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# The Reality of Digitalization Implementation in the Management of Sports Facilities

**Karam Ramlim[1*], Bachir Karoum[2]**

[1] University of Laghouat (Algeria), K.ramlim.sp@lagh-univ.dz

[2] University of Laghouat (Algeria), b.karoum@lagh-univ.dz

[1.2]Laboratory of cognitive dimensions and applied perceptions in sports training sciences through multiple approaches

**Abstract:**
The study aims to identify the availability of information and communication technology in managing sports facilities, as well as whether the human resource is qualified to manage sports facilities to apply digitization. In this study the researchers used the descriptive approach that suits the nature of the study, and the sample of the study consisted of 100 employees in the youth and sports sector. In order to collect data, a questionnaire was designed consisting of 12 questions divided into two axes. In the end, the researchers found that there is a lack of various means of information technology and communication as the members of the study sample also have a Facebook page to publish all new. Most of administrators of the Directorate of Youth and Sports and its branches use the computer and e-mail in the achievement of their functions.
**Keywords:** Digitalization; Management; Sports Facilities.

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***Corresponding author** / ***K.ramlim.sp@lagh-univ.dz***

## 1. INTRODUCTION

Digital transformation or digitization has become a central element in modernizing the general management of organizations and institutions across various sectors, providing improved efficiency, accelerated processes, and facilitated administrative decision-making (Battat, 2021). In the sports context, this approach is particularly important because of the sensitivity in operating sports facilities and their multiple activities, which requires advanced information systems that enable managing resources, organizingf services and analysing data more accurately and effectively.

Digitalization in sports management is defined as the process of integrating information and communication technologies within the management structure of a sports facility to improve the performance and achieve its objectives more efficiently (Battat, 2021). Field studies show that the application of digitization methods in sports institutions enhances the job performance of employees and achieves a significant improvement in the quality of services provided (Zrifi & Belabed, 2025).

Recent literature also indicates that digitization is directly linked to increased operational efficiency within sports facilities through activating electronic systems for information management, scheduling activities, monitoring maintenance, and facilitating internal and external communication, however, these efforts face challenges due to the limited digital infrastructure, the lack of specialized competencies, and the need for clear strategies for digital transformation in sports field (Lafred, 2025).

In light of these variables, there is a need to study the reality of applying digitization in the management of sports facilities objectively, by analyzing the extent of reliance of these establishments on digital technologies in conductinf their business, identifying the areas that have been digitized, and revealing the factors that hinder or contribute to the success of this application. The study also aims to highlight the role that digitization can play to improve the management performance and sustain sports facilities in an accelerated technological environment.

### 2. Research Questions:

- Is information and communication technology available in quantity and quality in the management of sports facilities?
- Is the human resource in the management of sports facilities qualified to

implement digitization?

**3. Research hypotheses:**

- Information and communication technology is available in quantity and quality in the management of sports facilities.
- The human resource is qualified to implement digitization in sports facilities management.

**4. Research Objectives:**

- Identify the extent of information and communication technology availability in the management of sports facilities.
- Identify whether the human resource is qualified to implement digitization in sports facilities management.

**5. Theoretical Framework:**

**5.1. Definition of digitization:**

The term digitization is an Arabic translation of the French word "Numérisation"' or "digital", all of which express a single meaning, digitization has also imposed an innovative pattern for processing, transmitting and storing information digitally and has led to the integration and intermarriage of major technological applications of media and communication (Levy, 1997, p. 37).

There are many concepts of digitization so that we cannot identify and agree on a single concept due to the comprehensiveness of the term and we can mention some of them:

- The encyclopedic Dictionary of Information and Documentation defines it as "the electronic process of producing electronic or digital symbols through a document or any physical object, or through electronic signals. (Cacaly S. , 2001, p. 431)

**5.2. The contribution of digitalization to the modernization of sports management:**

Digitalization contributes significantly to an effective modernization and development of sports management, playing a vital role in improving administrative processes and communication between sports organizations, the public and players. Through the creation of operational mechanisms based on scientific and methodological foundations for the preparation of human resources, the skills of sports workers can be improved and their efficiency in the use of modern technology can be increased, appropriate training courses can be provided to develop their skills in this field (Aknoush, 2010, p. 148).

**5.3. The importance of Information and Communication Technology in Sports Management:**

Information and communication technology is a modern system that contributes significantly to sports management. These systems were able to collect, process, classify and preserve the data and information needed by decision makers in the management of sports organizations. Public and private organizations have also seen significant advances in information systems, including the use of computers, databases and communication networks, which have contributed to the existence of an information system based primarily on computer use (Ben mersli, 2011, p. 148).

**5.4. Sports Management:**

It is an activity includes essential components, carried out by individuals who are able to use the available resources to direct employees toward specific goals, also known as the process of planning, leading and controlling the efforts of individuals within sports organizations, and using all resources to achieve specific goals (Siyam, 2016, p. 64)

**5.5. Sports facilities:**

The name of sports facility is given to every place where physical sports of all kinds are practiced, and it including its equipment, sandy or clay surfaces, and the associated spectator areas, as well as auxiliary buildings such as changing rooms, restrooms, training halls, and healthcare facilities. It also includes administrative offices and storage areas, depending on the size and importance of the facility. Tourist baths, rowing clubs, athletics tracks, and grandstands are also considered part of sports facilities (Sharif, Nuwairi, & Qadri, 2020)

It is also defined as a body or a group of units under a central administration that organizes their activities in more than one province under a higher authority administered by the Federation, it supervises and monitors them order to improve the performance of sports clubs as well as youth activities in general, also field supervision and the necessity of possessing legal personality in accordance with its founding decree (challali, 2022)

**6. Previous studies:**

6.1. The researchers, Salim Zrifi and Fateh El-Amine Belabed (2025), conducted a study entitled *"The Use of Digitalization and Its Impact on Improving Job Performance in Sports Administrations."* The study aimed to identify the effect of digitalization on enhancing job performance at the Directorate of Youth

and Sports of Biskra Province. The researchers adopted the descriptive approach due to its suitability to the nature of the study. The sample consisted of 60 employees. To collect data, a questionnaire was designed, and the Statistical Package for the Social Sciences (SPSS) was used for data analysis. The findings revealed that employees rely on digital platforms to improve performance within sports institutions. (Zrifi & Belabed, 2025)

6.2. In 2018, the researcher Sassi Bouaziz conducted a doctoral dissertation entitled *"A Proposed Model for the Implementation of E-management in Algerian Sports Administration."* The study aimed to highlight the requirements and standards necessary for implementing the proposed model of e-management within Algerian sports administration, in order to define its framework and assess its position in comparison with other countries. The researcher formulated the following research problem: *Are the requirements for the proposed model of implementing e-management in Algerian sports administration available and ready or not?*

The descriptive-analytical approach was adopted due to its suitability for studying such phenomena. A random cluster sample was selected from different administrative levels, consisting of 68 full-time administrators working in football leagues. Data were collected through questionnaires, interviews, and observation, and analyzed using various statistical methods, including the Statistical Package for the Social Sciences (SPSS).

The findings indicated that, although certain capabilities and infrastructure exist, there is a need for qualified specialists and careful selection processes to keep pace with modernization. The study also revealed a lack of flexibility in the internal and external cultural environment of Algerian sports institutions, which is necessary for the effective implementation of e-management (Bouaziz, 2018).

**8. Research methodology:**

The descriptive approach is used to suit the nature of the study.

**9. Research sample:**

The sample of the study consisted of 100 employees and administrative staff, belonging to the Directorate of Youth and Sports in Chlef state and its branches.

**10. Research tools:**

The questionnaire was used as a data collection tool in which it consists of 12 statements distributed among two axes where each axis examines a hypothesis.
•The first axis contains 6 questions that examine the extent of using information and communication technology in managing sports facilities.
•The second axis contains 6 questions that examin the efficiency of human resources in dealing with digitization.

**10.1. Reliability of research tool:**

In this part of the study we will test the stability of the study tool for each axis and the overall stability as follows:

**Table (1): Alpha Cronbach coefficient for measuring the reliability of each axis of the questionnaire axis.**

| Number | Axes | Number of paragraphs | Cronbach's Alpha |
|---|---|---|---|
| **01** | Axis 1 | 06 | 0.874 |
| **02** | Axis 2 | 06 | 0.943 |
| **03** | Total reliability | 12 | 0.995 |

Based on the results presented in the above table, the Cronbach's alpha coefficient for the first axis reached (0.874), which is close to (1), indicating a high level of reliability. As for the second axis, the Cronbach's alpha coefficient reached (0.943), which is high and exceeds the acceptable threshold of 0.60, indicating strong reliability. The overall reliability coefficient of the instrument reached (0.995) for the total of 12 questionnaire items, demonstrating that the instrument possesses a very high degree of reliability.

**11. Statistical methods:**

The statistical data were analyzed using SPSS version 27.

**12. Present, analyze and discuss the results of the first hypothesis**

- ✓ **Information and Communication Technology is available in terms quantity and quality to implement digitalization in Algerian sports administration.**

**Question1:** Do you have a computer in your office?

**Table (2) "represents the extent to which an employee possesses a computer in his office."**

| statistical Techniques Items | Frequency | Percentage | $\chi^2$ (calculated) | $\chi^2$ (tabulated) | df | sig. level | Significance |
|---|---|---|---|---|---|---|---|
| **Yes** | 84 | 84% | 46.24 | 3.84 | 01 | 0.05 | Significant |
| **No** | 16 | 16% | | | | | |
| Total | 100 | 100% | | | | | |

**Analysis and discussion**: Based on the results presented in the above table, it is evident that 84 employees in the sports sector responded "Yes," representing 84%, which is the highest percentage of responses. In contrast, 16 employees responded "No," representing 16%, which is the lowest percentage of responses.

The calculated ($\chi^2$) value was 46.24, which is greater than the tabulated ($\chi^2$) value of 3.84. This indicates that the result is statistically significant at 1 degree of freedom and a significance level of 0.05.

**Question 2:** Is your computer equipped?

**Table (3) "represents the extent of service provided to the computer of the employees of the sports sector."**

| Sstatistical Techniques Items | Frequency | Percentage | $\chi^2$ (calculatd) | $\chi^2$ (tabulate) | df | Sig. level | Significance |
|---|---|---|---|---|---|---|---|
| **Extranet** | 2 | 2% | 90.28 | 7.82 | 3 | 0.05 | Significant |
| **Internet** | 55 | 55% | | | | | |
| **Intranet** | 3 | 3% | | | | | |
| **No service** | 40 | 40% | | | | | |
| **Total** | 100 | 100% | | | | | |

**Analysis and discussion:** Through the above table, it is clear that 2 employees responded: Extranet representing 2%, the lowest percentage of

employees responses. 55 employees answered: Internet representing 55%, the highest percentage of employee responses. Only 3 employees responded: Intranet with a percentage of 3% and 40 employees responded: no service representing 39%.

The calculated $\chi^2$ (90.28) exceeds the tabulated $\chi^2$ (7.82), indicating statistical significance at df = 3 and $\alpha = 0.05$.

**Question 3:** Do you have a scanner in your office?

**Table number (4) "represents the extent to which an employee in the sports sector has a scanner in his office."**

| Statistical Techniques Items | Frequency | Percentage | $\chi^2$ (calculatd) | $\chi^2$ (tabulate) | df | Sig level | Significane |
|---|---|---|---|---|---|---|---|
| **Yes** | 26 | 26% | 23.04 | 3.84 | 1 | 0.05 | Significant |
| **No** | 74 | 74% | | | | | |
| **Total** | 100 | 100% | | | | | |

**Analysis and discussion:** From the above table, it is clear that 26 employees responded: Yes, representing 26%, the lowest percentage of the teacher's answers, 74 employees responded: No, representing 74%, the highest percentage of the employee's answers.

The calculated $\chi^2$ (23.04) exceeds the tabulated value (3.84), indicating statistical significance at df = 1 and $\alpha = 0.05$.

**Question 4**: Do the number and quality Information Technology equipments in your administration allow the implementation of sports e-management?

**Table number (5) "represents Assesses the adequacy of the number and quality of available IT equipment within the administration and its suitability for implementing electronic sports administration."**

| Statistical Techniques Items | Frequency | Percentage | $\chi^2$ (calculated) | $\chi^2$ (tabulated) | df | sig level | Significance |
|---|---|---|---|---|---|---|---|
| **Yes** | 43 | 43% | 1.96 | 3.84 | 1 | 0.05 | Not significant |
| **No** | 57 | 57% | | | | | |
| **Total** | 100 | 100% | | | | | |

**Analysis and discussion:** From the above table, it is clear that 43 employees in the sports sector responded: Yes, representing 43%, which is the lowest percentage of the responses of the employees, and 57 employees responde: No, representing 57%, which is the highest percentage of the responses of the employees.

The calculated $\chi^2$ (1.96) is less than the tabulated value (3.84), indicating no statistically significant difference at df = 1 and $\alpha = 0.05$.

**Question 5:** Does your administration provide modern means and tools to apply electronic management?

**Table (6) "represents the extent to which the Department provides modern means and tools for the application of e-management. "**

| statistical Techniques Items | Frequency | Percentage | $\chi^2$ (calculated) | $\chi^2$ (tabulated) | df | Sig. level | Significance |
|---|---|---|---|---|---|---|---|
| **Yes** | 43 | 43% | 1.96 | 3.84 | 1 | 0.05 | Not significant |
| **No** | 57 | 57% | | | | | |
| **Total** | 100 | 100% | | | | | |

**Analysis and discussion:** From the table above, it is clear that 43 employees in the sports sector responded: Yes, representing of 43%, which is the lowest percentage of the responses of the employees, and 57 employees responded No, representing 57 %, which is the highest percentage of the responses of the employees.

The calculated ($\chi^2$) value was 1.96, which is lower than the tabulated ($\chi^2$) value of 3.84. This indicates that there is no statistically significant difference at 1 degree of freedom and a significance level of 0.05.

**Question six:** Does your institution maintain social media accounts?

**Table number (7) "represents the extent to which the organization owns various social media".**

| statistical Technique Item | Frequency | Percentage | $\chi^2$ (calculated) | $\chi^2$ (tabulated) | df | Sig. level | Significance |
|---|---|---|---|---|---|---|---|
| **Website** | 34 | 27% | 103.04 | 5.99 | | 0.05 | Significant |
| **Electronic application** | 0 | 0% | | | | | |
| **Social media page** | 92 | 73% | | | | | |
| **Total** | 126 | 100% | | | | | |

**Analysis and discussion:** Through the table above, it is clear to us that 34 employees responded: A website representing 27%, and no employee answered: An electronic application with 00%, which is the lowest percentage of the answers of professors, and 92 employees answered: a social media page representing 73% which is the highest percentage of employee responses.

The calculated $\chi^2$ (103.04) exceeds the tabulated value (5.99), indicating statistical significance at df = 2 and $\alpha = 0.05$.

From the foregoing, it becomes evident that the majority of administrators at the Directorate of Youth and Sports and its branches possess computers in their offices; however, their number and quality remain insufficient in comparison with the requirements of modern administration. It was also observed that most computers are equipped with internet access, which can be attributed to the importance of this technology as one of the main prerequisites discussed in the theoretical framework for the implementation of electronic sports administration.

Conversely, Intranet and Extranet technologies, as well as scanners -which are considered essential tools for converting information from paper-based to digital formats - are largely absent from most offices of the Directorate and its branches. This issue was likewise highlighted in the theoretical section addressing the obstacles to implementing electronic sports administration.

Furthermore, electronic sports administration suffers from a lack of modern and advanced technologies and equipment, as identified by the present study. This situation may be attributed to the limited interest of senior administrators in digital work, which has resulted in insufficient demand for the essential requirements

needed to implement electronic sports administration. These findings are consistent with several previous studies that confirmed the near absence of digital administration in sports facilities, as well as the limited impact of certain elements of digital administration on institutional performance at the Directorate level (Belbasir, 2022, p. 68).

Moreover, the Directorate of Youth and Sports and most of its branches maintain a presence on social media platforms. This is a positive aspect that should be considered in the execution of job responsibilities. However, the absence of the use of dedicated electronic applications remains evident.

**10.2. Presentation, Analysis, and Discussion of the Results of the Second Partial Hypothesis**

- ✓ **The Human resource is qualified to implement electronic sports administration in Algeria.**

**Question 7: What device do you use in performing your administrative tasks?**

**Table No. (8): represent the type of device used by employees in the sports sector to perform administrative tasks.**

| statistical Technique Item | Frequency | Percentage | $\chi^2$ (calculated) | $\chi^2$ (tabulated) | df | Sig. level | Significance |
|---|---|---|---|---|---|---|---|
| **Computer** | 73 | 61% | 48.11 | 5.99 | | 0.05 | Significant |
| **Mobile phone** | 34 | 29% | | | | | |
| **No device used** | 12 | 10% | | | | | |
| **Total** | 119 | 100% | | | | | |

**Analysis and discussion:** Through the table above, it is clear that 73 employees responded: Computer, representing 61% which is the highest percentage of the answers of employees, 34 employees responded: Phone, representing 29%, while 12 employees responded: I do not use any device, representing 10%, which is the lowest percentage of staff responses.

The calculated $\chi^2$ (48.11) exceeds the tabulated value (5.99), indicating statistical significance at df = 2 and $\alpha = 0.05$.

**Question 8:** Do you use email in your job tasks?

**Table (9) "represents the extent to which e-mail is used in job functions."**

| statistical Technique Item | Frequency | Percentage | $\chi^2$ (calculated) | $\chi^2$ (tabulated) | df | sig. level | Significance |
|---|---|---|---|---|---|---|---|
| **Yes** | 57 | 57% | 27.74 | 5.99 | 2 | 0.05 | Significant |
| **No** | 15 | 15% | | | | | |
| **Sometimes** | 28 | 28% | | | | | |
| **Total** | 100 | 100% | | | | | |

**Analysis and discussion:** From the table above, it is clear that 57 employees responded: Yes representing 57%, which is the highest percentage of the responses of the employees, 15 employees responded: No, with a percentage of 15%, and 28 employees responded: Sometimes with 28%.

The calculated $\chi^2$ (27.74) exceeds the tabulated value (5.99), indicating statistical significance at df = 2 and $\alpha = 0.05$.

**Question 9: Are you proficient in converting information from paper form to digital form?**

**Table (10): "represent the extent to which employees are able to convert information from paper-based format to digital format."**

| statistical Technique Item | Frequency | Percentage | $\chi^2$ (calculated) | $\chi^2$ (tabulated) | df | sig. level | Significance |
|---|---|---|---|---|---|---|---|
| **Yes** | 48 | 48% | 0.16 | 3.84 | | 0.05 | Not significant |
| **No** | 52 | 52% | | | | | |
| **Total** | 100 | 100% | | | | | |

**Analysis and Discussion:** From the table above, it is clear that 48 employees responded Yes, representing 48%, which constitutes the lowest percentage of responses. In contrast, 52 employees responded: No, accounting for 52%, which represents the highest percentage of responses.

The calculated ($\chi^2$) value was 0.16, which is lower than the tabulated ($\chi^2$)

value of 3.84. This indicates that the result is not statistically significant at 1 degree of freedom and a significance level of 0.05.

**Question 10: Does your administration use ICT tools to communicate with other institutions?**

**Table (11): Srepresents the level of the administration's use of Information and Communication Technology in communication with other institutions.**

| statistical Technique Item | Frequency | Percentage | $\chi^2$ (calculated) | $\chi^2$ (tabulated) | df | sig. level | Significance |
|---|---|---|---|---|---|---|---|
| **Always** | 51 | 51% | 14.18 | 5.99 | 2 | 0.05 | Significant |
| **Sometimes** | 26 | 26% | | | | | |
| **Never** | 23 | 23% | | | | | |
| **Total** | 100 | 100% | | | | | |

**Analysis and Discussion:** From the table above, it is evident that 51 employees responded: Always, representing 51%, which is the highest percentage of responses. Meanwhile, 26 employees responded: Sometimes, representing 26%. In contrast, 23 employees responded: Never, representing 23%, which is the lowest percentage of responses.

The calculated $\chi^2$ (14.18) exceeds the tabulated value (5.99), indicating statistical significance at df = 2 and $\alpha = 0.05$.

**Question 11: Does your administration provide specialized training in the field of electronic sports administration?**

**Table (12): "represents the extent to which the administration provides specialized training in the field of electronic sports administration."**

| Statistical Techniques Items | Frequency | Percentage | $\chi^2$ (calculated) | $\chi^2$ (tabulated) | df | sig. level | Significance |
|---|---|---|---|---|---|---|---|
| **Yes** | 11 | 11% | 58.46 | 5.99 | | 0.05 | Significant |
| **No** | 69 | 69% | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Sometimes** | 20 | 20% | | | | | |
| **Total** | 100 | 100% | | | | | |

**Analysis and Discussion:** From the table above, it is clear that 11 employees responded: Yes, representing 11%, which is the lowest percentage of responses. 69 employees responded: No, accounting for 69%, which represents the highest percentage of responses. Meanwhile, 20 employees responded: Sometimes, representing 20%.

The calculated $\chi^2$ (58.46) exceeds the tabulated value (5.99), indicating statistical significance at df = 2 and $\alpha = 0.05$.

**Question 12: Is the human resource in your administraion qualified to control modern tools for applying electronic management?**

**Table (13): "Shows employees' views on the level of human resource qualification within the administration to manage various modern technological tools required in implementing electronic management"**

| statistical Technique Item | Frequency | Percentage | $\chi^2$ (calculated) | $\chi^2$ (tabulated) | df | Sig. level | Significance |
|---|---|---|---|---|---|---|---|
| **Yes** | 34 | 34% | 0.02 | 5.99 | | 0.05 | Not significant |
| **No** | 33 | 33% | | | | | |
| **Maybe** | 33 | 33% | | | | | |
| **Total** | 100 | 100% | | | | | |

**Analysis and Discussion:** from the table above, it is evident that 34 employees responded: Yes, representing 34%, which is the highest percentage of responses. Meanwhile, 33 employees responded: No, accounting for 33%, and another 33 employees responded: Maybe, also representing 33%.

The calculated $\chi^2$ (0.02) is below the tabulated value (5.99), indicating no statistically significant difference at df = 2 and $\alpha = 0.05$.

From the foregoing, we find that the majority of administrators use

computers and to a lesser extent mobile phones in carrying out their job duties. This represents a positive indicator. However, there remains a category of employees who do not use any technological device in performing their tasks, either because they perceive such technology as unnecessary or because they lack the required skills, particularly due to their advanced age, which has limited their ability to shift from traditional working methods. It was also observed from the responses of the administrators at the Directorate of Youth and Sports of Chlef state that while some of them use various Information and Communication Technology tools in their professional duties, others still rely on traditional methods and procedures. This situation may be attributed to several factors, such as the type of training received during their university education or age-related factors. Furthermore, the results presented in Table No. (12) indicate that the sports administration does not give sufficient attention to providing specialized training in the field of electronic sports administration. This finding is consistent with the study conducted by (Eziane, 2024), which revealed the absence of a clearly defined plan for implementing electronic management within the authority for future development. Such a shortcoming constitutes a negative factor that hinders the development of human resource competencies and may lead to difficulties in understanding and applying electronic sports management procedures among administrators in the sports sector. Overall, the findings suggest that human resources are largely unqualified for the implementation of electronic sports managemant, particularly given the presence of a segment that resists or impedes its adoption. Although a limited proportion of employees demonstrate gradual progress in this area, the overall results indicate that the second hypothesis has not been confirmed.

**11.Conclusion:**

In light of the findings obtained, it can be concluded that the management of sports facilities continues to suffer from a clear shortage of Information and Communication Technology, which limits the effectiveness of implementing electronic management. Nevertheless, the results revealed initial attempts to keep pace with digital development, as the study sample owns Facebook pages and most administrators rely on computers and email to carry out certain administrative tasks. However, the weakness and the absence of specialized training in the field of electronic sports management remain among the most significant obstacles hindering the effective transition toward comprehensive digitalization. This situation highlights the need to establish specialized training

programs and provide continuous technical support in order to develop management performance and improve the quality of services delivered.

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