The Nexus Between Digitalization and Quality of Work Life: A Case Study of a University Service Directorate

الرقمنة وعلاقتها بمستوى جودة حياة العمل – دراسة حالة مديرية الخدمات الجامعية –

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Abstract: This study investigates the relationship between digitalization and the quality of work life, as applied to the Directorate of University Services in Chlef. A 28-item questionnaire was distributed to a random sample of 181 employees, 140 valid questionnaires were collected and analyzed using SPSS.

The findings indicate a moderate level of digitalization, with a particular emphasis on digital services, a statistically significant relationship was found between the dimensions of digitalization and the QWL. End concludes with recommendations to enhance digital HR, digital communication, digital infrastructure. These improvements are considered essential for complementing existing digital services thereby strengthening the overall QWL.

Keywords: Digitalization; quality of work life; digital communication; digital human resources; digital infrastructure; digital services.

ملخص: هدفت هذه الدراسة إلى توضيح علاقة الرقمنة بأبعادها على مستوى جودة حياة العمل، من خلال تطبيق ميداني على مديرية الخدمات الجامعية بالشلف، ولتحقيق هذا الهدف تم تصميم استبانة مكونة من (28) فقرة، ووزعت على عينة عشوائية قوامها (181) موظفا، واسترجع منها (140) استبانة وتم تحليل البيانات باستخدام برنامج (SPSS).

أظهرت النتائج مستوى متوسط للرقمنة، مع تركيز واضح على رقمنة الخدمات ، كما توصلت لوجود علاقة ذات دلالة إحصائية بين أبعاد الرقمنة ومستوى جودة حياة العمل، وأوصت الدراسة بضرورة تعزيز رقمنة الموارد البشرية والاتصال الرقمي وتطوير البنية التحتية الرقمية، باعتبارها ركائز أساسية تكمّل رقمنة الخدمات وتسهم في ترسيخ جودة حياة العمل.

الكلمات المفتاح: الرقمنة، جودة حياة العمل، الإتصال الرقمي، الموارد البشرية الرقمية، البنية التحتية الرقمية، الخدمات الرقمية، مديرية الخدمات الجامعية.

I. Introduction :

Over the past decades, the world has witnessed profound transformations driven by rapid technological developments, with digitization emerging as an inevitable strategic imperative across various sectors. This is particularly evident in public institutions, which are seeking to improve service quality and enhance operational efficiency. Digitization is no longer simply the integration of

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modern technologies into administrative processes; it has evolved into a comprehensive process that reshapes management practices, resource organization, and service delivery methods, reflecting a global trend toward electronic administration and digital governance.

In this context, the concept of Quality of Work Life (QWL) has received increasing attention as a fundamental determinant of institutional performance and sustainability. It represents a framework wherein professional, social, and psychological factors interact, influencing employee satisfaction, work engagement, and productivity. The relationship between digitization and QWL therefore presents a multifaceted academic issue: to what extent can digitization improve the work environment and provide more flexible and efficient conditions, while simultaneously addressing challenges such as professional pressures or the ongoing necessity of acquiring new digital skills.

This study is situated within the Algerian context, specifically at the Directorate of University Services in Chlef. This institution serves as a salient example within the public service sector, as it is actively adopting digitization in the management of its core services (accommodation, catering, transportation, and scholarships) with the objective of enhancing performance and facilitating student access. Consequently, the importance of this research lies in examining the relationship between digitization across its dimensions of digital communication, digital human resources, digital infrastructure, and digital services and the level of QWL within this Directorate, thereby facilitating a deeper understanding of the effectiveness of the efforts undertaken in this domain.

Research Problem: This study addresses the following central question:

What is the relationship between digitalization and the level of quality of work life, and what is its impact on the Directorate of University Services at the University of Chlef?

Research Questions: The central question is broken down into the following sub-questions:

-What are the concepts of digitalization and quality of work life, and what is the relationship between them?
-What is the level of adoption of digitalization and its dimensions (digital communication, digital services, digital infrastructure, and digital human resources) at the Directorate of University?
-What is the level of quality of work life at the Directorate of University Services at the University of Chlef?
-Is there a statistically significant relationship between the dimensions of digitalization (digital communication, digital services, digital infrastructure, and digital human resources) and the quality of work life at the Directorate of University Services in Chlef?

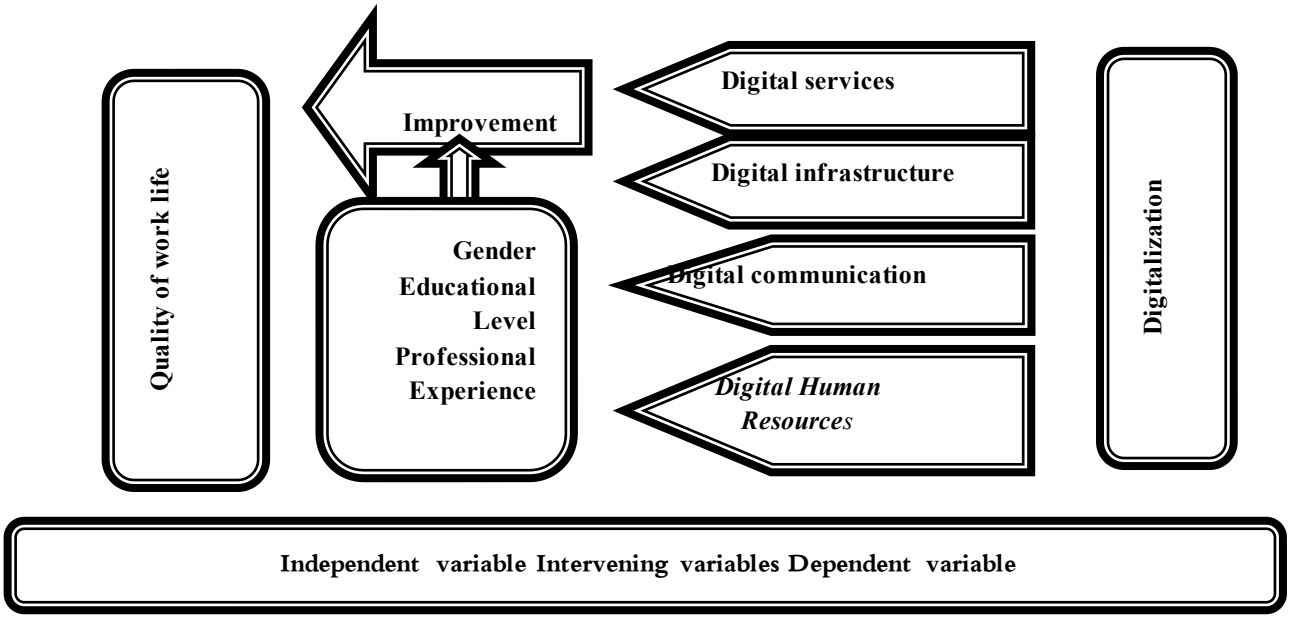
Research Hypotheses: The following hypotheses are formulated to address the research questions:

-There is a medium level of adoption of digitalization and its dimensions (digital communication, digital services, digital infrastructure, and digital HR) at the Directorate of University Services at the University of Chlef.
-There is a medium level of quality of work life at the Directorate of University Services at the University of Chlef.
-There is a statistically significant relationship between the dimensions of digitalization (digital communication, digital services, digital infrastructure, and digital human resources) and the quality of work life at the Directorate of University Services in Chlef.

Study Model

Based on a review of previous studies, a model was constructed to illustrate the variables and their relationship, focusing on the effect of digitalization on improving the quality of work life.This model includes the variables illustrated in the following figure:

Figure No. (01): Study model



Source: Prepared by the researcher

Previous Studies

Given that previous studies constitute the starting point of any research, a number of prior works related to the study problem were reviewed in order to provide the scientific background, appropriate context, and necessary sources for conducting the study, as well as to uncover the roots of the problem and understand what has been achieved in earlier periods. These studies are presented in chronological order from the most recent to the oldest, and the most important among them are as follows:

- Study by Amer Iman and Chouairfat Abdelkader (2024), an article entitled "The Impact of the Use of Digitalization on the Quality of Services in Public Institutions: A Case Study of El-Bayadh Municipality in Algeria."
- The study aimed to highlight and examine the extent to which digitalization affects the quality of services in public institutions. It concluded that employing digitalization contributed to improving the quality of public services and that implementing digitalization enhanced the principle of total quality management and the modernization of the public sector.

- Study by Safia Tiani and Abdelrahman Boufarès (2023), an article entitled "Faculty Attitudes toward the Application of Dimensions of Quality of Work Life in Higher Education Institutions."
- The study sought to reveal faculty attitudes toward the application of the dimensions of quality of work life in higher education institutions. It concluded that faculty attitudes toward implementing these dimensions were negative.
- Study by Rudolf Riedl et al. (2020), an article entitled "Digitalization and Quality of Working Life: An Exploratory Study."
  Conducted at the University of Danube Krems of Applied Sciences – Austria, this study aimed to explore the impact of digitalization on dimensions of quality of working life such as work–life balance, psychological stress, and job security.
  Its main findings were that digitalization helped enhance flexibility and improve work–life balance, but at the same time increased psychological pressures and fear of job loss due to automation.
  The study recommended the provision of digital training and qualification programs for employees alongside mental-health supportive policies to face the challenges of digital transformation.
- Study by Al-Habbarna Ahmed Karim (2019), a doctoral dissertation entitled "Transformational Leadership and Its Impact on Strategic Performance: The Moderating Role of Quality of Work Life – An Applied Study in the Jordanian Customs Department."
  The study aimed to clarify the effect of transformational leadership on strategic performance and the moderating role of quality of work life. It found that quality of work life enhances the effect of the components of transformational leadership on the dimensions of strategic performance in the Jordanian Customs Department.
  It recommended establishing a hierarchy of priorities for the dimensions of quality of work life and focusing on them according to importance, which would benefit transformational leadership and improve strategic performance.
- Study by Rubel and Kee (2014), an article entitled "Quality of Life and Employee Performance: Antecedents and Outcomes of the Job."
  This study aimed to examine the relationship between quality of work life, job satisfaction, and strategic performance among 500 employees in Bangladesh. The study concluded that there is a strong positive relationship between quality of work life and job satisfaction, which in turn improves strategic performance.

After reviewing the previous studies, it became evident that they addressed some themes common with the present study. They were useful in forming a preliminary understanding of our research topic, constructing the study model, developing the theoretical framework, formulating the research hypotheses, and building the questionnaire model. However, our study differs from the previous studies in terms of spatial and temporal setting, objectives, and the interrelation between the study variables. It also differs in the study tool, methodology, and the added knowledge value.

After presenting the general framework of the study, its content will be presented in two parts: a theoretical part and an applied part, followed by a presentation of the key findings and recommendations.

II. The Theoretical Framework of the Study

This section presents a theoretical framework for the study variables and examines the causal relationship between them in light of previous studies. Accordingly, a conceptualization of

digitalization and quality of work life will be provided, followed by a discussion of the effectual relationship between them.

II.1. The Concept of Digitalization:

The concept of digitalization originated in the mid-twentieth century as a technical process of converting analog data into a digital format to facilitate processing and storage. With the rapid developments in computing and communication technologies and the advent of the internet, this concept expanded to include the restructuring of processes and services based on digital methods and tools. It achieved a qualitative leap after the proliferation of artificial intelligence and cloud computing in work environments, positioning digitalization as a central and strategic element in institutional development, enhancing efficiency and transparency, and facilitating access to services across various sectors. The following is an overview of some definitions offered for the term digitalization:

II.1.1. Definition of Digitalization: Since its inception, definitions of this term have varied among researchers across different fields, depending on the epistemological and disciplinary context, the diversity of its application domains, and the evolution of its uses. This necessitates presenting the most prominent definitions to clarify the concept upon which this term is built in contemporary literature.

"Digitalization is the process whereby data are converted from their analog form into a digital form for the purpose of processing, storing, and transmitting them using computers and digital technologies." **(fennour & chihab, 2023, p. 250)**, This definition provides the simplest conceptualization of digitalization, digitalization also refers to "The socio-technical process through which digital data, alongside digital technologies, are leveraged to influence how work is performed and how organizations are structured." **(legner, Torsten, & Thomas, 2017, p. 305)**, This definition highlights that digitalization is not merely a technical step but a profound process that involves leveraging digital data, employing modern technology, and reshaping the work environment and organizational structures, furthermore "Digitalization involves using digital technologies to create new business models, improve processes, and generate value-producing interactions with customers" **(Reis, Amorim, Melão, & Matos, 2018, p. 311)**

Digitization is a comprehensive strategic and technological process that converts data and information from traditional or paper-based formats into digital forms for processing by computers and modern digital technologies. Its function goes beyond simple storage and archiving; it enables organizations to enhance service and product quality, improve organizational performance efficiency, and strengthen competitiveness in a rapidly changing and innovative environment.

II.1.2. Measurement and Dimensions of Digitization: Measuring digitization involves assessing the presence of its various dimensions within an institution to evaluate the extent of its adoption and implementation, this measurement helps researchers determine the current level of digitization and identify its impact on performance or specific variables, such as the quality of work life, the following section provides an overview of the most widely used and academically recognized measures, detailing the dimensions of each.

Table 1. Dimensions of digitization measures

Measure	Researcher Vial Gregory	Organisation for Economic Co-operation and Development	Al-'Ani, Faiz	Mohamed, Abdel-Hamid
Dimension of the Measure	-Digital Infrastructure Digital Services -Digital Capabilities -Process Transformation	-doption of Information Technology -E-commerce -Cybersecurity -Training Employees in Digital Skills	-Digital Infrastructure -Digital Readiness of Employees -Supportive Organizational Culture for Transformation -Digitization of Services and Processes	-Digital Leadership -Technological Infrastructure -Digital Human Resources -Cybersecurity Digital Integration in the Value Chain
Reference	Vial, G. (2019). *Understanding digital transformation: A review and a research agenda.Journal of Strategic Information Systems, 28(2),* 118–144.	Organisation for Economic Co-operation and Development (OECD). (2019). *Measuring the Digital Transformation: A Roadmap for the Future.*OECD Publishing.	Al-'Ani, Faiz. (2020). *Managing Digital Transformation in Business Organizations.*Amman: Dar Al-Yazouri Publishing and Distribution.	Mohamed, Abdel-Hamid. (2021). *Digital Leadership and Its Impact on Improving Institutional Performance.*Cairo: Dar Al-Fikr Al-Arabi.

Source: Prepared by the researcher based on a set of references

The table reveals a divergence in the approaches used to define the dimensions of digitization. While some literature has focused on technical aspects such as infrastructure, digital services, and cybersecurity other sources have placed greater emphasis on human resources, organizational culture, and digital leadership. This indicates that digitization is not merely a technical process but a comprehensive transformation that integrates technology, human capital, and strategic leadership to achieve sustainable competitive advantage. Consequently, our study incorporates both technical and human dimensions.

II.2. The Concept of Quality of Work Life:

Quality of Work Life (QWL) emerged as an independent research field with the rise of digital technology and the advent of artificial intelligence in organizational environments. It has evolved beyond technical challenges to become a central focus reflecting the human dimension of work. As a result, organizations have had to redesign their policies and systems to address the psychological, social, and economic needs of employees. This has led to a variety of definitions for QWL, reflecting the richness of research perspectives from an emphasis on active participation and job empowerment to ensuring work–life balance and creating a fair and safe work environment. Ultimately, these efforts contribute to enhancing performance and organizational sustainability. The following section will present the most prominent definitions that establish this integrated vision, along with the dimensions used to measure it.

II.2.1 Definition of Quality of Work Life: Richard Walton is considered one of the first researchers to address the concept of Quality of Work Life (QWL), defining it as "a process through which the organization responds to the needs of the employee by developing mechanisms that allow him to participate fully in making decisions that shape his life at work." **(Walton, 1973, p. 12),** this definition highlights the clear link between QWL and empowering employees to influence their work environment through active participation in decision-making.

QWL has also been defined as "a set of efforts and activities undertaken by the organization to create a positive work environment for employees in order to achieve employee satisfaction, and thus positively affect the organization's productivity." This perspective reflects the importance of institutional investment in employees' well-being and indicates that employee satisfaction is not merely an end in itself, but also a means to achieve organizational goals and increase productive efficiency **(Al-Habarneh, 2019, p. 121)**, in another definition, QWL is described as "a set of dimensions and standards that ensure meeting the employee's needs within the organization, thereby achieving job stability and security, and raising the level of satisfaction and morale among employees, while at the same time ensuring the stable development of the organization in the face of intense global competition." **(Tiani & Boufares, 2023, p. 489)**, this definition emphasizes the integrative aspect of QWL, stating that "it includes the alignment of organizational policies with employees' core motivations, the sense of fairness, and access to support networks, all of which enhance both well-being and innovation." This definition adds a clear strategic dimension by linking the harmony between organizational policies and employees' personal motivations to the creation of a supportive work environment that stimulates innovation, while highlighting the importance of justice and support networks in achieving well-being **(El Sayed, 2025, p. 71)**.

From the foregoing, it can be stated that the concept of QWL refers to a set of conditions and circumstances provided by the organization to improve employee comfort by creating a positive work environment that supports their psychological, social, and economic well-being, while ensuring job stability and security and raising the level of satisfaction and morale. This contributes to enhancing employees' innovation and productive efficiency, thereby achieving the organization's objectives and sustaining its competitiveness.

II.2.2. Dimensions for Measuring Quality of Work Life: The measurement of Quality of Work Life (QWL) is essential for assessing the efficacy of organizational policies and practices designed to meet employee needs and enhance well-being. A comprehensive and objective evaluation of QWL is necessary to inform effective decisions for improving the work environment and increasing employee satisfaction. The key dimensions for this measurement are as follows: **(Al-Habarneh, 2019, p. 131)**

- **Job-Related Competencies**: This includes factors such as ensuring competence, adequate wages, and fringe benefits.
- **Career Path**: This encompasses training, development opportunities, and internal mobility.
- **Working Time**: This dimension covers working hours, overtime, and provisions for family-related leave.
- **Prevailing Atmosphere with Colleagues**: This involves role conflict, a sense of belonging, peer relationships, and competition among colleagues.
- **Relationship with Supervisors**: This includes communication, information flow, feedback, performance evaluation, and the nature of the supportive relationship with supervisors.
- **Work Environment Characteristics:** This pertains to the quality of work tools, the physical workplace, and available equipment.
- **Factors Affecting Job Evaluation**: This dimension considers role differences, employee participation in decision-making, actual achievement, emotional exchange, task variety, autonomy, and the nature of the job.
- **Employee Support Factors**: This includes available support resources, union relations, task distribution, and coverage during absences.

II.3. The Impact of Digitization on Quality of Work Life

Digitization and its related mechanisms have a direct and indirect impact on QWL, The central question is whether this impact is predominantly positive or negative, Prior studies, which served as a basis for subsequent field measurements, indicate that digitization's impact is significant and often more positive than negative, While digitization can enhance productivity, improve employee efficiency, strengthen communication channels, and foster team spirit, it may also contribute to increased work-related stress, This stress can arise from factors such as extended working hours and the ongoing need for continuous training on new digital technologies and the acquisition of new skills. The following section will review the key positive and negative aspects of digitization's influence on QWL.

The Impact of Digitization on Quality of Work Life: the digitization of the workplace has had a significant impact on the Quality of Work Life (QWL), presenting both positive and negative consequences for employees.

II.3.1. Positive Impacts

- Increased Productivity and Efficiency: Digital tools and automation enable employees to complete tasks more quickly, optimize workflows, and minimize errors, leading to overall gains in productivity and efficiency.
- Improved Communication and Collaboration: The use of digital communication platforms facilitates instantaneous contact with colleagues and teams, streamlines information exchange, and supports effective remote collaboration.
- Enhanced Flexibility and Accessibility: Digitization provides employees with convenient access to information and resources regardless of their location or time of day, thereby increasing work flexibility.

- Higher Job Satisfaction: The implementation of user-friendly and efficient digital tools can improve the work experience, contributing to increased job satisfaction and organizational commitment among employees.

II.3.2. Negative Impacts

- Increased Work Pressure and Extended Hours: The constant connectivity afforded by digital technology can lead to heightened work pressure, longer working hours, and the blurring of boundaries between professional and personal life.
- Demand for Digital Skills: The evolving digital landscape necessitates advanced skills for certain roles, which may pose a challenge for employees who lack the required training.
- Technological Dependence: An over-reliance on technology can create vulnerabilities, as system failures or internet disruptions may impede work processes.
- Potential for Job Displacement: The automation of tasks through digital transformation may lead to job displacement in specific industries, creating uncertainty and potential unemployment.

III. The Applied Framework of the Study:

This section outlines the study's applied framework, which includes an introduction to the specific Directorate of University Services under investigation, a description of the primary digital services adopted by the directorate, and an analysis of a questionnaire administered to a sample of its employees.

III.1. Introduction to University Services:

The Directorate of University Services in Chlef is a public institution situated in the Hay Al-Salam district of the Municipality of Chlef. Its establishment was formalized by a Ministerial Decision published in Official Gazette No. 22 of March 27, 2005, which created directorates of university services and specified their headquarters, along with a list of affiliated residences and facilities **(Algerian, 2003, p. 7)**, the Directorate is structured into four main departments: Department of HR, Department of Finance and Public Procurement, Department of Scholarships, Department of Supervision and Coordination

III.2. Digitization of University Services According to 2024 Statistics

Since its inception, the Directorate of University Services has provided four primary services to students: accommodation, catering, transportation, and scholarships. The supervisory ministry, through the National Office of University Services, has digitized these services. This report details the main digitization operations affecting these services up to the end of the 2024 fiscal year.

III.2.1. Digitization of the Accommodation Service: This service, previously managed through a traditional paper-based system, has been digitized using the integrated information system (PROGRES). This system processes initial and renewal accommodation requests, allows students to view application results and submit appeals, and enables the electronic payment of registration fees. The PROGRES system has replaced postal transfers with exclusive use of the electronic "Gold" payment card, which facilitates a student's automatic registration into an affiliated university residence.

III.2.2. Digitization of the Catering Service: The catering service has been digitized through the introduction of digital platforms for managing the directorate's restaurants and monitoring catering services: Warehouse Management Application, Meal Monitoring Platform**,** Electronic Wallet Platform (Wallet), Meal Statistics Platform.

III.2.3. Digitization of the University Transportation Service: Key digitization efforts for this service, implemented by the directorate or the National Office of University Services, include: Digitization of Subscription, MYBUS Application**,** MyBus Controller Application

III.2.4. Digitization of the University Scholarship Service: The "Manhati" platform was developed to digitize this service. It electronically links students and the administration by processing scholarship applications, presenting results, and handling appeals. The platform allows students to automatically upload required documents, which the administration can then view and download to facilitate the transfer of scholarships to beneficiaries.

III.3 Methodology:

This study employed a descriptive-analytical method to collect and interpret data and facts related to the research problem. Statistical analysis was performed using SPSS software, and the results were presented in models and tables.

III.3.1. Study Population and Sample: The study's population consisted of 346 employees from the Directorate of University Services in the Wilaya of Chlef. A stratified random sampling technique was used to select the study sample. The sample size was determined based on the Krejcie and Daryle table **(babkeur, 2017, p. 203)**, which specifies appropriate sample sizes for various population sizes. For a population of 346, the table indicated a sample size of 181 employees, which represents approximately 52.31% of the total population. This was considered a sufficient and accurate representation. After distributing the questionnaires, 140 were returned completed and were deemed valid for analysis, constituting a 77% response rate.

III.3.2. Validity and Reliability of the Study Instrument: Face validity was established by submitting the initial questionnaire to a group of academic experts and experienced referees to assess its content and structure. Construct validity, or internal consistency, was confirmed by administering the instrument to a pilot sub-sample of 27 participants. The Pearson correlation coefficient was calculated between each item's score and the total score of all items. The results showed a significant positive correlation (p-value ≤ 0.05), indicating strong internal consistency among the questionnaire items.

Regarding reliability, the study instrument was found to be statistically acceptable, as the Cronbach's Alpha coefficient exceeded the conventional threshold of 0.60. The closer the coefficient is to 1.0, the higher the reliability. Thus, the instrument was deemed reliable for the field application of the study. The Cronbach's Alpha coefficient for the instrument is presented in the following table:

Table 2. Cronbach's Alpha Reliability Coefficient for the Study Variables

Study Variables	Number of Items	Cronbach's Alpha
Digitization	16	0.76
Quality of Work Life	12	0.960
Questionnaire as a Whole	28	0.90

Source: Prepared by the researcher based on SPSS outputs.

The overall reliability coefficient for the questionnaire was found to be 0.90. Individually, the reliability of the digitization dimension was 0.76, while the Quality of Work Life dimension had a reliability of 0.90. As all values exceeded the 0.6 threshold, the questionnaire is considered to have a high degree of reliability, suggesting the study instrument will produce consistent results.

III.4. Discussion of the Analysis Results and Testing of the Study Hypotheses:

III.4.1. Presentation and Analysis of Personal Data Results:

This section presents the personal data of the study participants, including gender, educational qualification, and professional experience, as detailed in the following table.

Table 3. Distribution of the Sample Members According to Gender

Variable		Category	Frequency
Gender	Male	75	53.57%
	Female	65	46.43%
	Total	140	100%
Educational Qualification	Postgraduate Studies	1	0.71%
	University Degree	93	66.42%
	Secondary or Less	41	29.28%
	Total	140	100%
Professional Experience	Less than 10 years	23	16.43%
	10 years – less than 20 years	78	55.71%
	More than 20 years	39	27.86%
	Total	140	100%

Source: Prepared by the researcher based on SPSS outputs.

Based on the presentation and analysis of the demographic characteristics of the study sample regarding the respondents at the Directorate under study, it can be concluded that the majority of this sample consists of male employees holding university degrees, with professional experience ranging between 10 and 20 years. This category is considered the most capable of performing work that requires intellectual effort due to the specific characteristics of this age group, which enables them to respond to the study's questions clearly and accurately. These results further reinforce the choice of the Directorate of University Services in Chlef as the field of this study.

III.4.2. Presentation of the Results of Testing the First Hypothesis:

The first hypothesis states that the level of digitization at the Directorate of University Services under study is moderate. The following table presents the responses of the study sample regarding the statements related to the dimensions of digitization:

Table 4. Levels of Digitization Among the Study Sample

No.	Dimension	Statement	Mean	Std. Deviation	Adoption Level	Rank
01	*digital*	The Directorate possesses modern digital equipment.	3.55	0.78	High	*2*
02		The Directorate provides fast Internet access.	3.01	0.82	Moderate	*3*

03		The Directorate relies on automated information systems.	2.56	0.88	Low	*4*
04		The Directorate regularly strives to develop its infrastructure.	3.95	0.70	High	*1*
Subtotal : Digital Infrastructure			3,32	0.80	Moderate	III
05	*digital communicatio*	Electronic platforms are used for internal and external communication.	2.76	0.85	Moderate	*1*
06		Meetings are sometimes held via digital platforms.	2.17	0.90	Low	*2*
07		The Directorate uses email in communication.	2.01	0.95	Low	*3*
08		Mobile applications are used in some of the Directorate's services.	1.21	0.92	Very Low	*4*
Subtotal – Digital Communication						IV
09	*Digital Human Resources*	The directorate provides training programs in digitalization skills for employees.	*2,89*	*0,89*	Moderate	*4*
10		Employees are encouraged to utilize digital tools.	*3.39*	*0,72*	Moderate	*2*
11		There is sufficient awareness among staff regarding the importance of digitalization in improving performance.	*3,82*	*0,68*	*High*	*1*
12		Employees demonstrate strong competencies in handling technology.	*3,19*	*0,75*	Moderate	*3*
Subtotal – Digital Human Resources						II
13	*Digital services*	The directorate delivers its services (transportation, catering, accommodation, and grants) through digital channels such as a website and applications.	4.23	0.65	Very High	*1*
14		Communication with students is conducted via digital platforms.	3.40	0.80	Moderate	*4*
15		Digitalization facilitates the monitoring and processing of students' needs (requests and complaints).	4.11	0.69	High	*2*
16		The directorate continuously develops its services toward improved digitalization.	4.02	0.72	High	*3*
Subtotal – Digital Services			3.94	0.72	High	I
Digitization Axis			3.29	0.79	Moderate	

Source: Prepared by the researcher based on SPSS outputs.

The data presented in the preceding table reveals the ranking of the dimensions of digitization. The digital services dimension ranked first, with a mean score of 3.94 (SD = 0.72), indicating a high level of response. It was followed by the digital human resources dimension in second place, with a mean score of 3.34 (SD = 0.73), also reflecting a high level of response. The digital infrastructure dimension ranked third, with a mean score of 3.32 (SD = 0.80), suggesting a moderate level of response. Finally, the digital communication dimension was ranked last, with a mean score of 2.28 (SD = 0.91), which corresponds to a low level of response.

These findings suggest that the Directorate of University Services places considerable emphasis on the digitization of the sector. Its primary focus is on the digitization of services provided to students (e.g., housing, transport, catering, and scholarships), followed by the digitization of human resources, which is considered a crucial factor in achieving its objectives. The moderate level of digital infrastructure can be attributed to budget constraints and the high cost of technical tools required for digitization. Additionally, a deficiency in digital communication is evident, with this dimension receiving relatively less attention compared to the others.

Overall, the results for the digitization axis show a moderate level, with a mean score of 3.29 (SD = 0.79). This indicates that, from the perspective of the respondents, the institution's attention to digital transformation is moderate, with some deficiencies in digital communication. This can be

primarily attributed to limited budgets and the nascent stage of digital transformation. Consequently, the first hypothesis, which posited that the level of digitization at the Directorate of University Services is moderate, is accepted.

III.4.3. Presentation of the Results of Testing the Second Hypothesis:

The second hypothesis posits that the level of quality of work life at the Directorate of University Services under study is moderate. The following table presents the responses of the study sample to the statements related to the dimension of quality of work life.

Table 5. The Level of Quality of Work Life among the Study Sample

No	Statement	Mean	Standard Deviation	Degree of Adoption	Rank
17	The relationship between employees and their immediate supervisor is good.	3.46	0.74	High	4
18	The Directorate provides employees with opportunities to work as a team.	4.21	0.62	Very High	1
19	Employees are keen to continue in their current job without looking for other opportunities.	3.10	0.88	Moderate	9
20	Employees recommend the Directorate as a workplace to others.	1.95	0.91	Low	11
21	The Directorate takes into account employees' personal circumstances and helps them balance work and personal life.	3.25	0.80	Moderate	8
22	The Directorate encourages employees to work in a team spirit to achieve common goals.	4.04	0.65	High	2
23	The Directorate's policy focuses on building a positive work environment that enhances cooperation among employees.	3.70	0.71	High	5
24	The Director is keen to provide a suitable atmosphere for work and training.	3.37	0.77	Moderate	7
25	The Directorate provides designated places for formal and informal meetings.	3.39	0.72	Moderate	6
26	The Directorate ensures that break times are flexible.	1.20	0.99	VeryLow	12
27	The Director encourages the development of employees' skills.	2.55	0.93	Low	10
28	The Director values employees' contributions in improving performance.	3.85	0.69	High	3
	Quality of Work Life Axis	3.17	0.84	High	

Source: Prepared by the researcher based on SPSS outputs.

The weighted arithmetic mean for the responses concerning this dimension was 3.17, with a standard deviation of 0.84. These statistics suggest that the study participants perceived the quality of work life to be at a moderate level.

The findings indicate that collaboration, team spirit, and administrative appreciation are significant strengths within the Directorate of University Services' human resources. In contrast, key weaknesses include job satisfaction, skills development, and workplace flexibility. The limited flexibility is particularly challenging to address as it is subject to centralized decisions from the supervising Ministry, whereas skills development is a more controllable factor for improvement. Additionally, the work environment, job stability, and the consideration of personal circumstances were rated as moderate, falling short of a satisfactory level.

Based on these results, the second hypothesis, which posits that the level of quality of work life at the Directorate of University Services is moderate, is accepted.

III.4.4. Presentation of Results for Testing the Third Hypothesis: The "Relationship Hypothesis"

The third hypothesis of this study asserts a statistically significant correlation between digitalization and the quality of work life at the Directorate of University Services, at a significance level of $\alpha \leq 0.05$. To test this, the Pearson correlation coefficient was calculated using SPSS (version 24), and the results are presented in this table.

Table 6. Pearson Correlation between the Study Variables

	Independent Variable	Dependent Variable	Pearson correlation	Significance Level (Sig.)	N	Correlation type	Rank
Digitalization Dimensions	**Digital Infrastructure**	Quality of Work Life	,618**	,000	195	Hight	4
	Digital Communication		,552**	,000	195	Moderate	5
	Digital humanresources		,714**	,000	195	Hight	3
	Digital services		,781**	,000	195	Hight	1
	Digitalization as a Whole		,732**	,000	195	Hight	2
	Digital Infrastructure		,618**	,000	195	Hight	4

Source: Prepared by the researcher based on SPSS outputs.

The data presented in the preceding table demonstrate a statistically significant positive correlation between digitalization and its dimensions and the quality of work life, at a significance level of $p<0.05$ with a 95% confidence level. This finding confirms the third main hypothesis, which posits a significant correlation between digitalization and the quality of work life within the studied directorate.

The Pearson correlation coefficient was 0.732, indicating a strong positive relationship between the two variables. This result suggests that digitalization, across all its dimensions, has a substantial and positive impact on the quality of work life. Furthermore, the findings show that all dimensions of digitalization contribute to an improvement in the quality of work life, though with varying degrees of influence.

IV. Conclusion

Based on a field study conducted at the Directorate of University Services in Chlef, which included observations, interviews, and a questionnaire administered to a sample of managers and employees, the following findings were reached:

- A high overall level of digitalization was found at the Directorate of University Services in Chlef, reflecting tangible efforts in the digital field. However, these efforts have not yet reached the optimal level, as the dimensions of digitalization varied from high to low.
- A high level of digital services was recorded, which reflects the Directorate's focus on digitalizing its core services (accommodation, catering, transport, and grants) in line with its primary mission of

serving students. Conversely, shortcomings were observed in digitalization at the levels of internal and external communication, human resources, and digital infrastructure.
- A moderate level of digital human resources indicates that employees at the Directorate possess good awareness of the importance of digitalization and acceptable competencies in dealing with technology; however, training remains limited, which hinders full utilization of digitalization.
- A moderate level of digital infrastructure suggests that although digital equipment and internet connectivity are available, they are neither at a high level nor sufficient, mainly due to budgetary constraints and high technology costs, which have affected the institution's digital readiness.
- A low level of digital communication (use of email, online meetings, smart applications, etc.) shows that the Directorate does not give sufficient attention to digitalizing its internal and external communication, despite this being an integral part of the overall digitalization process. This shortcoming limits the effectiveness of internal and external communication among employees and weakens coordination between its various departments as well as with students and stakeholders. This weakness has also negatively impacted the overall level of digitalization.
- A moderate level of Quality of Work Life was observed at the Directorate. Although employees enjoy teamwork and managerial appreciation, they suffer from a lack of flexibility in working hours, limited opportunities for skill development, and insufficient job satisfaction.
- A positive and statistically significant correlation exists between digitalization in its dimensions (digital services, digital communication, digital human resources, and digital infrastructure) and the level of Quality of Work Life at the Directorate under study (Pearson's correlation coefficient = 0.732**). This indicates that the more digitalization develops, the more positively it reflects on the work environment and employee satisfaction. Digitalization contributes to facilitating communication, increasing efficiency, and providing greater flexibility; however, it may also increase work pressures and impose ongoing requirements for new skill acquisition. Quality of Work Life represents the human dimension of any digital transformation process: developing digital infrastructure alone is insufficient without considering employee well-being and meeting their psychological and social needs.

Recommendations: Based on the study's findings, the following recommendations are presented:

- Enhancing the digitalization of human resources by establishing and strengthening continuous training for employees in digital skills, while providing incentives linked to the use of digital tools, in order to ensure higher efficiency and flexibility at work.
- Focusing on digital communication by developing modern digital platforms and using them as bridges for internal and external communication (official email, digital meeting platforms, smart applications, etc.), thereby narrowing the gap in this dimension.
- Supporting digital infrastructure by assessing the feasibility and impact of this dimension on achieving digital transformation, allocating larger budgets for upgrading digital equipment, and ensuring stable internet connectivity and automated systems, which would increase the level of trust among employees, students, and stakeholders in digital services.
- Improving the level of Quality of Work Life by adopting various mechanisms such as enhancing job satisfaction through clear policies of recognition and promotion, giving greater attention to employee skill development, and exploring possibilities for introducing more flexibility into the work environment in line with digital transformation trends.
- Given the centralized nature of decision-making, to secure broader financial and technical support for digitalization processes particularly in cost-intensive areas such as digital infrastructure while moving beyond the digitalization of student-oriented services alone, and adopting a comprehensive vision that includes human resources, communication, and infrastructure as integrated elements of any successful digital transformation.

V. Bibliographie

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