability (Khemis, 2021). Collectively, these changes aim to create a more agile and skilled workforce, aligning HRs with the demands of the digital banking landscape.

Hamad (2020) also found a statistically significant relationship between digital transformation and employee performance development. Their recommendations stressed creating an organizational culture conducive to digital transformation and training employees on new systems.

Ageeli et al. (2020) identified a significant impact of IT on HR development. They recommended that management officially embrace optimal IT usage and provide training for staff at the College of Arts and Humanities on modern technologies.

Wang et al. (2020) reported that digital transformation strategies positively influence organizational performance, with cognitive conflict mediating this relationship. They called for further research into Chinese IT companies.

Guzmán-Ortiz et al. (2020) indicated a positive impact of digital transformation on individual job performance, highlighting the need for employee training on new technological systems.

Based on this discussion, we formulate the following hypotheses:

H1: There is no significant impact (α ≤ 0.05) of respondents' perceptions of the digital transformation strategy and its dimensions (technology usage, value creation changes, structural changes) on HR development dimensions (attraction and selection, training and development, rewards and compensation) in Jordanian commercial banks.

To further investigate this impact, the main hypothesis is divided into three sub-hypotheses:

H1a: There is no significant impact (α ≤ 0.05) on respondents' perceptions of the digital transformation strategy and its dimensions on attraction and selection as a dimension of HR development in Jordanian commercial banks.

H1b: There is no significant impact (α ≤ 0.05) on respondents' perceptions of the digital transformation strategy and its dimensions on training and development as a dimension of HR development in Jordanian commercial banks.

H1c: There is no significant impact (α ≤ 0.05) on respondents' perceptions of the digital transformation strategy and its dimensions on rewards and compensation as a dimension of HR development in Jordanian commercial banks.

Figure 1. Study model
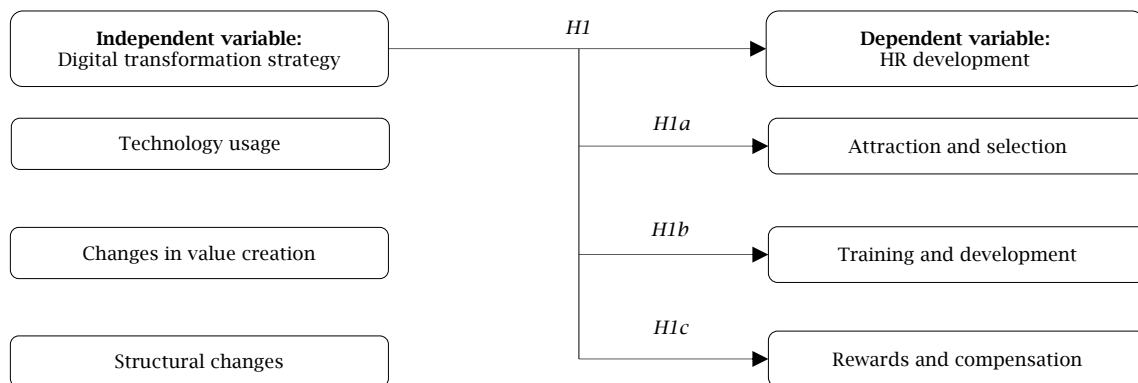
3. RESEARCH METHODOLOGY

The study population comprises 12 Jordanian commercial banks, including Arab Bank, Housing Bank, Jordan Bank, Cairo Amman Bank, Ahli Bank, Jordan Kuwait Bank, Arab Investment Bank, Union Bank, Commercial Bank, Arab Institution Bank, Société Générale Bank, and Jordan Money Bank. The analysis focused on employees in senior and middle management positions, such as general manager, deputy/assistant general manager, department manager, and branch manager, while also considering equivalent titles due to variations among banks.

A comprehensive survey was conducted across the entire study population, which included 853 individuals, according to information obtained from the Jordanian Banks Association's Banks Magazine for the year 2021. However, 691 surveys were retrieved as valid for analysis. This survey encompassed all senior and middle management employees, with a comprehensive sampling rate

of 100% of the total number of individuals in these roles. This population was selected because senior and middle management are directly responsible for decision-making processes related to both digital transformation strategy and HR development.

Table 1. Statistical description of the study sample by job title

Bank	Manager	Deputy/assistant general manager	Department manager	Branch manager	Distributed questionnaires	Retrieved questionnaire	Retrieved questionnaires (%)
Arab Bank	1	1	12	78	92	82	89.13%
Housing Bank	0	0	11	132	143	115	80.42%
Jordan Bank	1	1	14	80	96	72	75.00%
Cairo Amman Bank	1	0	6	94	101	80	79.21%
Al-Ahli Bank	0	1	14	56	71	60	84.51%
Jordan Kuwait Bank	1	11	13	64	79	70	88.61%
Arab Investment Bank	1	0	9	34	44	30	68.18%
Union Bank	1	1	12	47	61	48	78.69%
Commercial Bank	0	1	11	32	44	40	90.91%
Arab Bank for Investment	1	0	17	27	45	41	91.11
Investment Bank	1	0	10	12	23	17	73.91%
Société Générale Bank	1	1	8	19	29	25	86.21
Jordanian Money Bank	1	0	10	14	25	20	80.00
Total	853	700	82.0%				

Table 2. Characteristics of the study sample

	Scale	Repetition	Percentage
Gender	Male	553	80.0%
	Female	138	20.0%
Age group	30 years old or less	85	12.3%
	31–40 years old	183	26.5%
	41–50 years old	373	54.0%
	More than 50 years old	50	7.2%
Educational qualification	Diploma	0	0%
	Bachelor's degree	363	52.5%
	Master's degree	324	46.9%
	PhD	4	0.6%
Job title	General manager	6	0.9%
	Deputy/assistant general manager	64	9.3%
	Department manager	243	35.2%
	Branch manager	378	54.7%
Years of experience	5 years or less	89	12.9%
	6–10 years	229	33.1%
	11–15 years	327	47.3%
	15 years or more	46	6.7%
Total		691	100%

The reliability of the study tool was assessed using Cronbach's alpha coefficient, which is a reliable method to measure internal consistency among the items of a scale. Generally, an alpha coefficient above 0.70 is considered acceptable in social sciences. This method was applied to both the digital transformation strategy scale and the HR development scale. Both overall and for each variable separately. Table 3 illustrates a satisfactory level of internal consistency of the content of the scales used in the study:

Table 3. Evaluation of the internal consistency reliability coefficient

Questions	Dimensions	Number of items	Cronbach's alpha coefficient
1–5	Technology usage	5	0.800
6–10	Value creation changes	5	0.780
11–15	Structural changes	5	0.79
1–15	Digital transformation strategy	15	0.81
16–20	Attraction and selection	5	0.820
21–25	Training and development	5	0.810
26–30	Rewards and compensation	5	0.850
16–30	HR development	15	0.88
1–30	All questionnaire items	30	0.87

4. RESEARCH RESULTS

This section aimed to answer the study *RQs*. Table 4 indicates that the overall average for the dimensions of the *digital transformation strategy* is high, with a total mean of 3.86 and a standard deviation of 0.35. The averages ranged from 3.81 to 3.92 on the five-point Likert scale, reflecting a high level of application for the dimensions of the *digital transformation strategy*.

Specifically, the dimension changes in value creation ranked first with a mean of 3.92, which is higher than the overall mean of 3.86. This dimension also had a relatively low standard deviation of 0.470,

indicating a high level of agreement among respondents. On the other hand, the dimension structural changes ranked third with a mean of 3.81, which is slightly lower than the overall mean.

The low dispersion in the responses suggests a convergence of opinions among the analytical unit's members regarding the application of the dimensions of the *digital transformation strategy*. Overall, the results indicate that the top and middle management in Jordanian commercial banks show a high interest in adopting the concept of the *digital transformation strategy* in all its dimensions.

Table 4. Perceptions of top and middle management on the availability of *digital transformation strategy* in Jordanian commercial banks

Questions	Dimension	Mean	Std. dev.	Level
1–5	Technology usage	3.38	0.460	High
6–10	Changes in value creation	3.92	0.470	High
11–15	Structural changes	3.81	0.380	High
Total average		3.86	0.35	

Table 5. Means and standard deviations for the perceptions of top and middle management regarding the level of availability of *HR development* with its dimensions in Jordanian commercial banks

Questions	Dimension	Mean	Std. dev.	Level
16–20	Attraction and selection	3.84	0.31	High
21–25	Training and development	3.76	0.49	High
26–30	Rewards and compensation	3.78	0.46	High
Total average		3.79	0.63	

Table 5 shows that the overall average for the dimensions of *HR development* is high, with a mean of 3.79 and a standard deviation of 0.63. The arithmetic means ranged from 3.79 to 3.84 on the Likert scale, indicating a high reality of the application of the dimensions of *HR development*. The attraction and selection dimension obtained the first rank with an average of 3.84, which is higher than the overall average of 3.79 and a standard deviation of 0.31. The training and development dimension ranked third and last with an average of 3.76, which is lower than the overall average of 3.79 and a standard deviation of 0.49. The table also indicates low dispersion in the responses of the analysis unit about the dimensions of *HR development*, reflecting convergence in the views of the analysis unit on the reality of applying the dimensions of *HR development*. The study believes that the above results mean that Jordanian commercial banks show a high interest in adopting the concept of *HR development* in all its dimensions.

Before applying regression analysis to test the study hypothesis, several tests were conducted to ensure the suitability of the data for the assumption of regression analysis as follows:

• The study ensured the absence of a multicollinearity problem between the independent variables by measuring the variance inflation factor (VIF) and testing the allowable variance (tolerance) for each variable. The VIF values for all variables were less than 10, ranging between 1.297 and 1.845. Similarly, the tolerance values for all variables were greater than 0.05, ranging between 0.542 and 0.771. Therefore, it can be concluded that there is no significant problem related to a high correlation between the independent variables.

• Model validity confirmation for testing study hypothesis as illustrated in Table 7.

Table 6. VIF, tolerance, and variance allowed

Questions	Dimension	VIF	Tolerance
1–5	Technology usage	1.845	0.5420
6–10	Changes in value creation	1.643	0.6090
11–15	Structural changes	1.297	0.7710

Table 7. Results of regression analysis to ensure model validity for testing study hypothesis

Dependent variable	Df	Coefficient of determination (R^2)	Calculated value (F)	Sig.
HR development	690	0.415	67.890	0.000*
Attraction and selection	690	0.356	118.588	0.000*
Training and development	690	0.386	38.335	0.000*
Rewards and compensation	690	0.590	43.205	0.000*

*Note: * Significance level ($\alpha \leq 0.05$).*

Table 7 illustrates the validity of the study's hypotheses test model, given the high value of F calculated, which exceeds its tabulated value at a significance level of ($\alpha \leq 0.05$). The calculated value of F is 67.890, and the significance level of F is 0.000.

The dimensions of *digital transformation strategy* explain 41.5% of the variance in *HR development* in Jordanian commercial banks. It also explains 35.6% of the variance in the "Attraction and selection" dimension, 38.6% of the variance in the "Training and development" dimension, and 59% of the variance in the "Rewards and compensation" dimension.

The main hypothesis (*H1*) states that there is no significant impact at a significance level ($\alpha \leq 0.05$) on the respondents' perceptions of the *digital transformation strategy*, including its dimensions (technology usage, changes in value creation, structural changes), on the development of HRs, encompassing its dimensions (attraction and selection, training and development, rewards and compensation), collectively in Jordanian commercial banks.

Table 8. Impact of *digital transformation strategy* on *HR development*: Multiple regression analysis results

Digital transformation strategy dimensions	Beta-value	Standard error	Beta-value	t-value	Sig.
Technology usage	0.4020	0.0370	0.511	10.926	0.0000*
Structural changes	0.148	0.0370	0.0460	4.933	0.0040*
Changes in value creation	0.0910	0.0350	0.1160	2.629	0.0090*

*Note: * Significance level ($\alpha \leq 0.05$).*

The results presented in Table 8 indicate that the dimensions of the *digital transformation strategy* (technology usage, changes in value creation, structural changes) have a significant impact on the development of HR in Jordanian commercial banks. The calculated t-values are as follows: technology usage (t = 10.926), structural changes (t = 4.933), and changes in value creation (t = 2.629), all of which are statistically significant.

This necessitates the rejection of the hypothesis, which suggests that there is no significant impact at a significance level ($\alpha \leq 0.05$) of the respondents' perceptions of *digital transformation strategy* with its dimensions (technology usage, changes of value creation, structural changes) collectively on the development of HRs with its dimensions (attraction and selection, training and development, rewards and compensation) in Jordanian commercial banks. Instead, the acceptance of the alternative hypothesis implies the existence of an impact of *digital transformation strategy* in the development of HRs.

Furthermore, when conducting stepwise multiple regression analysis to determine the significance of each independent variable individually in contributing to the mathematical model representing the dimensions of *digital transformation strategy* (technology usage, changes in value creations, structural changes) in the development of HRs in Jordanian commercial banks, the results are illustrated in Table 9.

Table 9. Stepwise multiple regression analysis of *digital transformation strategy* dimensions on *HR development*

Digital transformation strategy dimensions	R^2	F	Sig.
Structural changes	0.395	145.384	0.000*
Technology usage	0.419	77.153	0.000*
Changes in value creation	0.431	62.872	0.000*

*Note: * Significance level ($\alpha \leq 0.05$).*

The data presented in Table 9 indicate that the dimension of structural changes explains 39.5% of the variance in the development of HRs, followed by technology usage, which together with the previous variable, explains 41.9% of the variance in the dependent variable. Additionally, changes in value creation explain and align with the preceding variables, 43.1% of the variance in the dependent variable. To assess the impact of *digital transformation* through its dimensions on each dimension of *HR development* in Jordanian commercial banks, the main hypothesis was divided into three sub-hypotheses.

Table 10. Impact of *digital transformation strategy* dimensions on attraction and selection: Multiple regression analysis results

Digital transformation strategy dimensions	Beta-value	Standard error	Beta-value	t-value	Sig.
Technology usage	0.2540	0.020	0.247	11.148	0.000*
Changes in value creation	0.0920	0.022	0.261	4.149	0.000*
Structural changes	0.1900	0.028	0.391	6.097	0.000*

*Note: * Significance level ($\alpha \leq 0.05$).*

The statistical results presented in Table 10, and upon examination of the t-test values, indicate that the dimensions of *digital transformation strategy* (technology usage, changes in value creations, structural changes) have a significant impact on attraction and selection as one of the dimensions of *HR development*. The calculated t-values are as follows: technology usage (t = 11.148), changes in value creation (t = 4.149), and structural changes (t = 6.097), all of which are statistically significant.

Table 11. Predicting the impact of *digital transformation strategy* dimensions on attraction and selection

Digital transformation strategy dimensions	R^2	F	Sig.
Changes in value creation	0.321	131.980	0.000*
Structural changes	0.352	85.919	0.000*
Technology usage	0.382	61.328	0.000*

*Note: * Significance level ($\alpha \leq 0.05$).*

The data presented in Table 11 indicate that the dimension of changes in value creation explains 32.1% of the variance in the dimension of attraction and selection, followed by structural changes, along with the previous variable, which explains 35.2% of the variance in attraction and selection. Lastly, technology usage explains, in conjunction with the preceding dimensions, 38.2% of the variance in the attraction and selection variable.

Table 12. Impact of strategic orientation dimensions on training and development: Multiple regression analysis results

Digital transformation strategy dimensions	Beta-value	Standard error	Beta-value	t-value	Sig.
Technology usage	0.2410	0.0520	0.2270	4.594	0.000*
Changes in value creation	0.1510	0.0490	0.1430	3.059	0.001*
Structural changes	-0.155	0.0530	-0.122	2.940	0.003*

*Note: * Significance level ($\alpha \leq 0.05$).*

The statistical results presented in Table 12, and upon examination of the t-test values, indicate that the dimensions of *digital transformation strategy* (technology usage, changes in value creation, structural changes) have a significant impact on training and development as one of the dimensions of *HR development*. The calculated t-values are as follows: technology usage (t = 4.594), changes in value creation (t = 3.059), and structural changes (t = 2.940), all of which are statistically significant.

Table 13. Stepwise multiple regression analysis for predicting the impact of dimensions of *digital transformation strategy* on training and development

Digital transformation strategy dimensions	R^2	F	Sig.
Structural changes	0.357	49.380	0.000*
Changes in value creation	0.378	28.831	0.000*
Technology usage	0.417	22.308	0.000*

*Note: * Significance level ($\alpha \leq 0.05$).*

The data presented in Table 13 indicate that the dimension of structural changes explains 35.7% of the variance in the training and development, followed by changes in value creation, in conjunction with the previous variable, which explains 37.8% of the variance in the dependent variable. Lastly, technology usage explains along with the preceding dimensions 41.7% of the variance in the training and development variable.

Table 14. Results of multiple regression analysis to test the impact of dimensions of strategic orientation collectively on rewards and compensation

Digital transformation strategy dimensions	Beta-value	Standard error	Beta-value	t-value	Sig.
Technology usage	0.711	0.044	0.706	16.010	0.000*
Changes in value creation	0.331	0.042	0.330	7.931	0.000*
Structural changes	0.166	0.045	0.137	3.719	0.000*

*Note: * Significance level ($\alpha \leq 0.05$).*

The statistical results presented in Table 14, and upon examination of the t-test values, indicate that the dimensions of *digital transformation strategy* (technology usage, changes in value creation, structural changes) have an impact on rewards and compensation as one of the dimensions of *HR development*. The calculated t-values are as follows: technology usage (t = 16.010), changes in value creation (t = 7.931), and structural changes (3.719), all of which are statistically significant.

This necessitates the rejection of the hypothesis, which posits that there is no statistically significant impact of the *digital transformation strategy*, with its dimensions (technology usage, changes in value creation, structural changes) collectively, on rewards and compensation as one of the dimensions of HRs development in Jordanian commercial banks at a significance level ($\alpha \leq 0.05$). Instead, the acceptance of the alternative hypothesis implies the existence of an impact of the *digital transformation strategy* on rewards and compensation.

Table 15. Stepwise multiple regression analysis of *digital transformation strategy* dimensions on rewards and compensation

Digital transformation strategy dimensions	R^2	F	Sig.
Structural changes	0.551	161.520	0.000*
Changes in value creation	0.586	122.408	0.000*
Technology usage	0.621	87.736	0.000*

*Note: * Significance level ($\alpha \leq 0.05$).*

The data presented in Table 15 indicate that following structural changes, approximately 55.1% of the variance in the rewards and compensation variable is explained. Subsequently, after changes in value creation, in conjunction with the preceding dimension, approximately 58.6% of the variance in the dependent variable is explained. Finally, after technology usage, along with the preceding dimensions, approximately 62.1% of the variance in the rewards and compensation variable is explained.

5. DISCUSSION

The study aimed to investigate the impact of digital transformation strategy on HR development in Jordanian commercial banks. The results indicate several significant findings regarding the perceptions of top and middle management. Digital transformation in HR raises ethical concerns about data privacy and job displacement. However, the collection of personal data necessitates strong

privacy protections and transparency to maintain employee trust. Additionally, automating HR functions can lead to job losses, highlighting the need for organizations to support workforce retraining and upskilling. Addressing these issues is essential for a responsible approach to digital transformation in HR.

The descriptive analysis revealed that perceptions of the digital transformation strategy among the study sample, as rated on a five-point Likert scale, ranged from an average score of 3.81 to 3.92, culminating in an overall average of 3.86. This high average score reflects a robust implementation of digital transformation strategies within Jordanian commercial banks. Notably, the "Changes in value creation" dimension received the highest rating, suggesting that management recognizes the importance of redefining value propositions in response to digital trends. This prioritization aligns with the findings of Khemis (2021) and Wang et al. (2020), who noted that successful digital transformation is often contingent upon the ability to create new value for customers.

The study also highlighted that perceptions of HR development dimensions were generally high, with an overall average of 3.79. Specifically, the attraction and selection dimension ranked highest at 3.84, indicating that management views the recruitment of talent as crucial in the context of digital transformation. This emphasis on attracting skilled personnel is particularly relevant given the rapid technological changes affecting the banking sector. The findings echo the conclusions of Al-Maani and Al-Thawabieh (2020), which highlighted the significance of human capital in navigating digital transitions.

Moreover, the statistically significant impact ($\alpha \leq 0.05$) of the digital transformation strategy dimensions — technology usage, changes in value creation, and structural changes — on HR development dimensions (attraction and selection, training and development, rewards and compensation) underscores the interconnectedness of these variables. This suggests that as banks implement technology and structural changes, they must simultaneously invest in the development of their workforce to leverage these changes effectively.

Interestingly, the training and development dimension, although it ranked last with an average of 3.76, signals an area that requires attention. The relatively lower perception may indicate a gap in the current training programs available to employees in the context of digital transformation. Addressing this gap is essential, as prior studies, such as those by Mehta and Mehta (2019), emphasize that ongoing training is vital for ensuring employees can adapt to new technologies and processes.

In conclusion, the findings of this study contribute to the existing literature by confirming the positive influence of digital transformation strategies on HR development. This research highlights the necessity for banking institutions to not only adopt digital technologies but also to cultivate a workforce capable of adapting to and thriving within a digital environment. Future research could further explore the specific training initiatives that may enhance employees' capabilities in response to digital transformation, thereby refining the strategies employed by banks to achieve their objectives in an increasingly digital landscape.

6. CONCLUSION

This study contributes significantly to the fields of digital transformation and HR development by examining their interrelationship within Jordanian commercial banks. It is one of the few Arab and international studies to explore these variables collectively, offering valuable insights into how digital transformation strategies can be integrated into HR practices. The research adds recent scientific material to enrich theoretical knowledge and serves as a reference for future studies on this topic, providing a robust and integrated theoretical framework that can guide future research and discussions.

This study's novelty lies in its exploration of digital transformation and HR development dimensions within Jordan's banking sector, which significantly contributes 21.4% to the gross domestic product and employs 2% of the workforce (Central Bank of Jordan, 2020). By providing a blueprint for implementing modern management concepts in the digital era, it highlights how digital transformation can enhance HR practices like attracting, developing, motivating, and retaining employees. These insights are vital for banks to adapt to changing customer demands and maintain competitiveness.

Moreover, the study holds practical significance for senior management in commercial banks. It offers actionable recommendations to guide the implementation of digital transformation strategies, ensuring that HRs are effectively aligned with technological advancements. Senior management should prioritize investing in continuous training programs that equip employees with the necessary skills to navigate new technologies effectively. These training initiatives should encompass both technical skills and soft skills to enhance employee adaptability. Additionally, enhancing recruitment practices is essential; banks should focus on attracting candidates with digital skills and a propensity for innovation, updating recruitment criteria to prioritize digital competency.

Fostering a culture of innovation is equally important, as this encourages a workplace environment that embraces change and empowers employees to propose and test new ideas. Such initiatives can include innovation labs or cross-departmental projects that facilitate collaboration. Strengthening employee engagement through regular feedback systems on digital transformation initiatives will also enhance commitment and ownership of these efforts among employees. Furthermore, establishing metrics to monitor and evaluate the impact of digital transformation on HR practices and overall performance will enable banks to adjust their strategies as needed to ensure alignment with business objectives.

For future research, this study lays the foundation for exploring the integration of digital transformation in other business sectors beyond banking. Researchers could investigate whether similar relationships between digital transformation and HR development exist in other industries, which could further validate and generalize these findings. Additionally, this research highlights the importance of continuous adaptation to technological change, encouraging future studies to examine how organizations can foster innovation and resilience in the face of such transformations.

Regarding the limitations, while this study provides valuable insights, it is limited to the Jordanian banking sector, which may restrict the generalizability of its findings to other regions or industries. Future research could address this limitation by conducting comparative studies across different countries or sectors. Moreover, while the quantitative approach used here offered broad insights, combining it with qualitative methods in future studies could provide a deeper understanding of the nuanced challenges and opportunities digital transformation presents in HR development.

As banks increasingly prioritize employee engagement and well-being, digital platforms that facilitate remote collaboration and skill development will become essential. Future trends may also include greater emphasis on ethical considerations surrounding data privacy and job displacement, as organizations seek to balance technological advancements with employee rights. Ultimately, the banking sector's adaptation to these changes will be critical in maintaining competitive advantage and meeting evolving customer expectations.

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