The Effectiveness of Employing Digital Technology in Enhancing the Job Performance of Human Resources in Sports Organizations

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Abstract

Understanding human behavior within sports organizations, interpreting its nature, and recognizing the essential needs of personnel through their observed job performance under prevailing organizational conditions, enables the identification of weaknesses and areas requiring improvement. Such analysis contributes to enhancing organizational effectiveness and fostering a supportive organizational climate, allowing individuals to effectively perform their roles and deliver services to stakeholders in a motivating and conducive environment.

This study investigates the impact of information technology on human resource performance at the Mohamed Boudiaf Complex in Algiers. The research employed a survey sample of 30 participants, comprising managers and department heads. A descriptive research design was adopted due to its suitability for the objectives of the study. Data were analyzed statistically using the Spearman correlation coefficient and Chi-square test, supplemented by composite tables to examine the relationship between organizational climate and performance. The findings revealed a lack of responsiveness among participants, resulting in the rejection of all proposed hypotheses. The results indicate that, within the scope of this study, information technology does not significantly influence human resource performance at the Mohamed Boudiaf Complex. Accordingly, the study underscores the importance of implementing strategies to enhance the integration of information technology as a means to improve human resource performance.

Keywords: Information Technology, Human Resource Performance, Sports Organizations

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Problem Statement

Organizations strive to achieve their mission through the implementation of various strategies, tactics, and policies. Achieving these objectives requires a combination of financial, technical, informational, human, and modern technological resources. Among these, human resources constitute the fundamental pillar upon which organizations rely at all administrative levels. Organizational goals cannot be realized without these human resources; an organization without people is merely a collection of buildings, equipment, and machinery. It is the individuals who embody the organization, not the physical infrastructure or tools.

Employees, alongside modern technology, serve as the primary instruments for achieving organizational objectives, provided that conducive conditions exist to motivate and enable staff to perform effectively. Consequently, attention to human resources has long been a central concern for administrators in both large and small organizations to ensure high performance.

This raises the central research question: **Does modern technology influence the level of human resource performance in sports organizations?**

Study Objectives

- To highlight the characteristics of modern technology and the level of human resource performance.
- To examine the extent to which modern technology affects human resource performance in sports organizations.
- To emphasize the growing role of intellectual capital embodied in human resources as a critical factor of competitive advantage in sports organizations, and to analyze the potential benefits for organizations from adopting modern technology, including an assessment of its impact on human resources.

Theoretical Background

Human Resource Management

Human Resource Management (HRM) is defined as "the management function responsible for providing an organization with the workforce it needs, maintaining and developing it, ensuring its stability, and enhancing morale, while also monitoring the implementation of regulations, instructions, and laws adopted by senior management and adjusting them as necessary to align with the interests of the organization and its employees."

Operational Definition

Human Resource Management refers to the mechanisms within a sports organization that focus on managing the workforce effectively, with the dual purpose of preserving employees and enhancing organizational sustainability, as well as developing their capabilities to promote the overall development of the organization. Saleh, M. F. (2004 . pp. 20–21).

Methodological Procedures of the Study

Exploratory Study

The exploratory study represents a preliminary phase in which research instruments are tested and refined to ensure their validity and suitability. This stage allows the researcher to anticipate potential challenges that may arise during fieldwork and to address the phenomenon under investigation appropriately. The primary objective of

an exploratory study is to verify the adequacy and validity of the data collection tools prepared by the researcher, ensuring that each instrument accurately measures the intended variables.

In essence, an exploratory study is conducted to test the research instruments for reliability and validity, thereby guaranteeing the accuracy and objectivity of the results. This stage precedes the main field study and helps the researcher assess the level of reliability and consistency of the instruments used. Additionally, it provides insight into the various conditions surrounding the implementation of the research, allowing for more effective application in the field.

Research Methodology

Methodology Adopted

Given the nature of the study and the objective of reconstructing the phenomenon through the use of specific procedures or interventions, followed by precise observation, analysis, and interpretation of results, the descriptive method was deemed the most appropriate for this research. The descriptive method involves detailing the characteristics and features of the subject under study, expressed in both quantitative and qualitative terms. It is also defined as the process of describing a phenomenon and attempting to explore solutions and explanations based on the data and information available. (Hisham, H2007. p. 72).

Study Population

The study population refers to all units of the phenomenon under investigation. One of the challenges for researchers is defining the scope of their work, including the selection of the population and sample. One of the main objectives of scientific research is the ability to generalize findings from the study population to other related phenomena, which depends on the adequacy of the sample used. The sample represents a portion of the population, selected according to scientific principles to ensure accurate representation. The primary purpose of selecting a sample is to obtain information about the original population, as it is often impractical for a researcher to include every member of the population in the study. (Al-Jadri, A. H., & Abu Halou, Y. A. 2009 p. 197.).

Study Sample and Type

The sample consists of the specific units of the phenomenon being studied or the entirety of elements forming the research problem. This study employed a purposive sampling method, with a sample size of 30 participants, including managers and department heads at the Mohamed Boudiaf Sports Complex in Algiers. The study design was survey-based.. (Radwan, F. H2008 p. 117.)

Validity:Validity refers to the extent to which a test or instrument measures what it is intended to measure. There are several types of validity, which ensure the accuracy and credibility of the research instruments and the results obtained. (Nibhan, Y. I. 2006 p. 102.).

Validity of the Questionnaire

The validity of the questionnaire was ensured by confirming that it accurately measures the intended construct. (Al-Dhamin, M. A2007 p. 113).

Reliability Calculation

The internal consistency of the questionnaire was assessed using **Cronbach's alpha**, which yielded a reliability coefficient of 0.75.

Construct Validity

The construct validity of the scale was inferred from the reliability coefficient using the following equation:

After data collection, the information obtained through the questionnaires was coded and processed for statistical analysis using **SPSS** software. The following procedures were employed:

1. **Percentage Calculation:**The percentage of responses was calculated using the formula:

Percentage=Frequency×100Total Sample Size\text{Percentage} = \frac{\text{Frequency} \times 100}{\text{Total Sample Size}}Percentage=Total Sample SizeFrequency×100

2. **Chi-Square Test (χ^2):**

The Chi-square test was used to determine whether there are statistically significant differences in the respondents' answers to the questionnaire items. The test formula is:

χ2=∑(O−E)2E\chi^2 = \sum \frac{(O - E)^2}{E}χ2=∑E(O−E)2

Where OOO is the observed frequency and EEE is the expected frequency. The significance level was set at $\alpha = 0.05$, and the degrees of freedom were calculated as:

df=N−1df = N - 1df=N−1

These statistical methods allowed for precise interpretation and evaluation of the data, ensuring the robustness of the study results.

Frequencies and Percentages of Statements Related to the Digital Technology Dimension

Statement	Strongly Disagree	Disagree	Agree	Strongly Agree
Technology has helped the organization enhance employee performance	9 (30.0%)	7 (23.3%)	12 (40.0%)	2 (6.7%)
The management relies on various technological tools in its work	8 (26.7%)	6 (20.0%)	15 (50.0%)	1 (3.3%)
The necessary technology for work is sufficiently available in your organization	6 (20.0%)	9 (30.0%)	3 (10.0%)	12 (40.0%)
Continuous development of the technology used in the organization is implemented	7 (23.3%)	4 (13.3%)	15 (50.0%)	4 (13.3%)
The technology used contributes to faster completion of work	6 (20.0%)	6 (20.0%)	15 (50.0%)	3 (10.0%)
The technology available in the organization is easy to use	8 (26.7%)	7 (23.3%)	14 (46.7%)	1 (3.3%)
Technology aligns with the operational requirements of the organization	5 (16.7%)	8 (26.7%)	14 (46.7%)	3 (10.0%)
Technology has contributed to reducing effort and costs	5 (16.7%)	6 (20.0%)	16 (53.3%)	3 (10.0%)
Most organizational tasks are performed using technology	4 (13.3%)	7 (23.3%)	15 (50.0%)	4 (13.3%)

Commentary on the Table

Table 9 presents the responses of managers and department heads regarding statements related to digital technology. The analysis shows varying perceptions across different items:

- For statement 27, 30.0% (n = 9) of respondents disagreed, 23.3% (n = 7) strongly disagreed, 40.0% (n = 12) agreed, and 6.7% (n = 2) strongly agreed.
- Statement 28 received 26.7% disagreement (n = 8), 20.0% strong disagreement (n = 6), 50.0% agreement (n = 15), and 3.3% strong agreement (n = 1).
- Statement 29 had 20.0% disagreement (n = 6), 30.0% strong disagreement (n = 9), 40.0% agreement (n = 12), and 10.0% strong agreement (n = 3).
- Statement 30 showed 23.3% disagreement (n = 7), 13.3% strong disagreement (n = 4), 50.0% agreement (n = 15), and 13.3% strong agreement (n = 4).
- Statement 31 recorded 20.0% disagreement (n = 6), 16.7% strong disagreement (n = 5), 53.3% agreement (n = 16), and 10.0% strong agreement (n = 3).
- Statement 32 had 26.7% disagreement (n = 8), 23.3% strong disagreement (n = 7), 46.7% agreement (n = 14), and 3.3% strong agreement (n = 1).
- Statement 33 revealed 16.7% disagreement (n = 5), 26.7% strong disagreement (n = 8), 46.7% agreement (n = 14), and 10.0% strong agreement (n = 3).
- Statement 34 showed 16.7% disagreement (n = 5), 20.0% strong disagreement (n = 6), 53.3% agreement (n = 16), and 10.0% strong agreement (n = 3).
- Statement 35 recorded 13.3% disagreement (n = 4), 20.0% strong disagreement (n = 6), 50.0% agreement (n = 15), and 13.3% strong agreement (n = 4).

Analysis:

The results indicate that the majority of managers and department heads generally agree that digital technology contributes positively to organizational processes and employee performance, particularly in statements 31, 34, and 35 where over 50% of respondents agreed. However, a notable proportion of disagreement and strong disagreement across several items suggests areas where technological adoption, accessibility, or training may require improvement. Overall, the responses reflect a generally favorable perception of digital technology while highlighting opportunities for optimization in its application within the organization.

Table X: Frequencies and Percentages for the Third Dimension (Digital Technology)

Dimension	Low	Very Low	High	Very High
Technology	25 (83.3%)	1 (3.3%)	3 (10.0%)	0 (0%)

Analysis:

The results indicate that the majority of respondents (83.3%) perceive the level of technology in the organization as low, while a small fraction (10.0%) considers it high, and only 3.3% view it as very low. No respondents rated it as very high. This suggests that, from the perspective of managers and department heads, the current technological resources and their utilization within the organization are largely insufficient, highlighting a critical area for improvement to enhance operational efficiency and support human resourc

A composite table representing the frequencies and ratios of the relationship between (technology and performance axis)

Technology Level	Low Performance	Very Low Performance	High Performance	Very High Performance	Total
Low	1 (3.4%)	18 (62.1%)	6 (20.7%)	0 (0.0%)	25 (86.2%)
Very Low	0 (0.0%)	1 (3.4%)	0 (0.0%)	0 (0.0%)	1 (3.4%)
High	0 (0.0%)	3 (10.3%)	0 (0.0%)	0 (0.0%)	3 (10.0%)
Very High	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Total	1 (3.4%)	22 (75.9%)	6 (20.7%)	0 (0.0%)	30 (100%)

Commentary on Table /

Table . presents the responses of managers and department heads regarding the relationship between the **technology dimension** and **performance levels**.

- Among respondents who rated technology as *low* (3.4%, n = 1), 62.1% (n = 18) perceived performance as *very low*, 20.7% (n = 6) as *high*, and none rated performance as *very high*.
- For respondents who rated technology as *very low* (0.0%, n = 0), performance was reported as *very low* by 3.4% (n = 1), with no other ratings.
- Respondents who indicated *high* technology (0.0%, n = 0) associated performance primarily with *very low* at 10.3% (n = 3), and none reported high or very high performance.
- No respondents rated technology as *very high*, and consequently, there were no corresponding performance ratings in this category.

Analysis:

The data indicate a strong association between low levels of technology and low performance. The majority of respondents perceive insufficient technological resources as corresponding to very low performance outcomes, highlighting that organizational performance is largely constrained by the adequacy of technology. These results underscore the critical need for improving technological infrastructure and adoption to enhance employee performance and overall organizational efficiency.

The value of Kaf squared represents the significance level of the relationship between (the technology axis) and (the performance axis).

Relationship	χ^2 Value	Significance Level (α)	Degrees of Freedom (df)	p-Value (Sig.)	Decision
Technology – Performance	1.476	0.05	4	0.831	Not Significant

Commentary on Table

Table presents the chi-square (χ^2) value for the responses of managers and department heads regarding the relationship between the **technology dimension** and **performance**. The calculated χ^2 value was **1.476**, with a p-value of **0.831**, at a significance level of **0.05** and **4 degrees of freedom**.

Analysis:

Since the p-value (0.831) is greater than the significance threshold (0.05), the relationship between technology and performance is considered **not statistically significant**. This indicates that, within the studied sample, variations in technology levels are not significantly associated with differences in performance outcomes. Therefore, the null hypothesis, which assumes no association between technology and performance, cannot be rejected.

General Conclusion

Based on the statistical analysis of the research tables and the evaluation of responses obtained from the questionnaires distributed to the managers and department heads of the **Mohamed Boudiaf Sports Complex in Algiers**, the study concludes that **there is no significant effect of information technology on the performance level of human resources in sports organizations**.

The findings indicate that the effective role of information technology in improving performance requires continuous organization, monitoring, and periodic review of the organizational structures to ensure alignment with operational needs. This alignment is essential for the administration to achieve its primary objectives of developing and enhancing the organization.

The researcher, through both the theoretical and field studies, identified a lack of harmony between the prevailing organizational climate, human resource management, and employee performance within the Mohamed Boudiaf Sports Complex. Consequently, the attitudes of the study sample towards the impact of information technology on human resource performance were generally negative. The main findings are summarized as follows:

1. The study revealed that respondents' perceptions of the prevailing organizational climate at the Mohamed Boudiaf Complex were largely negative.
2. There is a mismatch between the nature, tasks, and responsibilities of employees' positions and their academic qualifications and areas of specialization.
3. Although the Complex utilizes information technology and computer systems, there are deficiencies in providing employees with the necessary skills to assume their responsibilities effectively.
4. Weak cohesion and limited collective participation exist between employees and management in addressing workplace challenges, with insufficient collaboration between different units and departments, and a lack of coordination.
5. Decision-making mechanisms are flawed, as proposed projects and alternatives are not properly evaluated prior to implementation, and employees are not adequately involved in the decision-making process, resulting in communication gaps and inefficient information flow through modern channels.
6. There is a notable deficiency in training employees to use modern technology effectively in their work.

Overall, these factors have contributed to a **poor organizational climate**, which in turn has negatively affected human resource performance within the Complex.

Recommendations

Based on the findings of the study, the following recommendations are proposed to enhance human resource performance and optimize the role of information technology within the organization:

1. **Skill Development:** Provide employees with the necessary skills to effectively fulfill their responsibilities, particularly in the use of modern technology.
2. **Participation in Decision-Making:** Involve employees in the decision-making process to improve communication, information flow, and engagement with modern tools and systems.
3. **Encouraging Initiative and Collaboration:** Promote employee initiative, foster a spirit of cooperation, build trust, encourage accountability, and reinforce best practices that enhance performance, improve workflow, and increase coordination between units and departments.
4. **Improving Decision-Making Processes:** Enhance the decision-making mechanisms by actively involving employees in problem-solving and decision formulation.
5. **Leveraging Technological Advancements:** Utilize developments in information systems, computing, and modern communication technologies to improve organizational operations.
6. **Job Alignment:** Assign employees to positions that match their qualifications and areas of specialization to optimize efficiency and performance.
7. **Continuous Improvement:** Ensure the ongoing development of human resource performance through regular updates in technology, enhanced communication methods, and alignment with organizational goals.

Recommendations for Future Research:

1. Conduct further studies and research to identify the factors that contribute to improving human resource performance.
2. Undertake similar studies to the current research, but include additional dimensions of organizational climate, such as external environment and organizational policies.
3. Carry out more research to explore the factors that lead to negative attitudes toward decision-making and provide strategies to overcome these challenges.

Conclusion

Information technology and human resources are integral elements of the organizational climate, which consists of a set of interrelated variables that collectively shape the internal environment of an organization. Key components of organizational climate include the organizational structure, leadership style, best practices, technology, teamwork, participation in decision-making, and incentives, among others. Technology represents a collection of concepts, expertise, and tools through which individuals can adapt to and control their environment. It also involves the application of scientific knowledge and material resources acquired by individuals or organizations. Contemporary research has demonstrated that technology significantly influences organizational structure and the methods by which objectives are achieved. Investing in technological advancements, particularly in innovation and renewal, plays a critical role in organizational behavior and achieving desired performance outcomes.

The level and quality of modern technological methods in management—including the adoption of advanced information systems, modern communication tools, and administrative technologies—directly impact an organization's ability to meet its goals. Moreover, employees' responsiveness to technological developments contributes to enhanced performance efficiency. Technology also affects employee morale, interaction within work groups, job content, communication channels, decision-making processes, and supervisory scope.

Finally, information technology remains a vital topic within the study of organizational climate for future research. This study represents a modest contribution to the body of knowledge, providing insights that may enrich future investigations in this field. Success ultimately depends on continuous efforts to integrate technological resources with human capital to enhance organizational effectiveness.

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