Human Resource Management In Light Of Management Information Systems "The Municipality In Algeria As a Model"

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Abstract:

Human resource management through management information systems is a strategic tool for promoting transparency, efficiency, and decision-making within organizations. Integrating information systems with human resource management improves organizational performance by managing information through its various stages, input, processing, storage, and distribution, and supporting core activities such as recruitment, training, and performance evaluation.

A study of the concepts, objectives, and core functions of human resource management, along with classical and behavioral theories of organizational behavior, demonstrates that the optimal use of information systems promotes governance principles, enables effective human resource management, and enhances the ability of municipalities to meet administrative challenges while ensuring sustainable institutional performance.

***key words**: human resources; governance; information systems; organization; institutional performance.*

***JEL classification:** M12; M15; O33; H83*

ملخص:

تعد إدارة الموارد البشرية من خلال نظم المعلومات الإدارية أداة استراتيجية لتعزيز الشفافية والكفاءة واتخاذ القرارات داخل المنظمات، يؤدي دمج نظم المعلومات مع إدارة الموارد البشرية إلى تحسين الأداء المؤسسي من خلال إدارة المعلومات عبر مراحلها المختلفة، الإدخال والمعالجة والتخزين والتوزيع، ودعم الأنشطة الأساسية مثل التوظيف والتدريب وتقييم الأداء.

إن دراسة المفاهيم والأهداف والوظائف الأساسية لإدارة الموارد البشرية، إلى جانب النظريات الكلاسيكية والسلوكية للسلوك المؤسسي، تثبت أن الاستخدام الأمثل لنظم المعلومات يعزز مبادئ الحوكمة، ويتيح إدارة فعالة للموارد البشرية، ويعزز قدرة البلديات على مواجهة التحديات الإدارية مع ضمان الأداء المؤسسي المستدام.

الكلمات المفتاحية: الموارد البشرية؛ الحوكمة؛ نظم المعلومات؛ المنظمة؛ الأداء المؤسسي.

تصنيف جال : M12، M15، O33، H38

Introduction:

Human resource management in the contemporary framework of organizational and management theories is a key strategic component for understanding institutional performance and explaining differences in efficiency between organizations. Human resource functions are no longer limited to routine recruitment and management of employees, but have gone beyond that to become a focus of sustainable competitive advantage, According to the strategic approach, which considers human resources to be an intangible asset that contributes to the achievement of the organization's objectives and the sustainability of its operations, the success of this integration depends on the alignment of human resource policies with the overall strategy of the organization and the efficiency of the supporting information infrastructure, especially in light of the digital transformations that have reshaped the nature of administrative functions.

In this context, management information systems, including human resources information systems, are of central importance in supporting institutional governance and enhancing effective decision-making, they enable the collection, processing, and analysis of workforce data and contribute to strategic human resources planning, performance evaluation, leadership development, and succession management, They also promote transparency, administrative discipline, objectivity, and accountability within the organization, enabling senior management to move from reactive to proactive management and enhancing the ability of institutions, including municipalities, to meet contemporary administrative challenges and ensure sustainable institutional performance in a complex and changing environment.

The importance of this study lies in the following points:

- Highlighting human resource governance as a central tool for promoting transparency and accountability in regional communities
- Clarifying the role of management information systems in organizing and analyzing data and providing accurate indicators to support administrative decision-making.
- It provides a model that can be used to develop human resource management systems in other municipalities or public bodies.
- It explains the relationship between management information systems and human resource management to achieve institutional efficiency.
- Provide practical recommendations to enhance the application of human resource governance principles within municipalities to ensure fairness, transparency, and sustainability.

The study aims to achieve a set of basic objectives, including:

- Identify the current state of management information systems used in human resource management in the municipality.

- Identifying the reality of human resource management in the organization and the methods of organizing data and related administrative processes.
- Analyzing the human resource governance mechanisms in place and the role of management information systems in supporting them.
- Identifying the challenges and obstacles facing management in effectively applying human resource governance principles.
- Proposing practical recommendations to enhance the application of human resource governance principles and achieve better administrative organization and human resource sustainability.

The study focuses on the following question:
How does the use of management information systems contribute to enhancing human resource governance within Algerian municipalities?
In order to answer this central question, the study has been divided as follows:

01: The Concept of Human Resource Management

1.1: Definition of human resource management

Human resource management is one of the concepts that has been widely discussed. Many thinkers in the fields of management science and sociology... have focused on it because of its significant role in achieving organizational policies. For this reason, human resource management has been defined in many ways. Accordingly, we can define human resources and then define human resource management. (Sultan, 1993, p. 19)

1.1.1: Definition of Human Resources

This is a modern concept that emphasizes that the people working in an organization represent a resource that must be managed just like any other resource of the organization. This concept also holds that these people represent part of the assets and not part of the costs. (Kashway, 2006, p. 2)

It can also be defined as:

"This term encompasses all human elements, from managers to workers, who perform work in the establishment."

Human resources are therefore a group of individuals who are recruited to remain as a fundamental asset of institutions, interacting with each other according to a strategic vision with the aim of shaping the future of their institutions. (Barbour, 2008, p. 23)

1.1.2: Definition of Human Resource Management

It is a set of partial processes, starting with the planning of these resources, through the preparation of analysis and job description systems, the preparation of selection and appointment systems, employee performance evaluation systems,

and incentive systems, and ending with the establishment of disciplinary systems and occupational safety systems, in order to achieve the organization's objectives. (Sheikha, 2000, p. 19)

Human resource management is also defined as the set of policies related to the selection, appointment, and training of employees and their treatment at all levels, working to organize and create a spirit of cooperation within the institution, increasing its confidence in the fairness of management, and bringing the institution to the highest levels of productivity.

It is the process by which the institution obtains the necessary individuals in terms of number and quality to serve its purposes, encourages them to remain in its service, and makes them exert as much of their energy and effort as possible to make it successful and achieve its goals.

It is also defined as a set of procedures, decisions, and policies that enable the acquisition of human resources with the required competencies, qualifications, knowledge, and abilities at the desired time, as well as motivating and developing their potential to enable them to carry out activities or functions and assume responsibilities for the continuity and development of the institution. (Nouri, 2010, pp. 35-36)

1.2: Objectives and functions of human resource management

The objectives and activities of human resource management vary from one institution to another. Therefore, the person responsible for human resources will be seen as the person who takes care of the administrative side of personnel management, while on the other hand, he or she will be seen as an integral and vital part of the work planning process.

1.2.1: Human Resource Management Objectives

Human resource management aims to help the organization achieve success through its employees, or in other words, to increase the organization's effectiveness. (Wahab & Laila El Baradei, 2006, p. 15)

Its objectives can be divided into two aspects: the organization and the individuals.

A: Organizational objectives

- Efficiency and effectiveness
- Harmony
- Stability
- Skill development and growth
- Loyalty building and development

B: Individual objectives

- Good working conditions and environment
- Fair pay and treatment
- New job opportunities
- Career advancement opportunities
- Provision of social, health, and other services and care (Madani, 1999, p. 67)

1.2.2: The concept of human resources management

Human resources management can be defined as the function that optimizes the use of human resources at all levels of an organization in order to help achieve its objectives.

Human resources is a support function, like finance, whose ultimate goal is to facilitate the activities of other functions within the organization by improving the contribution of individuals to the transformation process. It is defined as the function that encompasses all human activities and interactions, material flows, energies, and information directed toward:

- Acquiring, utilizing, developing, and motivating human resources (human capital) in order to achieve transformation within the organization.

- Solving and managing problems related to the interrelationships between individuals, and between individuals and their work environment (technology, environment, culture, goals) in order to achieve better integration of individuals into their organizations. Its role is also reflected in the human system of the organization. (Alish, 1971, p. 28)

1.2.3: Human resource management functions

A: Human Resource Planning: This activity involves determining the quantity and type of workforce required by the organization according to the nature of the activities to be performed. It includes setting goals and standards, developing rules and procedures, making plans, and anticipating future events.

B: Job Analysis, Classification, and Description: This activity involves analyzing, classifying, and describing jobs and determining the duties and responsibilities assigned to each specific job level.

C: Selection and Appointment System: This activity is related to determining the methods of selection and appointment of employees through conducting appointments, tests, interviews, and the necessary conditions for this.

D: Designing wages and incentives: This involves designing wage systems for each specific job level, in addition to determining material and moral incentives at the individual or collective level for employees in the organization according to their performance. (Kazim & kasib yassin, 2009, p. 31)

E: Recruitment: Determining the type of individuals to be employed, attracting and selecting them, in addition to setting performance standards, determining wages and bonuses, and training employees.

F: Preparing a training plan: This involves continuously striving to improve and develop the skills of individuals working in the organization by developing appropriate training and development programs for them.

G: Designing a performance evaluation system: This involves establishing administrative and organizational controls to evaluate the performance of employees according to rules and principles that ensure fairness and equality in the overall evaluation of individual or group performance.

H: Establishing a promotion and transfer system: This task involves establishing controls for the promotion and transfer of employees within the organization.

K: Employee maintenance and care: This function involves establishing controls for occupational and industrial safety systems, as well as health and social care for employees within the organization.

L: Provision of services to employees: This function is concerned with establishing controls for the provision of social, cultural, and recreational services, as well as all facilities that contribute to improving the atmosphere of trust, affection, brotherhood, and other important controls in the workplace.

1.3: Human Resource Management Theories

Management is a function that humans have practiced since ancient times. With the emergence of the need for collective effort, there was a corresponding need to manage collective work in order to achieve the well-being of individuals and society, Despite the existence of management practices, what has been written about them does not fully reflect those practices.

From this perspective, relying on documented experiences is relatively reasonable, especially since these experiences review the experiences of major international companies in our modern era. Accordingly, this section will discuss the most important theories that reflect different perspectives on human resources and their expected role in the organization. The most important of these theories are scientific management, bureaucracy, human relations, and finally, behavioral school.

1.3.1: Scientific Management

Frederick Taylor proposed the introduction of scientific management in his book entitled “The Principles of Scientific Management” in 1911. This theory emerged in the context of the conditions prevailing in American organizations at the time, which were characterized by growth in size and increased production,

with a corresponding need to increase worker efficiency in order to achieve the maximum possible economic return for employers.

Taylor called for the use of scientific methods in the study of management instead of relying on trial and error. From this perspective, he defined the primary task of a manager as "achieving the maximum possible return for employers while achieving the maximum return for workers at the same time."

He also noticed that workers were not putting in their best effort at work, which led to an increase in waste and loss in production, and thus a decrease in the productivity of workers and the organization.

In light of the above, Taylor assumed that worker productivity could be increased through a scientific approach to management, emphasizing the importance of improving physical working conditions, as well as the importance of division of labor and specialization. He assumed that increased work efficiency could be achieved by dividing a single job into a set of individual tasks, In general, Taylor identified four basic principles of scientific management:

A: Scientific study of movement and time in order to arrive at the most appropriate method for performing the job effectively, known as the optimal method.

B: Selecting workers using a rigorous scientific method to ensure that the right person is in the right place.

C: Training employees to perform their jobs in a way that increases their productivity.

D: Planning jobs in a way that makes it easier for employees to perform their duties.

However, this contribution does not negate the fact that this movement has a number of shortcomings, which we summarize as follows:

- The ideal method of performance was characterized by extreme specialization.

- This method was also characterized by routine, which led to a lack of development of individuals' abilities.

- It offered limited opportunities for decision-making or the use of personal judgment, which is considered a consequence of the previous point. (Qabari, 1981, p. 18)

1.3.2: The Theory of Bureaucracy

Max Weber proposed the bureaucratic model of organization to remedy many of the dysfunctions that plagued German government organizations at the beginning of the 20th century. The bureaucratic approach to organization is based

on the creation of model, ideal organizations founded on logic, order, and functional authority.

This organization is based on a set of characteristics, the most important of which are:

- Defining the content of each job by issuing laws or regulations related to human resources issues and also regulating the activities of the institution.

- The bureaucratic model does not recognize any authority for the worker, who must only carry out what the rules dictate, as his task is to enforce the rules imposed on him.

- The strict application of rules and instructions protects workers from their superiors, shielding them from arbitrary or random dismissal. For this reason, labor unions have some arguments in favor of bureaucratic organization, as a means of escaping the arbitrary management of human resources by hierarchical authorities and employers.

- Specialization and division of labor: This is the basis for the successful performance of tasks and jobs, whereby any task is divided into its simplest parts in a way that facilitates performance and monitoring.

- Chain of command: This is necessary to define the relationships between managers and their subordinates.

- System of rules: This is a system required to define the duties and rights of employees.

- System of procedures: This is necessary to determine how to act in different work situations.

- System of impersonal relationships: This is also required to promote objectivity and impartiality in dealings.

- Employee promotion and advancement system: This principle is based on technical merit to perform the work, and employee promotion is based on merit and not on kinship or favoritism. (Ashwi, 1992, p. 71)

What can be said is that Max Weber presented a comprehensive concept of bureaucratic organization through the structural elements that constitute its unity, and called it the ideal bureaucratic model, which includes how to select employees and individuals through methods related to productive efficiency, as well as the attempt by institutions to establish the foundations of employment through equality between individuals in job appointments based on absolute competence and the announcement of vacant positions so that there is equality in filling them according to the required competence. He also focused on training individuals who are nominated for jobs that require familiarity with all issues related to the job position, thus creating an independent body to develop the system for jobs and employees. (Hassan, 1974, p. 160)

The two previous models, “scientific management” and “bureaucracy,” view the institution as a mechanical unit controlled by a specific leader and operating according to his orders, in addition to a superficial view of human behavior and underestimating the importance of the role played by the human factor.

1.3.3: Human Relations Theory

Criticism of the various models of classical theory, scientific management, and bureaucratic theory led to the emergence of a new trend that focused on human relations. In contrast to classical theories, human relations theory posited that humans are social creatures who seek to form better relationships with others, and that the best collective human trait is cooperation, not competition. This was reflected in how human behavior was interpreted, predicted, and controlled in human relations theory. (Maher, 2000, p. 28)

During the period from 1930 to 1940, the direction of management changed as a result of Hawthorne's studies, as management's focus shifted from scientific management to human relations. These studies showed that individual productivity is not only affected by the way work is designed and the economic methods and behaviors by which individuals are rewarded, but also by certain social and psychological factors.

Elton Mayo and Rothwell Burger discovered that individuals' feelings, emotions, conscience, and psychology are greatly affected by work conditions such as group relationships, leadership styles, and management support, and that these feelings in turn affect individual productivity, Thus, it has been established that treating individuals with respect and appreciation helps to increase their satisfaction and productivity. (Hassan R. M., 1999, p. 18)

The most important principles of modern classical theory or human relations theory can be summarized in the following points:

- People's behavior at work is influenced by their social needs.

- People feel their importance and usefulness through social relationships with others.

- Specialization, division of labor, and a tendency toward mechanization and routine in work cause this work to lose its social aspects and make it unsatisfactory for those who perform it.

- People are more influenced by their social relationships and coworkers than by administrative control systems and material incentives.

- Management must take the above four principles into account when designing its policies for dealing with employees, ensuring that these policies show concern for the feelings of employees.

The new school of human relations can be seen in the following:

- Focusing on studying the group rather than the individual.

- Adopting the principle of decentralization in decision-making.

- Seeking to integrate workers into the organization by gaining their trust rather than using authority.

- Considering the supervisor of workers as the communicator within the group and between different groups, rather than as a representative of authority.

- Focusing more on developing a sense of responsibility among workers rather than monitoring them.

Some researchers have questioned the validity of the findings and experiments of human relations researchers because workers have not achieved the minimum level of success in increasing productivity. This is due to the movement's excessive use of human relations, which can lead to pampering or spoiling. (Barbour, Human Resource Management and Organizational Performance Efficiency., 1997, p. 16)

1.3.4: Behavioral Theory

Given the shortcomings that emerged in human relations theory (or modern classical theory), some scholars attempted to develop it in a way that allows for the use of all aspects of human behavior to provide more accurate explanations for successful business performance. While human relations theory focused on people's feelings to the point of exaggeration, pampering, and spoiling, modern theories attempt to provide realistic explanations while recognizing the positive and negative aspects of both individual and managerial behavior so that they can use all of people's behavioral energies in their work, The most important pioneers of this movement include Douglas McGregor, Frederick Herzberg, Chris Ergers, Abraham Maslow...

The opinions of these contributors can be summarized in the following principles:

- People differ in their needs; some are driven by material needs, while others are driven by the need for recognition or self-actualization.

- Individuals strive to be mature and successful at work.

- Individuals strive to be disciplined at work.

- People are characterized by their enthusiasm and internal motivation to perform well at work.

- Other factors influence an individual's behavior at work.

- Individuals strive to achieve a balance between their goals and the goals of the organization they work for.

- Individuals' behavior varies depending on the situation they are in.

02: What is an information system

An information system is a management tool used to collect all internal and external data relevant to management in a particular field of work. This data is then coordinated, classified, analyzed, and tabulated in a systematic manner according to agreed rules and principles.

2.1: Concept of an information system

2.1.1: Definition

It is the retrieval of stored information and its delivery to the relevant persons at the required time and place. (Al-Hassaniya, Management Information Systems, 1998, p. 42)

The data is thus transformed into information that can be used by the relevant management, and this information is stored either manually or using computers in a way that allows it to be easily retrieved when needed. (Shawish, Human Resource Management (Personnel Management, 2000, p. 143)

2.1.2: Main objectives of the information system

A. Control and monitoring: Information systems aim to record everything related to the activity and retain knowledge of recent and past events.

B. Coordination and communication: The information system works to balance the different functions of the organization and divide the work, which necessarily requires coordination between functions.

C. Decision Support: Some systems help with decisions that are made repeatedly, such as easy, routine decisions, while others help with non-repetitive decisions, difficult decisions that may only occur once in an organization's lifetime and are considered to be of great importance and strategic significance.

The information system must also have a set of characteristics, which can be summarized as follows:

A: Integration between system elements : The system represents a coherent and branching unit of operations.

B: Data richness : It includes all types of data, whether internal or external, for use by management.

C: Flexibility : This feature allows for modifications to be made to any information system when necessary.

D: Achieving balance: The information system strives to achieve a balance between the accuracy of information and the cost of obtaining it, and also works to achieve integration between the various objectives it seeks to achieve. (Qasim, 1995, p. 37)

2.2: Role and areas of use of the human resources information system in the municipality

2.2.1: Role and areas of use of the human resources information system in the municipality

The human resources information system plays a vital role within the municipality, especially in human resources management, given the useful information it provides for strategy formulation, decision-making, and facilitation in the preparation of predictive plans based on software.

We find that information systems allow for easy, accurate, and inexpensive monitoring of the career path of workers and employees. Through electronic access from a computer to the available database on working individuals, it is possible to determine the abilities and competencies of each worker, the extent of their development in terms of performance and work, and the positions and roles they have held within the organization throughout their career.

There are also some self-assessment software applications that allow and help working individuals to shape and evaluate their career path. A range of programs are now available on the market in this field, such as Career and Career Planning Center. There are also some expert systems applications in this field, such as Miram for auditing human resource management, the Parys system for managing and forecasting individuals, and the Adequat system for managing employee movements and transfers during their career path.

These systems can also contribute to:

- Training: expert systems can contribute to activating and stimulating groups, teaching, and preparing training plans.
- Analyzing the social environment within the workplace.
- Auditing human resources (social). (S. Schermerhorn, 2002, pp. 75-80.)

Information systems have also helped to speed up the dissemination of information on the risks to which workers are exposed as a result of the misuse of chemicals or certain materials, Today, it is possible to distribute thousands or even millions of pieces of information without the need for labels, as this information is available in databases that workers can access at any time and from anywhere via information networks.

2.2.2: Areas of use for the human resources information system in the municipality

The areas covered by the computer in the municipality can include all basic and secondary human resources activities, in addition to linking the system to the comprehensive information system in the municipality. Below are some examples of these uses:

A: Recruitment and employment : This includes several uses, including the following:

- Reviewing job applications
- Analyzing the cost of recruitment sources
- Analyzing the cost of appointments for each position
- Analyzing promotion programs, wage and salary costs, and dismissals
- Managing tests and performance evaluations.

B: Compensation Management : This includes the following uses:

- Preparing annual personnel budgets
- Wage and salary development for each individual
- Linking evaluation, performance, and wage increases
- Wage surveys and wage adjustments
- Linking wage rates to job grades and ranks (Al-Alaqi, 1999, p. 650)

C: Human Resource Planning and Training : This includes the following:

- Estimating future personnel requirements
- Identifying training requirements
- Cost of training requirements
- Human skills inventory
- Planning and developing personnel career paths
- Replacement planning

D: Services: These include:

The cost of health and medical services, insurance, accidents, and pensions, Identification and communication of various services to employees, Initially, computers were used in human resources information systems as a means of preparing salaries and wages and storing information. With the development of computer use in other sectors of the organization, the question arose as to why its use in human resources should not be developed. This has now been achieved, and organizations can purchase ready-made software for individual information, design their own software to suit their needs, or combine the two.

2.2.3: Elements of the information system

A: Human Component

This refers to the group of individuals working in the various departments of the system who form the basis of the system. The success of this system lies in the competence of its employees, who are divided into two categories: specialists and end users.

- Specialists: These are the individuals who analyze, design, and operate the information system. (Burhan & Ghazi Ibrahim Raho, 1998, pp. 36-37)

- End users: These are the individuals who use the information system, and they may be managers, accountants, salespeople, customers, etc.

B: The physical component: This refers to all the machines and devices that make up the system, mainly the computer and its accessories.

C: The abstract component: This includes all the programs and instructions that run the system.

2.2.4: Stages of operation of the municipal information system:

A: Information reception (input): This is the process by which various data relating to human resources, obtained from multiple sources, are entered into the system.

B: Processing and storage: After the data have been obtained and stored, the system processes them by analyzing and organizing them. (Al-Salmi, 2003, pp. 344-345.)

C: Dissemination or distribution: the outputs of the human resources information system.

If we address the social aspect, the focus is mainly on:

A: Economic information system and social information system

Let us make a clear distinction between the economic information system and the social information system of the organization. On the one hand, we find accounting as the basic rule for economic information, which we find in all institutions, as it feeds information to both analytical accounting (Analytique) and budget management (Financier).

B: Information extraction and processing

The handling of social information can be analyzed by describing the following processes:

- Starting from salary information
- Collecting and compiling data
- Filtering excess data

Conclusion:

The study concluded that human resource governance in light of management information systems represents a strategic approach to modernizing management and enhancing its effectiveness, especially in public institutions such as municipalities. as information systems are not limited to data storage and processing, but go beyond that to become an organizational tool that supports rational decision-making, promotes transparency, and achieves administrative discipline. The study also showed that the integration of human resource management and information infrastructure contributes to improving recruitment, training, performance evaluation, and workforce planning, reduces administrative bias, and promotes the objectivity of procedures.

The study emphasizes that the effectiveness of human resource governance is linked to the maturity of the information system, the efficiency of its human component, and the existence of an organizational culture that supports digital transformation, The invocation of classical and behavioral theoretical frameworks highlights the importance of the human dimension in the success of any information system, as technical efficiency cannot be achieved without taking into account organizational motivations and behaviors.

Through this study, we have reached a set of conclusions, which are as follows:

- The integration of management information systems with human resource management directly contributes to improving institutional performance by supporting data-driven decision-making and reducing reliance on personal estimates.
- Human resource information systems promote transparency and administrative discipline by documenting procedures and facilitating tracking and review processes, thereby reducing bias and administrative irregularities.
- The use of information systems increases the efficiency of recruitment, hiring, training, performance evaluation, and workforce planning, and improves coordination between different administrative functions.
- The effectiveness of human resource governance is linked to the maturity of the digital infrastructure and the extent to which human resources are trained and qualified to use these systems efficiently.
- The shift from reactive to proactive management is made possible by the use of analytical and predictive indicators provided by management information systems.
- Establishing governance principles within municipalities requires alignment between organizational strategy and information systems, as well as the adoption of an organizational culture that supports digital transformation.

Finally, a set of recommendations and suggestions can be made, as follows:

- Strengthen digital infrastructure within municipalities by updating information systems and ensuring their integration with various human resource management functions.
- Developing integrated human resource information systems (HRIS) that enable real-time and accurate data management, linking it to institutional performance measurement indicators.
- Investing in the training and qualification of human resources to increase their efficiency in using information systems and to establish a culture of digital transformation within local government.

- Establishing effective electronic control mechanisms that support transparency and accountability through documentation of procedures and the ability to track and review them.
- Aligning the municipality's overall strategy with the digital transformation strategy to ensure that human resources policies are consistent with governance objectives.
- Adopt a gradual approach to digital transformation that takes into account the specificities of local government in terms of human and material resources.
- Establish units or cells specialized in information systems governance within municipalities to ensure continuous monitoring and evaluation.
- Develop a unified reference framework for human resource performance indicators based on digital data.
- Encourage future field studies to measure the quantitative impact of management information systems on institutional performance in the public sector.
- Strengthen cooperation between municipalities, universities, and research centers to develop practical models for digital human resource governance.

References :

1. Al-Alaqi, M. A. (1999). Human Resource Management. Saudi Arabia: Dar Zahran.
2. Al-Hassaniya, S. I. (1998). Management Information Systems. Amman: Al-Rawaq Publishing and Distribution.
3. Al-Hassaniya, S. I. (1998). Management Information Systems. Amman: Al-Rawaq Publishing and Distribution.
4. Alish, M. (1971). Human Resource Management. Egypt: Ain Shams Library.
5. Al-Salmi, A. A. (2003). Information Management Systems. Egypt,: Publications of the Arab Administrative Development Organization,.
6. Ashwi, M. (1992). Foundations of Industrial Psychology. Algeria: National Book Foundation.
7. Barbour, K. (1997). In *Human Resource Management and Organizational Performance Efficiency.* Lebanon: University Foundation for Studies, Publishing and Distribution.
8. Barbour, K. (2008). Human Resource Management: Trends and Practices. Lebanon: Dar Al-Manhal Al-Lubnani.
9. Burhan, M. N., & Ghazi Ibrahim Raho. (1998). Computerized Information Systems. Jordan: Dar Al-Manahij.
10. Hassan, A. (1974). Personnel Management and Human Relations. Lebanon: Dar Al-Nahda Al-Arabiya.
11. Hassan, R. M. (1999). Human Resource Managemen. Alexandria: Egypt, Modern University Office.

12. Kashway, B. (2006). Human Resource Management. Egypt: Dar Al-Farouk.
13. Kazim, K., & kasib yassin, A.-K. (2009). Human Resource Management. Jordan: Dar Al-Masira.
14. Madani, A. Q.-A. (1999). Human Resource Management. Saudi Arabia: Dar Zahran Publishing and Distribution.
15. Maher, A. (2000). Organizational Behavior: An Introduction to Building Skills. Egypt: Al-Dar Al-Jami'iya.
16. Nouri, M. (2010). In *Human Resource Management* . Algeria: University Publications Office.
17. Qabari, M. I. (1981). Administrative Sociology. Egypt: Dar Al-Ma'arif.
18. Qasim, A. R. (1995). Introduction to Management Information Systems. Egypt: Al-Ish'aa for Printing and Publishing,.
19. S. Schermerhorn, S. G. (2002). Human Behavior and Organization. Global Village: printed in Canada,.
20. Shawish, M. N. (2000). Human Resource Management (Personnel Management. Jordan: Dar Al-Shorouk Publishing and Distribution.
21. Shawish, M. N. (2000). Human Resource Management (Personnel Management. Jordan: Dar Al-Shorouk Publishing and Distribution.
22. Sheikha, N. A. (2000). Human Resource Management. Jordan: Dar Safa Publishing and Distribution.
23. Sultan, M. S. (1993). Human Resource Management. Lebanon: University Press.
24. Wahab, S. A., & Laila El Baradei. (2006). Human Resource Management. Egypt: Center for Public Management Studies and Consultancy.