Application of electronic management at the Algerian University

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Abstract---Electronic management is considered as the most important type of modern management where the institutions in general and the universities in particular seek through them to keep all the developments which take place in our daily life, but the application of this management requires capabilities and mechanisms for its success. The main aims of this research paper are to identify the type of the electronic management and its most important applications at the Algerian University, in addition to identify the challenges it faces through applying this type of administration, these challenges represent the obstacles related to the basic requirements that must be available for the success of this administration, such as: the equipments and the necessity to provide people with the Internet, in addition to the qualified human resource, and the laws that regulate them.

Keywords---electronic management, university.

Introduction

No one dispute the fact that we live an era where knowledge becomes an essential source of growth and it is considered as an effective engine for all economic, social and cultural activities.as a result of the developments that the world knows in the field of technology, and since the institution is as a structure that has an effect and at the same time it is affected by its surrounding environment it has known during the recent years one of the new administrative patterns which is the electronic management where it has transformed from a dispensable choice into an indispensable necessity, especially that it is

considered a global trend. This style is based primarily on technology in addition to the competence's human.

University is considered one of the important institutions in society due to its role played where it serves and develop it by promoting and forming one of the most important elements of knowledge capital. The main aim of university is to prepare a competent human resources which are specialized in many domains these resources can be used in different sectors , through the scientific researches that contribute to develop many institutions focusing on its activities, so the path to make a progress is not only linked to the material resources , but also through the accumulated knowledge of its human resources.

The university has used this type of management in order to organize, develop and improve its scientific outputs, using a new electronic methods characterized by effectiveness, competence, and speed whether in administrative or educational work. And although the vital role played by this type of management in achieving a positive results in terms of saving efforts, time and speed in performance, electronic management faces many challenges. This is what leads us to arrive to the problematic of this study which is about the applying this type of management in the Algerian university.

- What are the challenges faced by the Algerian university in the applying of the electronic management model?

According to this research paper, we will attempt to answer the following questions:
- What is the concept of electronic management?
- What are the basic requirements to succeed electronic management?
- What are the obstacles that hinder the application of this type of management in the Algerian university?
- What are the main methods used to overcome the obstacles that hinder its application?

The importance of the topic:

- This topic has a big importance because it is considered among the most important modern topics that contribute to develop the Algerian university where electronic management has become a necessity and inevitability due to the developments that the world knows in the field of technology.
- The importance of the topic bases on the topic to be addressed, it is a modern topic and it is related to the problematic of applying electronic management in the university institution, which in turn constitutes one of the modern problematic in this field, where many specialized researchers have been interested to make a researches about it.
- This research aims also to reveal the most obstacles which are considered a barrier to apply this type of management at the Algerian university despite the effective efforts to achieve this.

The objectives of the topic:

According to the addressed topic, we seek to achieve the following objectives:
- Identifying the concept of electronic management, its characteristics, and objectives.
- Identifying the applications of this management at the Algerian university, and what are the most requirements that help its success.
- Identifying the most important obstacles that face the process to apply this administrative type at the Algerian university.
- Trying to find solutions in order to activate electronic management at the Algerian university.

First: Determining the concepts:

1- Definition of university:
University has a various definitions, including:
It is the educational institution that offers to the students who hold a High School Diploma or its equivalent a theoretical, cognitive and cultural education that adopt an ideological and humanitarian foundations accompanied by a professional training, aiming to bring them out into public life as a productive individuals.

In addition to its role in contributing to address the vital issues that appear at varying intervals in society and it has an effect on the different interactions of these students (Brahimi, 2012, p. 2).

It is also known as a productive institution that works to enrich knowledge, develop technologies, and create competencies which benefit from human scientific accumulation in different scientific, administrative and technical fields (Lotfi, 2007, p. 288).

1-1- University tasks:
In fact, due to the efficient role of the universities and the essence of its missions, they are considered the factory of minds that produce, innovate and create civilization. Therefore, university takes a set of responsibilities that have been determined in most countries, including educating students, developing new knowledge, and providing public service (Al-Abbadi, Al-Taie, & Al-Asadi, 2008, pp. 142-143).

In light of the rapid developments of the processes of research and change and scientific and technological progress, there are new roles added to the role of universities where they practice the processes of construction and change, in order to prepare a person who is able to perform his tasks in society, which requires from university to work on:
- Creating a fundamental development in the faculties and departments of universities which achieves a clear and a big superiority for these departments and faculties at the national and regional levels, in addition to the global one in order to be able to compete and innovate.
- Employing university scientific research in many sectors like the production and development sectors and linking between the scientific research institutions and the state ones by increasing the activation of service provision using away that affects the quality of manufacturing and production processes in addition to provide many services.
- Developing databases for the scientific research and the researchers in the Arab and Islamic universities and coordinating and enhancing the cooperation and coordination between the scientific research institutions in these universities or using the modern means of communication.
- Creating a good plans to advance the scientific research processes which determine the domains and priorities and coordinate with the specialized authorities in order to provide legislations to participate with the production and development institutions to make the results of the scientific research useful to apply them in the scientific field.
- Developing capabilities to provide the sectors by the graduates who are able to deal with new variables and service problems creative minds capable to communicate scientifically and to interact with the rapid changing scientific and technological developments.
- Taking into account all innovations and new technologies and being keen to participate to make the practical decisions and communicate with it.
- Focusing on values and the spiritual, moral, and human awareness among the students of university, this point ensures that they have a head start in fighting forms of Westernization and intellectual and cultural invasion (Al-Abbadi, Al-Taie, & Al-Asadi, 2008, pp. 97-98).

University is considered as a service institution, that's why it is obligated to keep pace with the rapid developments and change its management style to a newly emerged style , which is electronic management.

2- Definition of electronic management:
It is defined by many researchers as:
It is the management of information resources that rely on the Internet and communication networks tend more than ever to confiscate and abstract things and every things related to them until the cognitive capital becomes the most effective factor in achieving its goals and the most efficient use of its resources (Al Qudah & Muradkhanli, 2021, pp. 67-68) .

It is also known as a new management approach based on the assimilation and conscious use of information and communication technologies in exercising the basic functions of management and providing services and activities to the organizations of this era which represents the era of globalization and continuous change (Hallali , Saleh, Jaber, & Al-Alfi, 2010, p. 75)

In the other hand, electronic management in university education is defined as an integrated electronic system that aims to transform the ordinary traditional administrative work from manual, paper based management to management using electronic and technological devices, this is done by relying on strong information, cognitive and mental systems that help in making administrative decisions in the fastest time and the least effort and costs (Cherfi & Bouziane, 2019, p. 232).

2-1 – Electronic management elements:
This type of management is based on a set of elements, the most important are :
- **Human cadre**: It means the human resource qualified through the appropriate training courses and constantly up to discuss about his field so that he becomes able to use these modern technologies, deal with them, and exploit their potential and capabilities for the benefits of his organization.
- **Networks:** It is a communication system used to connect the computers in order to share information and peripheral devices, sending and receiving these information (voice and image).
- **Databases:** It facilitates for the users searching and obtaining information and helping to make decisions.
- **Internet:** A giant network that is not bounded by borders and is not included in a single space. It consists of a large group of computer networks linked to each other by various communication lines. This giant network consists of the global spider web through which various information is browsed and accessed to the electronic information. The electronic messages are exchanged between members of the network through e-mail.
- **Information:** This is what is intended to be shared and exchanged among members of the internal network. Information can be in the form of audio, image, or data.
- **The computer:** It is the most important element and the window of communication between the network members. There are a group of influential technologies that reduced the use of paper transactions and helped to transit to the electronic management (NourAl-Mahdi, 2020, p. 94).

2-2- Objectives of electronic management:
There are many objectives that institutions seek to achieve through the administrative style:
- Improving the level of services by avoiding the mistakes that an ordinary employee may make them when he works, especially at university.
- Reducing the administrative complications by reducing bureaucracy at university administration and shortening the stages of completing transactions.
- **Reducing costs:** This includes the possibility of individual to obtain information and data they need to obtain a specific service via Internet without bothering to visit the university.
- **Achieving maximum benefit for university employees:** This includes using a unified method to deal with all the employees at university, this can achieve equality to offer service, as well as electronic services working around the clock (Cherfi & Bouziane, 2019, pp. 233-234).

2-3- Characteristics of electronic management:
This type of management is characterized by a number of characteristics, the most important of them are:
- **Paperless management:** It relies on new administrative mechanisms that deal with the procedures and transactions, such as computers, information and communications technologies, electronic archives, e-mail electronic directories and diaries, voice messages, and automated follow-up application systems….
- **Management without time and place:** It deals at all times and from any place and makes decisions in various fields of activity, free from the restrictions of time and distance and the absence of a direct relationship between the two parties of the transaction and the collective or parallel interaction, where the two parties meet through the communication network, and the possibility of interacting with more than one source at the same time.
- **Management without rigid organization:** It contributes to create an organizational excellence by facilitating fundamental transformations which organize work and implement operations in the organization.

The shift from organizational structures built on a functional basis and characterized by fragmentation and isolation to structures designed on the basis of information flows that can communicate and integrate (Hallali , Saleh, Jaber, & Al-Alfi, 2010, p. 75). In addition to another characteristics like:
- Rapidity and clarity.
- Managing information, not just keeping it.
- **Flexibility**: It is able to respond quickly for the events, transcending the limits of time and place and the difficulty of communication.
- **Direct supervision and authentication**: via screens and digital cameras that can be placed in every corner of its administrative sites.
- **Confidentiality and privacy**: Electronic management provides confidentiality and privacy for the important information (Makid & Bozkri, 2008, p. 226).

Second: Implementing electronic management at the Algerian university
The ministry of Higher Education and Scientific Research tried to complete all registration processes in the academic year, by opening electronic portals at the level of the website of the Ministry or its affiliated universities, in order to achieve the principle of equality between the beneficiaries and facilitate the administrative processes that require time and effort due to the huge number of the students (Tarshi & Ikhlef, 2018, p. 175) , and at their various levels, we find :

- Portal for baccalaureate degree holders
Registration is done via the website:
  -www.orientation.esi.dz
  - progres.mesrs.dz/webetu

Therefore, the student benefits from the electronic service by registering him at the university via Internet and the student is guided automatically without the intervention of other factors, he is guided in an impartial transparent and short time manner using electronic processing of data. The student can appeal this guidance and this service gas contributed to eliminate the phenomenon of bureaucracy and queues in university centers so, the student doesn't need to Htravel to the university, in addition rationalize the use of resources within the universities, also, this service has put an end to the costs to receive a new students, including financial and human costs (Maha, 2018, p. 204).
- Website for the initial registration for the Master's level 1, 2 and the third year for holders of the Applied Studies Certificate for the academic year 2024 – 2025[*]. https://master.univ.bba.dz

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[*] The website is for the initial registrations for the Master's level 1, 2 and the third year for holders of the Applied Studies Certificate of the academic year 2024 – 2025 at Mohammed Bachir IBRAHIMI University, Bordj Bou Arreridj

- **Managing foreign certificate**: to register the foreign students and the Algerian students who have obtained the foreign baccalaureate. https://progres.mesers.dz/webtrangers
- **Authentication of certificates:** to request the authentication of university certificates. https://progres.mesrs.dz/webauthentication
- **Doctorate registration :** to request registration for doctorate https://progres.mesrs.dz/webdoctorate

  In addition to allocate another website to register for the competition to recruit the assistant professors Section B , on the digital platform **PROGRES** https://progress.msers.dz/webrecrutement

- **The National Portal for Dissertation Notice pnst:**

  This portal is considered as a comprehensive means to access the scientific production of researchers regarding theses. It includes all the stages which contribute to prepare the thesis: from proposing the thesis topic, notifying it, until publishing this thesis (The National Portal for Dissertation Notice pnst, 2024).

- **National Online Documentation System:**

  It is a system that allows to brows the rich and diverse national and international electronic documents, which include all fields of education and the scientific research.

  These documents are classified into two categories. The first category is directly accessible for the students the research professors, and the permanent researchers at universities and research centers. The second category, it concerns the research aspect and it is directed to the research professors, the permanent researchers, postgraduate students (doctoral and master's students), in addition to the engineering students at the end of graduation to obtain master's degree, where this type of documents is browsed directly as well but by obtaining a personal account (National Online Documentation System, 2024).

- **Directory of Algerian libraries RBDZ:**

  It is a guide that allows to census the Algerian libraries and documentation centers, and on the other hand it provides information and the necessary data to determine the locations and identities of the unit body and the services provides by it such as: addresses, working hours, and specializations (Directory of Algerian libraries RBDZ, 2024).

- **Algerian joint index:**

  It is a national catalog that includes a group of Algerian libraries documentary stocks which works to encourage teamwork among libraries and to share the documentary stocks they contain. The primary goal of the index is to help the libraries to develop their services, access the largest number of the documentary sources, as well as to reduce costs through joint indexing (Algerian joint index, 2024).

- **National platform of journals ASJP:**

  It is a platform that was created to publish the articles electronically in the Algerian scientific journals, where they are studied by CERIST (National platform of journals ASJP, 2024). This platform has helped many researchers to identify the journals in the Algerian universities, whether classified or unclassified, in addition to know the dates to send and publish the articles, so that the researchers can prepare and send their researches.

There are many other sites, such as the Algerian university libraries portal, the unified site for the scientific journals…registration these information and reference sites often requires one of the elements related to technology , which is e-mail. On the other hand, it is possible to benefit from other services, such as electro electronic publishing through the university's website and the advertisements published, where it becomes easy to communicate between the university administration and the employees on the one hand and the students on the other hand. This is done by providing them by all information about the lectures program and announcing the results. Employment competitions are also announced on the website, as well as all the appointments that will be held at university, including a scientific council and intellectual and scientific forums or seminars whether international or national, in addition to give an administrative information such as: addresses, phone numbers, and e-mail to facilitate communication between the university Website visitors and university administration (Maha, 2018, p. 205).

And it is necessary to emphasize on an important aspect which is electronic learning, where the Algerian university turned to distance education as a result of the spread of Corona pandemic, in order to compensate the shortcomings resulting from the quarantine and the absence of in- person education, where the teachers relied on educational platforms especially Moodle platform in order to transfer lectures and knowledge to the students. These platforms allow to transfer information in the form of the documents or explanation of audio or video lectures remotely (Jandali, 2022, p. 148), and even supervising those seeking bachelor's and master's degrees, but the use of this type of education has raised many problems, the most important of these problems represents the readiness of professors and students to adopt a learning strategy via the computers and Internet, especially since the transition to virtual classrooms thanks to Zoom, for example has made some of them are still struggle to connect to Internet due to the technical difficulties or a problem in using Wi-Fi that they face, in addition to that the capabilities of the teachers themselves vary from one teacher to another one while they implement the distance education system. Some of them will be effective in creating electronic files and the educational videos and holding video conferences, maintaining interaction with their students through social media applications, while other teachers will find difficulties to deal with the educational technology. They feel exhausted when they deal with the students, and when they are asked to use a new technological standards that they are not familiar about how to use them.

The professors at the Algerian universities have faced this matter, especially those who have not received training about how to use distance education platform. The students have faced the same problem where they found a great difficulties in opening files that contain audio or video lectures, as well as they were enable to discuss directly with their professors on this platform. This requires more efforts to train the professors and the teachers on how to employ technology and use the Moodle platform to facilitate the distance educational process (Jandali, 2022, p. 150).

Therefore, despite these efforts to activate the electronic management at the Algerian university, the actual and complete implementation is still faces many difficulties and challenges that can be generally summarized in the following points:
- The majority of universities lack the necessary technological devices for application, whether in administration or even those used by the students and the professors, even the most of the research centers also lack the technical equipments and the financial facilities that help them to implement their research projects.
- Weak Internet service at universities due to the limited workstations on the one hand and poor service on the other hand.
- The great lack of modern information sources.
- Weak levels of comprehensive computerization in these institutions and its limitations in some of them.
- The scarcity of cooperation programs between these institutions and their lack of Internet service.
- There are no workers in these institutions which deal with modern technologies.
- Lack of training and qualification programs during the service for workers in these institutions.
- The weakness of the budget allocated to the development of these institutions (Cherfi & Bouziane, 2019, pp. 241-242), and therefore implementing a project such as electronic administration at the Algerian university, especially with the decline in oil prices will constitute an obstacle to expand its application. And from a legislative standpoint, we find:
- The inability of laws and legislations to address some matters related to developments in the constantly changing electronic environment compared to legislations that are stagnate, and therefore, this failure results from the presence of legal loopholes that contribute to avoid confidence in electronic management and the beneficiaries of its services.
- Failure to reach fixed standards, regulations and legislative rules regarding the organization of different electronic services.
- The absence of a protected electronic work environment according to the legal methods that determine the conditions to deal electronically, such as the absence of a clear and a precise legal

legislations which penetrate and sabotage the electronic administration networks and determine the deterrent penalties for those who commit them.
- The absence of recognition of the reliability of electronic documents and failure to adopt them as an alternative to the traditional documents (Ammari, 2017, p. 129).

It becomes clear from what was mentioned that information and communication technology constitutes an essential element in success and failure of electronic management, not only at the Algerian university, but in any institution that seeks to implement this type of management. However, an essential element remains less important to apply and activate this pattern which represents the human resource. Despite the speed increase of educational level in recent years, but what we notice is the modesty of information and culture and electronic interaction (Tarshi & Ikhlef, 2018, p. 175). There are persons who still prefer traditional management, where they refuse change, which may affect the success of electronic management.

On the other hand, we note that the obstacles mentioned previously are very similar, they are not identical with the requirements that each administration needs to activate the electronic management model, which can be divided into human requirements which are achieved through well– qualified human resources and at the highest level of professionalism. Specialized technical human cadres that are related to the information structure and work systems on electronic communications networks can be prepared by implementing a package of training programs that help to prepare the human cadres that are required to keep pace to the technical development in order to achieve efficiency when we implement electronic management applications In addition to the technical requirements of the infrastructure for the electronic management which can be limited to the devices and the equipments on the one hand, and the electronic programs to operate these devices on the other hand, in addition to networks and means of communication that connect these devices computers, and phones to each other.

On the other hand, it is necessary to provide the legal and security requirements by taking all necessary requirements to maintain information security using many measures that aim to protect information technically.

As well as, the enactment of many laws and legislations that aim on the one hand to control the electronic information security process. On the other hand, controlling the work of administration in the virtual world, which would eliminate or reduce many problems such as hacking, piracy and hijacking the electronic management programs, and the existence of these legislation supports the application of this type of administration within clear and legal fram worksç (Qaid & Benin, 2018, pp. 151-152). On the other hand, it is necessary to provide the financial requirements because the application of electronic administration at the university requires a huge amount of money to be financed in order to ensure its continuity and success. Therefore, before applying this model, a comprehensive study should be conducted on the available needs and an attempt to provide the maximum of these requirements without neglecting any of them.

At the end, we can say that electronic management has achieved remarkable success at the Algerian universities, but it still needs providing requirements and basics to fully activate it, and we can suggest the following points:
- The necessity to develop a comprehensive strategy that ensures communication between the university administration, the professors, and the students in a flexible manner.
- Thinking about a mechanism that allows the students to own media that are related to the hole use of Internet.
- Programming training courses for many employees of the university institution whether administrators professors, or even the students, so that the university can activate the electronic management.

- The necessity of enacting laws consistent with this type of management and protecting against its risks.
- The necessity to keep pace the developments in information and communication technology by providing the equipments that contribute to apply the electronic management at the Algerian university.
- Striving to provide electronic management requirements and not neglect any aspect related to them due to the relationship that exists between them which is a relation of integration and interconnection which will achieve success for every institution that seeks to apply this administrative model and activate it in a way that achieves the established goals.

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