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# The Reality of Electronic Human Resources Management in Palestinian Universities from the Perspective of the Staff in IT Centers

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**Abstract -** *This study aims to identify the reality of human resources management electronically in Palestinian universities from the perspective of the staff in IT centers. The study population consists of 35 employees in information technology centers. The study sample consisted of (35) employees in technology centers. The recovery rate was (84.31%). The researchers used the questionnaire as a tool for study and the analytical descriptive approach to achieve the objectives of the study. The SPSS program was used to analyze the study data.*

*The results of the study showed that the clarity of the importance of human resources management electronically and the support of senior management are available and contribute greatly to the process of transition to electronic management in general and e-HRM in particular. The study concluded with several recommendations aimed at enhancing e-HRM functions and activities in Palestinian universities. The most important of these are the provision of financial support to IT centers, obtaining legal accreditation for e-signature, and optimizing the ICT tools currently available for implementing e-HRM activities and functions.*

**Keywords** Electronic human resources management, IT staff, IT staff centers, E-Learning, Palestinian universities, Gaza Strip.

## 1. INTRODUCTION

The world is witnessing rapid and successive changes in the business environment. Today's global changes pose challenges to increasing the competitiveness of governments, especially with regard to the use of electronic means, such as computers and communication networks. Humanity has entered the twenty-first century and has the torch of an unprecedented scientific revolution. The use of technology is not limited to large companies and institutions, but also become accessible to individuals, especially in light of the low prices of these electronic means, its small size and its ease of use. In this digital age, there is a clear interest in countries and institutions in the application of e-management. It began to race for time to provide easy electronic services in the public and private sectors, where human resources management relates to the set of policies and practices required to implement the various human resources management activities needed by the business organization to exercise its functions in the changing environment of organizations and businesses (Abu Naser, and others, 2017), (Al Shobaki, and others, 2017), (Abu Amuna, and others, 2017), (Al Shobaki, & Abu Naser, 2017), (Al Shobaki, & Abu Naser, 2016), and (Al Shobaki, and others, 2016).

The administrative activity is related to identifying the project's needs from the working resources, providing them with numbers and competencies that are commensurate with the needs of the project, and working to use these resources effectively in achieving the goals of productive efficiency (Dura and Al-Sabbagh, 2008). Human resources management is facing, both in the public or private sector in the world as a whole, enormous challenges which is on the outskirts of the beginning of the twenty first century which is rife with political, economic, social, technological and cultural changes which are a rapid and complex changes (Al-Naggar, 2008). With the advent of the Internet, the evolution of ICT and the transformation of marketing, accounting and various operations into e-business, and with the increasing digital transformation of organizations, it has become necessary to transform paper jobs and files into electronic files. Relations between the government, business organizations, trade unions, employees and customers have been made through internal and external networks and the Internet (Al-Naggar, 2008), the use of technology in human resources management or human resources management term electronically is called (e-HRM). The application of web-based techniques in HR-related systems and functions (Hopkins and Markaham, 2006)

In order to study the impact of technology on human resource management, the researchers chose the higher education sector in Gaza as the higher education institutions represent an ideal model for studying the changes that take place in the environment because they contribute mainly to the service and development of society, human, take into account creativity, innovation, the advancement of science on the basis of equality, parity and advancement to reach the contemporary level (Al hila, and others, 2017), (Ammar, and others, 2017), (Badwan, and others, 2017), and (El Talla, and others, 2017).

The researchers selected the study population through higher education sector which is represented in the regular Palestinian universities in the Gaza Strip: the Islamic University, Al-Azhar University, and the University of Al-Aqsa.

## 2. RESEARCH PROBLEM

The Palestinian universities directly affect the Palestinian society and have a great role in providing institutions and sectors of society with the necessary human resources in all fields. The universities are the leading institutions in adopting modern systems and concepts in various fields so as to achieve the same competitive advantage. In order to graduate specialists in line with contemporary developments who are able to contribute to the process of developing human resources and society. The main problem of this study is to answer the main research question:

**What is the reality of human resources management in the Palestinian universities in the Gaza Strip from the perspective of the staff in IT centers?**

## 3. RESEARCH HYPOTHESES

**H1:** There are statistically significant differences in the response of the sample members on the reality of human resources management electronically in the Palestinian universities from the perspective of the staff in IT centers due to the demographic variables (university, age group, academic qualification, years of service, job title).

**The following hypotheses are derived**

**H1-1:** There are statistically significant differences in the respondents' response to the reality of human resources management electronically in the Palestinian universities from the perspective of the staff in IT centers due to the variable (university).

**H1-2:** There are statistically significant differences in the respondents' response to the reality of human resources management electronically in the Palestinian universities from the perspective of the staff in IT centers due to the variable (age group).

**H1-3:** There are statistically significant differences in the response of the sample members on the reality of human resources management electronically in the Palestinian universities from the point of view of the staff in IT centers due to the variable (scientific qualification).

**H1-4:** There are statistically significant differences in the respondents' response to the reality of human resources management electronically in Palestinian universities from the perspective of the staff in IT centers due to the variable (years of service).

**H1-5:** There are statistically significant differences in the response of the sample members on the reality of human resources management electronically in Palestinian universities from the perspective of the staff in IT centers due to the variable (job title).

## 4. STUDY LIMITS AND SCOPE

**Subject (Academic) limitations:** The research was limited in its subject to study the reality of human resources management electronically in the Palestinian universities from the perspective of the staff in IT centers.

**Human Limitations:** The research was conducted on the staff of IT centers in the Palestinian universities in the Gaza Strip.

**Institutional Limit:** The study was conducted on universities of Gaza Strip.

**Place Limitations:** The research was conducted on the universities of the Gaza Strip (Islamic University, Al-Azhar University, and Al-Aqsa University).

**Time limitation:** Research and preliminary data collection were conducted during the year (2017).

## 5. RESEARCH OBJECTIVES

This research aims to achieve the following objectives:

- Identify the direction of the managements of Palestinian universities to switch to electronic management.
- Knowledge of the availability of infrastructure in the IT centers required for the application of human resources electronically.
- Know the availability of human cadres necessary for this transformation.
- Recognize the extent of interest of the university management in applying human resources management electronically.
- To make recommendations on the extent to which human resources management is applied electronically in Palestinian universities, and the appropriate proposals to enhance the level of its application and benefit from its advantages.

## 6. RESEARCH IMPORTANCE

- The importance of this study stems from the fact that it deals with institutions of higher education, which is a source of skills and competencies that provide the society with its needs.
- The study focuses on the modern management methods for e-HRM, the extent to which they are used in educational institutions, and is considered as a suitable model for application at the level of public and private institutions.
- The importance of the technology factor in influencing the efficiency and development of organizations in general, both in the public and private sectors.

- Increasing the efficiency and effectiveness of educational institutions through the use of various ICT tools in all their functions, which will benefit the institution and society.
- To keep abreast of the latest scientific developments and harness them to serve the local population, and try to generalize the various administrative functions used electronically on all institutions of society, in an attempt to reach the broader concept that includes e-government and electronic management.
- This study is expected to open many fields for researchers and interested in this subject and related topics, such as e-governance.

## 7. RESEARCH TERMINOLOGY

- **Electronic human resources management:** O'Brien (2002) defines human resources information systems as a set of common elements that include the collection, analysis, storage and retrieval of human resources management information to support employment decisions, control, measurement and improvement of performance and planning. Parry and others (2007) defined as any system that helps the organization to query, store, analyze, retrieve and distribute information on human resources management.
- **Information Technology Centers:** IT Centers are the gateway through which modern technology is introduced to the university and harnessed to serve the academic and administrative process. It is responsible for the development and implementation of university programs, the computerization of departments and work systems, and the administration of the university in making decisions related to information technology (AL-Masri, 2007).

## 8. PREVIOUS STUDIES

The study of (Al Shobaki and others, 2017) Results of the study showed that the university system in the provision of electronic educational services affect the process of transition to electronic management of human resources in terms of the use of information technology in some of the functions of human resources management. There are electronic educational services in universities under study, where there is a general trend for electronic educational services, and there is clarity of the concept of e-learning. The study results showed limited educational and training materials published electronically about the staff. The results of the study confirmed that the university system has statistically significant effects on the provision of electronic educational services in electronic human resources management. The study found several recommendations, the most ones are: the need to take advantage of e-educational services in the activities and functions of human resource management such as training and distance learning. The capabilities are available, but they are not taken advantage in this area for the employee. There is a need for optimum utilization of the tools and means of ICT available in the universities such as internet and computers in completing the work and simplify its procedures, and to consider these tools as investment to the university and not as the possession of the equipment, the goal is to not put a computer and internet line in each employee office, but the goal is to take advantage of the computer, network, and ICT tools in all areas to the maximum extent possible.

The study of (AL-Masri, 2007) entitled "Requirements for the Use of Electronic Signature in the Management of Information Technology Centers in Palestinian Universities in the Gaza Strip". The study aimed at identifying the requirements of using electronic signature in the management of information technology centers in Palestinian universities in the Gaza Strip, clarify the importance of maintaining information security and the use of advanced technology in protecting privacy through electronic correspondence. The study concluded that electronic signature technology is not used in IT centers in Palestinian universities in the Gaza Strip, and that security equipment and software used in IT centers need to be updated to be able to efficiently protect electronic information. The study recommended several recommendations, the most important of which is the need to adopt electronic e-mail using the electronic signature, updating the security equipment and developing software used in information technology centers, allocating an annual budget for information security, training and development of information technology center staff in the field of information security and the use of electronic signature in information technology centers.

The study of (Parry and others, 2007) conducted under the auspices of the CIPD, has been part of several studies and reports on e-HRM. The study focused on the impact of technology on human resource and personnel management functions and analyzed 10 case studies of different organizations in industry and services. The study found that the use of technology within human resources had a clear impact on the efficiency of the implementation of human resources management functions. The shift to human resources management electronically required a change in the skills required of human resources staff, management change and managers. Information technology is used to take advantage of human resource management functions in a manner that is commensurate with the requirements of different organizations. It focuses on the services of the employees themselves, including the focus on the incentive system and the other on the evaluation of performance. The attendance and departure process also achieved an 85% utilization rate in the institutions under study by adopting technology. The study recommended that the use of technology within human resources should be a major focus of the Organization as the impact of technology on the efficiency and speed of human resources operations is high. It recommended the importance of developing HRMIS. She stressed the importance of the participation of serious staff in the development of systems and training them to use the new systems, so that they have an awareness that helps to accept them.

The study of (Strohmeier, 2007) which reviewed a series of empirical studies on the subject of e-HRM, as well as developing future research scenarios. The study examined and analyzed the results of previous studies in terms of (definitions and framework, theoretical concept, methodologies used in previous studies, level of analysis and results). The study concluded that the knowledge in this subject is sufficiently available to be recognized as innovation, innovation and renewal in the field of human resources management to cope with the changes of the internal and external environment. The study also found that five studies were based on a theoretical basis and one-third of the studies used survey methodology. The levels of analysis are not clearly defined. They focus on specific topics rather than general themes. The studies concentrated on the public level in the organizations. The study recommended the strengthening of theoretical studies and knowledge regarding this important field, as it is a key to any development in this field.

## **9. THEORETICAL FRAMEWORK OF THE STUDY**

### **9.1 Electronically Human resources management (E-HRM)**

The characteristics of organizations that achieve outstanding success are that they improve the selection and employment of human resources. The human element, like others, is affected by the external and internal environment of the organization. In light of these changes and developments in modern administrative thought, human resources management undergoes a radical change in its concepts, policies, strategies and practices.

One of the most important challenges facing today's organizations is the technological changes and the revolution of the Internet and communications, which have huge implications for the human resources function, because they mean drastic changes in all human resources functions and activities, support and implementation of the organization's strategic plans, the change in organizational structures, the reduction of employment due to automation and technology, the orientation to the knowledge economy and customer service, e-HRM emerged as a pattern and orientation that responds to changes and gives flexibility to the human resources function,

The challenges facing human resources management are so profound and comprehensive that the profession is threatened by itself, and some see it as obsolete and without any place in the future without changing and accommodating the challenges facing organizations in general (Al-Khazamy, 2003).

### **9.2 The concept of e-HRM**

The e-HRM concept has definitions and names that carry the same meaning, some of which are called in the foreign literary studies the term e-HR, or virtual HRM, others call it HR intranet, web-based HR, and other researchers call it Computer-based HRM (CHRIS), in addition to HR portals (Ruel and others, 2007).

This difference leads us to present a set of definitions that addressed this concept, so that we can give a clear picture of it, and then differentiate it from the concept of HRMIS. These definitions (Parry and others, 2007) are the use of technology with human resources management functions. (Ruel and others, 2007) as communication through technology targeted through networks between the organization and its staff on human resources management. As well as the definition of (Schramm, 2006) as a way to implement human resource management strategies, procedures and policies in the organization through direct and informed support based on web technologies. Foster (2008) defines it as the application of any technology that enables managers and employees direct access to human resources management and other organization services for communication, performance appraisal, team management, knowledge management, education and other management purposes. Strohmeier (2007) defines it as an IT planning and implementation process to support at least two individuals or a group of individuals to participate in the delivery of human resources activities (Torres-Coronas & Arias-Oliva, 2009). Hopkins and Markaham (2006) defined it as a distinct application of web-based techniques in HR-related systems, which, together with other organizational changes, would contribute to broad access to human resources information, as well as provide multiple opportunities for managing such information.

The main difference between e-HRM and HRMIS is that human resource information systems are oriented towards the same human resources management service, and HRMIS users are often human resource managers for the purpose of developing services to the organization.

In e-HRM, the target group is those who are outside human resources management, whether managers or employees, providing human resources services via the intranet or the Internet for use by all employees of the organization (Ruel and others, 2007). HRMIS is a key factor in the preparation and implementation of the WMO Strategic Plan, continues to rely heavily on accurate data and the rapid access of information to decision makers (Armstrong, 2001).

### **9.3 Objectives of Human Resources Management (e-HRM)**

The objectives (e-HRM) is stemmed from its integration with the objectives of e-management, and keep pace with changes in the business environment, where (Lepak & Snell) selected those goals to increase focus on strategic issues, increase the flexibility of procedures and practices, increase the efficiency of human resource management, reduce costs. Human resource management is geared towards serving management and staff in the organization (Ruel & others, 2007).

The change of power and the factors affecting the organizations and issues of globalization, the changed outlook from the safe position to the safe profession, the raise of higher education rates in the world, and the change of quality of the required labor force, all these were among the most important reasons directed organizations toward (e-HRM), so as to achieve the following key objectives (Al-Najar, 2008):

- Improve the strategic direction of human resources.
- Reducing labor costs and administrative expenses.
- Gains of human resources.
- Facilitate the performance of the functions of HR management.
- Raise the performance and productivity of the organization.
- Development and improvement of labor relations and employees satisfaction.
- Better support for management across the company.
- Provide greater opportunities for participation and training.
- Improve the company's image.

There has become a growing belief in recent years that the organization can have a competitive advantage that distinguish them from others through the development of its human resources and it this happens in several ways (Hopkins & Markham, 2006):

- Implementing the training faster and apply the skills acquired effectively.
- The acquisition of distinct capabilities that distinguish them from others.
- Improve relations between different functional sectors within the organization.
- Improve the services provided to customers.
- Flexibility and better response to market changes.

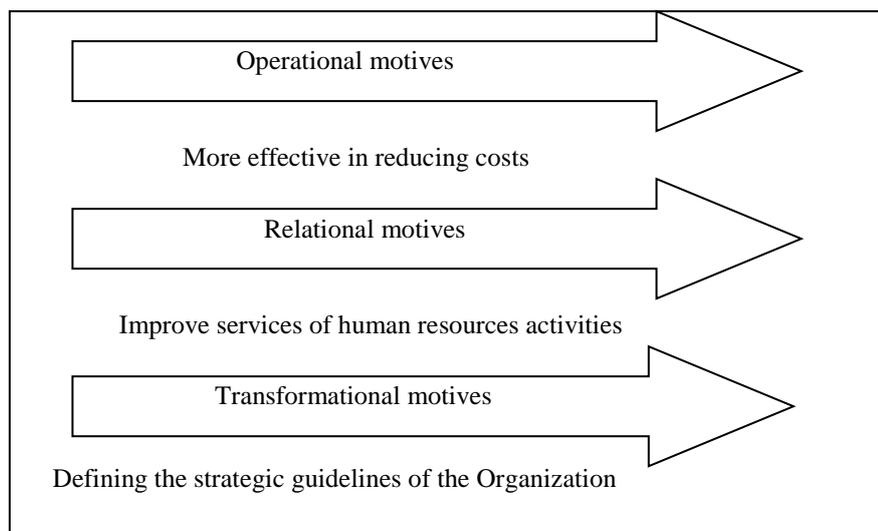
Thus, ICT offers a variety of means by which human resources and its special services are managed and developed.

#### 9.4 The importance of electronic human resources management (e-HRM)

The application of human resources management technology is diversified and has a wide range according to the needs of the Organization; it can be limited to the electronic tables, and may extend to complex systems. (Cipd, 2006) see that this depends of course on the solutions offered by HRMIS, some of which are concerned complete solution to the functions of HR, including Attraction, selection, appraisal performance, compensation, wages and other functions of HR. This naturally leads to the diversity of the importance of (e-HRM). Based on the applications used for HRMIS, and according to the report of (Cipd, 2006) which was conducted between the years (2003-2006) on the major British institutions, this importance has appeared in the following areas:

- Improve the quality of the provision of information by 91%.
- Improve the speed of the provision of information by 81%.
- Improve the services provided to employees by 56%.
- Reduce costs and expenses by 35%.

The motives of the integration of technology with HR are different and varied; it can be operational motives or relational motives or transformational motives, as shown in the following figure:



**Figure 1:** The motives of the integration of technology with HR

Source: Chartered institute of personnel and development, "changing agenda", UK, [www.cipd.co.uk](http://www.cipd.co.uk)

Where we find that the operational motives are concerned with HR activities in the management, such as payroll management and personal information management, while the relational motives care about advanced HR activities, and the focus here is not on the management, but on the HR tools that assist in the organization's operations to attract, select, train, and evaluate the performance, and the last motive is transformational motives which is related to strategic HR activities, such as changing the organization's operations, strategic re-orientation, management of the strategic competitive advantage and management of strategic knowledge (Ruel & others, 2004). This importance is highlighted through the various functions of HR that are serving individuals. The British organizations are using Technology in human resource management in the following functions (Parry & others, 2007):

- Absence and attendance management by 85%.
- Bonuses and incentives by 75%.
- Training and development by 75%.
- Diversity management by 57%.
- Recruitment, selection by 51%.
- Wages by 50%.
- Performance evaluation by 47%.
- Human resource planning by 29%.
- Knowledge management by 25%.
- Management expenses by 18%.
- The development of human resources strategy plan by 18%.
- Communications 18%.

## **10. THE REALITY OF E-HRM IN PALESTINIAN UNIVERSITIES**

At present, the University is seen as a symbol of the renaissance and progress of nations, an address of their vigilance, civilization, advancement, and a fundamental theme revolving around cultural life in its universal and intellectual, literary, scientific and technological dimensions. The universities include the elite of scientists working to develop and disseminate knowledge through education and scientific research. Universities have a pivotal role in the great progress achieved in all areas of knowledge and contemporary civilization. In order for the Palestinian universities to keep abreast of the latest developments in technology, whether academic or administrative, they established information centers, which were of great interest and sought to provide them with all the modern and advanced means.

### **10.1 Reality (e-HRM) at the Islamic University**

#### **Department of Information Technology at the Islamic University IST**

Information Technology is a major factor in the University's work. It contributes to the use of modern technology to serve the academic process and assists senior management in making decisions by providing statistics and indications. It is a vital and important element in the university so that it can cope with the rapid development of automation and modern technologies in the academic and administrative fields. . Information Technology is of great importance to the Islamic University through the IT Management Architecture at the University, where it has the position of Vice President for Information Technology and External Relations, which is responsible for planning, supervising and developing information technology and providing information technology reports to the University Presidency. An assistant to the Vice President for Information Technology and Director of IT, which began its work in 1997 under the name of the Computer Center, and was the first task of the establishment and installation of computer network at the University, Glossy menu at that time, a network of fiber-optic cables and the latest technology available at the time. In view of the rapid and continuous development of IT fields and their direct impact on the success and excellence of academic work at the University, the University administration decided to develop and establish the Information Technology Department at the end of 2004 to be the planning, implementation, supervision and follow-up of all information technology issues at the University.

#### **IST management tasks**

Since the establishment of the first computer center in 1997, to date, the services provided by the Center have grown and increased, and the management has a large number of functions and services, the most important of which are (Department of Information Technology at the Islamic University IST, 2017):

- Supporting the academic and societal message of the university, setting strategies and defining policies related to the field of information technology in the university and developing its executive plans.
- Supporting the University's mission in relation to the local community by providing expertise and services in this field.

- Full transformation from traditional management to electronic management through a comprehensive information system.
- Fully automate the administrative work systems of the university through the provision of a central database and through the design and implementation of various computer applications.
- Develop, implement and manage the University's core IT infrastructure projects and provide related services.
- Establishment of the first technology incubator in the Gaza Strip to embrace the owners of unique creative innovations ideas.
- Providing technical and advisory services through specialized committees in the fields of IT.
- Follow the latest developments in IT and deal with them.
- Field training for students in IT management departments and laboratories.
- Supporting the educational process in academic curricula and scientific research through the provision of appropriate technical solutions.
- Support and guide the e-learning program in coordination with academic affairs to maximize the benefit for academics and students.
- Increase interaction between academics and students via an interactive medium such as e-mail and web pages.
- Develop the knowledge and skills of academics in IT.
- Academic services such as e-library, labs, videoconferences and web pages for teachers and students are available.
- Supporting and qualifying university graduates through the development of programs to improve access to work in technical fields such as incubator programs and other technology.
- Linking various university websites electronically and providing various programs and electronic services for students and employees through the Internet.

### **Areas of IST management**

The Department of Information Technology at the Islamic University works in several fields between academic and administrative (Department of Information Technology at the Islamic University IST, 2017):

- Academic area: Supporting the programs of colleges in the field of information technology, providing academic services for students and employees, in addition to supporting and qualifying university graduates.
- Administrative area: Automating administrative work systems at the university, providing the necessary statistics to support the decision-making process and developing the skills of the administrators through continuous technical support and workshops.
- Services: Connecting different university sites electronically, providing various programs and electronic services for students and employees through the Internet, providing technical services in networks and maintenance of laboratories and computers for employees.
- Community and business development: for example, cooperation with local and international institutions to implement various IT projects, as well as IT advisory services to local and regional institutions.

### **IT Infrastructure and External Relations Infrastructure**

IST has 36 employees, including the Vice President for IT, with 6 departments. The functions of each department are varied so that they are integrated into the delivery and processing of the IT infrastructure.

### **E-Learning at the Islamic University**

The system of education is one of the components of the life of contemporary societies. The role of this system is not to bring and present information and resources to students, but also how to present and evaluate this information. But this system will differ from what we have learned from education systems and what we have seen on the web from serial pages.

Education, like other services, is looking for an electronic version of it in an e-society characterized by electronic services from e-commerce, e-government, and because the education system is always looking for new tools and methods of learning to adopt within its system to improve the learning process, One of the more advanced tools is e-learning, which has spread as a modern and important tool through the spread of the Internet in the 1990s.

Currently there are many educational centers (in universities and large institutions) that rely on it as a flexible teaching tool, as well as a distance learning tool.

E-learning does not seek to replace traditional education, but to support and facilitate learning in new ways that are flexible in space and time, and to create an educational environment in which a range of tools is integrated in an effective manner.

Based on the policy of the Islamic University in Gaza to develop its academic programs and connect them to the needs of the Palestinian society, the e-Learning Center was established at the Islamic University of Gaza in 2001 to support and facilitate the use of computer and communication technology in the educational process.

The first steps in building this project were to obtain a copy of the WebCT program, which is one of the best virtual learning environments, which allows the university professor to design his curriculum electronically, and provide students access to this curriculum through the World Wide Web, of the University.

The Department of e-Learning at the university, and ensuring its smooth functioning in line with the University's policy in this area, will support its scientific and academic status, solve many problems of higher education, and contribute to the development of the skills of faculty members, employees and students in the use of modern technologies in education.

To this end, the Islamic University represented in the Department of e-Learning has prepared and formulated an ambitious plan to activate the methods of e-learning at the university. The infrastructure and computer labs equipped with sufficient numbers of computers and accessories have been equipped.

### Applications (e-HRM) at the Islamic University

The project of computerization of administrative procedures at the Islamic University is the most ambitious project of the university in the transition to electronic administration, which is the most recent compared with other universities under study. The details of this project can be found through the university website (<http://www.iugaza.edu.ps/ara/it/BPM.asp>), Figure 2 illustrates a model for this project.

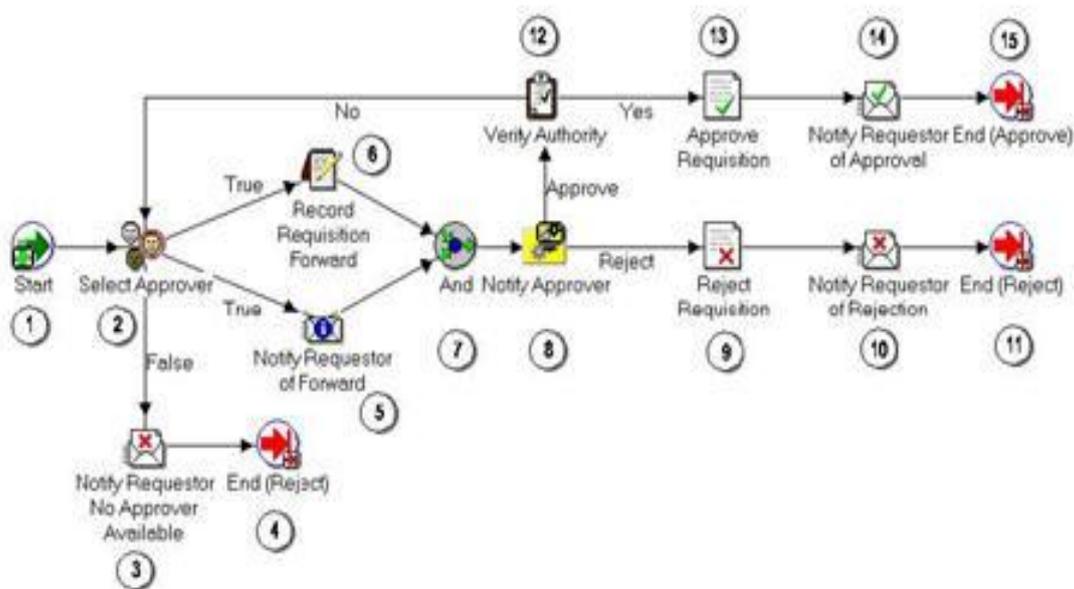


Figure 2: A model for the project of computerization of administrative procedures at the Islamic University

Source: <http://www.iugaza.edu.ps/ara/it/BPM.asp>, 2017

Through interviews with the Director of IST, the Director of the Information Systems Department, the Project Analyst for the Project, the Network Security Engineer, the Director of the Department of Technical Supplies, the Quality Department, the E-Learning Center and the Personnel Affairs Department to examine this construction project and its relevance to the subject of the study. The researchers reached to the following information:

- There is an ambitious project to change the administration of the university into an electronic administration. There has been a delay in the progress of the project because of the circumstances of the recent Israeli attack. This project serves all departments, including the Personnel Affairs Department.
- The system analysis of the project has been completed and work is under way on the preparation of the necessary implementation programs, some of which are already ready for some e-HRM functions, such as ESS, electronic correspondence, attendance and departure, electronic polarization, E-performance.
- The issue of electronic signature is still not supported at the university so far, which may be an obstacle to a full transition to electronic management.

- There is a lack of human resources necessary to complete the project due to lack of financial resources at the university because of the siege conditions experienced by the Gaza Strip.
- The Quality Department oversees compliance with the quality standards set by the Ministry of Education and Higher Education and advises the Information Technology Department in the development and implementation stages.
- Collaboration and coordination with the Personnel Affairs Department and the IST Center to access an integrated human resources management system electronically.
- The various departments request programs suitable for their work, and coordination is done between these departments: the Quality Department and the IST Department.
- The Information Security Service was recently created to accommodate the magnitude of the project to be implemented.
- The infrastructure of equipment and equipment is considered by the IT professionals to be sufficient for the implementation of this project.
- Provides e-learning and e-training capabilities at the university.
- The E-Learning Center publishes training and educational programs for staff through the Moodle website.
- The distance training process for university staff using the technology and communication methods is still not functional, as the center has only held one course through videoconferencing.
- There is a trend of outsourcing in some phases of the project.
- Benefit from the experiences of other universities in the field of computerization of administrative procedures.

## **10.2 The reality of e-HRM at Al-Azhar University**

### **Information Technology Unit at Al - Azhar University**

The Information Technology Unit was established in Al-Azhar University in 2001 under the name of "Information Technology Unit" with the aim of developing plans to manage all information technology related to the university. The IT unit maintains computer hardware and related services, computerization of administrative departments, development of the web page, provision and supervision of computer labs to teach computer related courses, computer training courses, Internet and e-mail services.

#### **The unit consists of the following sections:**

- **Programming Department:** This section includes five programmers, who have the functions of producing and designing programs for computerization of university departments, and the abandonment of purchasing programs from abroad, following up training of users on programs developed and developed according to the development of administrative systems and academic regulations and financial regulations imposed by the university policy.
- **Network Section:** This section is equipped and developed the internal network of the university, connecting devices to the Internet and intranet, and maintenance of the network and servers.
- **Maintenance and Technical Support Department:** Maintenance Department is responsible for maintenance of all computers and related accessories, technical description of computers and related accessories (printers, UPS, scanners ...).
- **The Department of Internet and Electronic Publishing:** This department is responsible for managing the web servers, developing the university site, linking the available systems through the university portal such as students' electronic registration, student services, ESS, internal email, SMS and other systems.

### **Functions of the ITU Information Technology Unit**

The work on the introduction of information technology to the university entails many considerations of administrative material and future plans, especially that the field of information technology in a continuous and rapid development, and therefore the IT unit has a major role in supervising the use of computer labs and follow-up maintenance and development and linking through the central network for the University, which was created with funding from UNESCO with the latest specifications. In addition, there are many other tasks such as:

- The university faculties in different disciplines require the existence of laboratories equipped with a sufficient number of devices to train students in the use of computer through computer courses in university faculties. Therefore, the IT department can coordinate with the different colleges at the beginning of each semester to allocate the use of laboratories in accordance with the requirements of each college.
- Provide the appropriate time for the Department of Continuing Education to hold computer training courses and nominate trainers to supervise these courses.
- Supervising the maintenance of the equipment in all computer labs in the university through the maintenance department of the IT unit.

- Determining the specifications of computerized programs to suit each other when all university departments are connected through the central network.
- Provision of Internet service through one subscription for each university, which is operated by all laboratories and centers through the central network.

### **Work areas of the Information Technology Unit (ITU)**

The IT Unit provides technological services in several areas (AL-Masri, 2007):

- Academic field: The IT unit trains the academic staff to use modern technology in the educational process, as well as the development of academic services such as electronic library.
- Administrative Department: The IT Unit works on the computerization of the administrative systems to manage the administrative and academic process such as: Finance Department, Student Affairs Programs, Supplies and Purchasing Department, Central Library Programs, Medical Analysis Programs and others.
- Service Area: The IT Unit provides computer and accessories development services, maintenance services, Internet and e-mail services for students and employees.

### **ITU Infrastructure**

IUT has 14 employees, four departments, and the functions of each department are integrated to provide IT infrastructure.

### **E-HRM applications at Al-Azhar University**

After interviewing the Personnel Affairs Department and the ITU Unit, the researchers found the following results:

- The unit has ambitious plans that are incomplete because of the direction of the university administration in the partial gradual transformation of electronic administration. The unit is currently working on a project to implement the electronic archiving system for correspondence.
- The unit has the software and technical capabilities capable of implementing a complete electronic management system.
- The Personnel Affairs Department has an integrated Human Resources Information Systems (HRMS) system linked to the University Portal for ESS services for employees.
- The existence of an internal electronic correspondence system designed by the ITU Unit, and a university e-mail.
- The unit of electronic polarization through the university portal.
- Provides opportunities for learning, e-training and video conferencing.
- SMS service availability.
- Offering a new service, Hot Spot, for university students and employees who have laptops, which will greatly reduce the reliance on cable networking, and give flexibility to use the network and the Internet within the university, and will reduce the pressure on computer centers, especially during periods of registration of subjects.
- The problem of electronic signature remains an obstacle to the transition to electronic management in full, which is the same problem faced by the Islamic University, and may be due to the need for legal legislation in the first place.
- The unit is still in its early stages and has an ambitious vision towards e-governance. Due to administrative constraints and higher priority requirements of the university administration, this may be an obstacle to a full e-HRM approach.
- E-learning services are primarily targeted at the student class, and include basic services such as admissions and registration, access to grades, and correspondence with lecturers.

### **10.3 The reality of e-HRM at Al-Aqsa University**

#### **Computer Center at Al-Aqsa University**

The Computer Center at Al-Aqsa University was established in 2003 in line with the tremendous development in the field of information and communications technology and to provide services in various fields of technology related to the university's academic, administrative and technical system. The computer center became one of the main sources of information and a focus of technological development at the university, where it built the main computer network and most of the university's computerized systems. The computer center consists of five centers distributed across the University's branches, and four main sections are the Information Systems Department, the Internet Networks Section, the Follow-up and Technical Support Section and the Electronic Publishing Section. Where the computer center consists of four sections, each of which performs different functions, and works integrated to achieve the objectives of the University and the Center, these sections are:

- Department of Information Systems: This department is responsible for programming and following up the University's programs and databases. The members of this department work in their specialization to produce the best software products that serve the university at all levels. (Computer Center, 2017)

- Networking and Internet: One of the most important requirements for operating computerized systems, internet service and other services is a network between all the computers in the university in all its branches. Accordingly, the Department of Networks and the Internet is building a continuous and effective network of the university in all its branches and manages these networks to provide the best It has a service for staff and university students (Computer Center, 2017)
- Technical support and follow-up department: This section was created to provide technical assistance and follow-up to users of the university network and to ensure continuity of work of other departments without problems hindering their work (Computer Center, 2017)
- Electronic Publishing Department: This section was created to provide various electronic services through the university portal, and follow up the university website and advertisements.

### Computer Center Tasks

The functions of the Center are not different from the rest of the functions of IT units in the rest of the universities. These tasks can be summarized in the following points (Computer Center, 2017):

- Show a bright picture of the university through the university page.
- Facilitate communication between the university administration and the academic and administrative staff through e-mail and SMS service.
- Facilitate communication between the university administration and students through e-mail and SMS.
- Upgrading the university to the level of competition of international universities in electronic services.
- Maintenance of computers and follow-up and technical support for the network and users.
- Design and implementation of computerized systems, provision of Internet service and the construction of the local network of university branches and wireless networks to link branches.
- Training staff on new systems.

### Areas of work Computer center

The work of the computer center varies between providing administrative and academic services and providing services to students.

- **Administrative Area:** The Computer Center calculates the administrative systems of the university departments and faculties such as admission and registration programs, academic affairs programs, students affairs program, personnel affairs program, warehousing and procurement program, administrative affairs program etc. (AL-Masri, 2007).
- **Academic Area:** The Center has established an e-learning system, an academic information system, an online lecturing system, linking three university centers with video conferencing techniques, and establishing an online club system (Computer Center, 2017).
- **Service Area:** The computer center provides Internet and e-mail services for students and employees alike, access to the computer network for users, maintenance and development of computer hardware and accessories, training of employees on the use of modern systems and provision of electronic services for staff and students (AL-Masri, 2007).

### Computer Center Infrastructure

The computer center currently has 29 employees and has four sections. The functions of each department are varied so that they are integrated in the provision and processing of the IT infrastructure.

### Information Unit for Academic Affairs

In view of the continuous development of academic affairs and the belief in the need to keep abreast of the rapid technological development and based on the recommendations of the Vice President for Academic Affairs, the Information Unit for Academic Affairs was created, which will provide the necessary computer to facilitate the work of academic affairs. The functions of the Information Unit include:

- Developing models and concepts for the development of computer systems for academic affairs.
- Checking the academic data of the university and the direct responsibility for its validity.
- Preparing reports for academic affairs either directly or in cooperation with IT.
- Follow up the academic problems facing university students and seek to solve them.
- Preparing and processing statistics on academic affairs.
- Work on developing concepts to automate all university paper applications.
- Assisting lecturers in automating their courses which are used in the e-learning system.
- Developing training courses for academics in cooperation with the Department of Academic Development.
- Training lecturers on the use of e-learning system at the university.

- Holding workshops to train deans and heads of academic departments and lecturers on the systems being developed.

### Applications (e-HRM) at Al-Aqsa University

After interviewing the Personnel Affairs Department and the Computer Center, the researchers found the following results:

- The presence of ESS services within the university portal.
- The existence of electronic polarization services.
- The center has a strong network in terms of equipment, internet lines, or technical staff.
- Many systems are still under construction and development.
- The focus of the university and therefore the computer center on educational activities rather than administrative functions, according to the direction of the university administration in this regard.
- In this academic year, the lecture system was automated. All lectures are available on the university's website for student services.
- Weak e-HRM adoption within the university's development plans.
- Non-adoption of electronic signature and electronic documents.
- Although there is a strong network and integrated services, it is not fully utilized in the management of personnel, where transactions between the branches of the university are still done in traditional ways.
- There is an e-mail system.
- The Center has a clear plan for transition to electronic administration, within the direction of the university administration and according to the priorities set by the university administration.
- The researchers found that there is a gap between the capabilities and aspirations of the center and the management of personnel affairs on the one hand, and between the university administrations on the other, and may be one of the reasons for being a government university.

## 11. STUDY PROCEDURES

### 11.1 Research Methodology:

The researchers used the descriptive and analytical approach, in which they tried to describe the reality of electronic human resources management in the regular Palestinian universities in the Gaza Strip, because it is the most appropriate research methods to describe the phenomenon in question, in which the researchers try to describe the subject of the study, analyze the data, compare, interpret and evaluate hoping to reach meaningful generalizations that enrich the knowledge base on the subject.

### 11.2 Society and sample of research:

The study population consists of university staff working in information technology centers, as they relate to the subject of the study. The number of members of the study population was 35, whose functions varied among programmers, web designers, and system analysts. Table 1 shows the distribution of the sample members of IT centers in the universities concerned.

**Table 1:** Number of IT staff members concerned with the subject of the study

Islamic University	Al Azhar University	Al-Aqsa University	Total
20	6	9	35

**Source:** Prepared by researchers based on the statistics of universities surveyed, 2017

### 11.3 The study sample

Due to the importance of respondents' opinions and responses in IT centers, the researchers preferred to conduct a comprehensive survey of those directly related to the subject of the study from IT staff (programmers, systems analysts, web designers, network security administrators, database administrators) consists of (35) employees in the total sample (technical support personnel and networks were excluded).

The researchers distributed the questionnaires to the sample members of the society (35), to show the distribution of the members of the study sample according to the different variables:

#### 1- University Variable

**Table 2:** Distribution of the Study sample by University Variable

University	Frequency	Percent
Islamic University	20	57.14

Al Azhar University	6	17.14
Al-Aqsa University	9	25.71
<b>Total</b>	<b>35</b>	<b>100.0</b>

## 2- Characteristics of the members of the sample of information technology centers

The percentage of respondents in information technology centers was (88.57%) , 31 employee out of (35). Table 3 shows the distribution of the sample members to the universities under study.

**Table 3:** Distribution of Study Sample by IT Center

University	Frequency	Percentage of respondents	Total Sample	Percentage of Sample
Islamic University	17	54.8	20	85
Al Azhar University	6	19.4	6	100
Al-Aqsa University	8	25.8	9	89
<b>Total</b>	<b>31</b>	<b>100</b>	<b>35</b>	

Table 3 shows that the highest response rate was from the Islamic University (54.8%), followed by Al-Aqsa University (25.8%) and Al-Azhar University (19.4%). The researchers explain that the number of employees in this center in the Islamic University, which are related to the subject of study exceeds the total employees at the universities of Al-Azhar and Al-Aqsa. However, since the sample is a comprehensive survey, Al-Azhar University has responded by 100%, Al-Aqsa University (89%) and the Islamic University (85%).

Table 4 shows the characteristics of the sample members of IT staff in the universities concerned

**Table 4:** Distribution of IT Center personnel according to the different variables

Variable	Category of variable	Frequencies	Percentage
Age group	Less than 30	16	51.6
	From 30 - less than 40	14	45.2
	From 40 - less than 50	1	3.2
Qualification	BA	26	83.9
	M.A.	5	16.1
Number of years of service	Less than 5	19	61.3
	5 - Less than 10	10	32.3
	10 to less than 15	2	6.5
Job title	Director	2	6.5
	Head of the Department	8	25.8
	Other	21	67.7

Table 4 shows that the age group "less than 30" occupies the largest proportion (51.6%), the middle age group ranked second with (45.2%), while the age group of "40-50" % is (%3.2).

The percentage of bachelor's degree holders was 83.9% compared to 16.1% for the master's degree. This is due to the increasing interest of the universities in the field of information technology, which led to the recruitment of highly qualified graduates in this field.

In terms of the number of years of service, the percentage of those who served less than 5 years (61.3%) and from 5 to less than 10 years was (32.3%). The percentage of those who served from 10 years to less than 15 years was (6.5%). This indicates a greater interest in this area than it was 15 years ago due to the tremendous development in the field of information technology and the need of universities to keep abreast of these developments.

As for the job title, the percentage of "manager" was (6.5%) which is the lowest ratio, the proportion of "head of department" was (25.8%), while the proportion of "other" and intended for programmers, web designers, systems analysts, e-publishing and e-learning was the largest (67.7%). This is reflected by a change in the tendency of universities to provide e-learning services and e-management applications on a large scale.

## 11.4 Study Tools

The researchers designed the study questionnaire to collect the field data from the study community after reviewing many administrative literature and previous studies in the field of electronic human resources management. A questionnaire of 10 grades was designed. This is an amendment to the five-dimensional Likert scale. The answer to each paragraph was 10, with the lowest response being (1), which means total disapproval of the paragraph. The highest answer is the number (10), which means full approval of the paragraph, and the point of neutrality here is (6).

## 11.5 Reliability and validity of the questionnaire

### The structural validity of the questionnaire

Table 5 shows that correlation coefficients between each field of the questionnaire and the total score of the questionnaires of the study are limited between the values (0.477 - 0.844) at the level of (0.01). This indicates that all fields of study are valid for the measurement.

**Table 5:** correlation coefficients between each field of study in the overall grade of the study subjects

S.N.	Field	Coefficient of correlation	Moral level	Level of significance
1	The importance of managing human resources electronically at different administrative levels	.477	.007	0.01
2	Support the university administration towards the transition to electronic management	.659	.000	0.01
3	Provides IT infrastructure	.705	.000	0.01
4	University System in Human Resource Management	.844	.000	0.01
5	University system in providing e-learning services	.837	.000	0.01

## 11.6 Stability of the resolution

### 11.6.1 the Spilt Half

Table 6 shows correlation coefficients between odd paragraphs for each field of study, and correlation and consistency coefficients between all even paragraphs.

**Table 6:** correlation coefficients using Spilt Half

S.N.	Field	Correlation Coefficient	Stability Coefficient	Parameter Type
1	The importance of managing human resources electronically at different administrative levels	.892	.942	Jetman
2	Support the university administration towards the transition to electronic management	.956	.977	Jetman
3	Provides IT infrastructure	.782	.875	Jetman
4	University System in Human Resource Management	.935	.966	Spearman-Brown
5	University system in providing e-learning services	.931	.945	Jetman
<b>All Paragraphs</b>		.971	.985	Spearman-Brown

It is clear from Table (6) that stability coefficients are limited to (0.875 - 0.977) and the stability coefficient for all paragraphs is (0.985).

The Jetman coefficient was used in fields with odd number of paragraphs and Spearman-Brown in fields with even number of paragraphs.

### 11.6.2 Measurement of stability using the Alpha Cronbach Coefficient

**Table 7:** Correlation and Stability Parameters using the Cronbach Alpha Factor

S.N.	Field	Number of Paragraphs	Stability Coefficient
1	The importance of managing human resources electronically at different administrative levels	17	.901
2	Support the university administration towards the transition to electronic management	19	.949
3	Provides IT infrastructure	17	.895
4	University System in Human Resource Management	18	.914
5	University system in providing e-learning services	17	.941
<b>All Paragraphs</b>		<b>88</b>	<b>.960</b>

It is clear from Table (7) that stability coefficients are limited to (0.895 - 0.949) and the stability coefficient for all the paragraphs (0.960).

## 12. STATISTICAL TREATMENTS USED

The Statistical Package for Social Sciences (SPSS) was used to treat data statistically, so that the researchers answer the questions of the study where the treatment included the following statistical methods:

- Percentage and frequency: To describe the characteristics of the study population of the functional variables, and to determine the responses of its members towards the study axes.
- Alpha Cronbach Test: To calculate the stability coefficients of the questionnaire, and the coefficient of stability of each axis of the study axes.
- One sample t test: to analyze the clauses of the questionnaire and the hypotheses of the study.
- Independent Samples T-Test: To examine the statistical significance of the differences due to the demographic variables, and to compare the categories of the study, which include only two categories.
- One Way ANOVA: To examine the statistical significance of the differences due to the demographic variables, and to compare the categories of the study, which includes more than two categories.
- Bonferroni test: Determines the category in which the contrast and heterogeneity of the data are inclined.
- Tamhane's T2: Determines the category of variance and variation of heterogeneous data

## 13. ANALYSIS OF THE HYPOTHESIS OF THE STUDY

**H1 test:** There are statistically significant differences in the response of the sample members on the reality of electronic human resources management in the Palestinian universities from the perspective of the staff in IT centers due to the demographic variables (university, age group, academic qualification, years of service, job title).

To test the differences between the response of the sample and the demographic variables, the one-way analysis of the differences between more than one independent sample (one way Anova and the Independent Samples T-Test) were used between two independent samples.

**H1-1 test:** There are statistically significant differences in the respondents' response to the reality of electronic human resources management in the Palestinian universities from the perspective of the staff in IT centers due to the variable (university) (Naser, & Shobaki., 2016).

To examine the university variable and whether there were statistically significant differences in the response of the sample, the researchers used one way Anova test because the data are subject to normal distribution and the sample size is greater than 50 to compare the university variable, .

In order to examine whether there were differences, the researchers formulated the following hypothesis: "There are statistically significant differences in the response of the sample members on the reality of e-HRM in Palestinian universities due to the university variable." Table 8 shows the results of this test.

**Table 8:** Analysis of the main hypothesis with the university variable

S.N.	Field	The mathematical mean of the university variable			F Value	Sig.
		Islamic	Al-Azhar	Al-Aqsa		
1	The importance of managing human resources electronically at different administrative levels	8.34	8.53	8.20	1.439	0.241
2	Support the university administration towards the transition to electronic management	7.44	6.62	6.90	5.850	0.004

S.N.	Field	The mathematical mean of the university variable			F Value	Sig.
		Islamic	Al-Azhar	Al-Aqsa		
3	Provides IT infrastructure	7.91	6.76	6.77	7.827	0.002
4	University System in Human Resource Management	7.15	5.83	5.85	21.825	0.000
5	University system in providing e-learning services	7.13	5.52	5.78	21.741	0.000
<b>All Paragraphs</b>		7.53	6.67	6.68	19.865	0.000

- It is clear from Table 8 that the value of the significance level is less than (0.05) for all fields, leading to rejection of the null hypothesis and acceptance of the alternative hypothesis which states that "there are statistically significant differences in the response of the sample members about the reality of electronic human resources management (e-HRM) in Palestinian universities due to the university variable".
- The first field is not affected by the university variable. There is no statistically significant difference in the response of the sample members on the reality of e-HRM in the Palestinian universities due to the university variable where the level of significance is greater than (0.05).
- Researchers explain this because the first area discusses the importance of electronic human resources management at various administrative levels. With the contemporary trend towards electronic management and the entry of computers into all areas of contemporary life, this importance is evident in more than one area of management.
- The second field is influenced by the university variable. There are statistically significant differences in the response of the sample members on the reality of e-HRM in the Palestinian universities due to the university variable. The level of significance is less than (0.05). As far as the researchers mentioned in advance, there is nothing other than the Islamic University in the transition to electronic management.
- The third area is influenced by the university variable. There are statistically significant differences in the response of the sample members about the reality of e-HRM in the Palestinian universities due to the university variable. The level of significance is less than (0.05). This is due the differences in hardware and software in the universities, the different priorities of IT centers and the varying financial support and human resources available to them.
- There are statistically significant differences in the response of the sample to the e-HRM in the Palestinian universities due to the university variable. The level of significance is less than (0.05). The Islamic University is characterized by its more e-HRM activities and functions than the rest of the universities. The University of Al-Azhar and Al-Aqsa are still in the initial stages of providing these services. In the Islamic University, there are services that are not available in other universities such as online video service and video conferencing Interactive.
- The results of the sample members of Al-Azhar and Al-Aqsa universities were less than the arithmetic mean (6), which caused differences due to the university variable.

Table 9 shows the results of the homogeneity test. Based on its results, we use either a "hybrid" test for multiple comparisons of homogeneous data, or a "tamhani" test for multiple comparisons of heterogeneous data, according to the university variable for the second field.

**Table 9:** Results of homogeneity test

Livni coefficient	Level of significance
1.304	.275

Table 9 shows that the data are homogeneous because the significance level is greater than (0.05). Therefore, we use the "Shifa" test, whose results are shown in Table 10.

**Table 10:** Shefei test results

The field	Differences	Islamic	Al-Aqsa
Support of the university administration towards the transition to electronic management	Al-Azhar	.82052*	.28064
	Al-Aqsa	.53988	

\*Means that there are statistically significant differences at the significance level of 0.05

Table 10 shows differences between respondents' responses due to the university variable for the second field. There are differences between the Islamic University and Al-Azhar in favor of the Islamic University.

Table 11 shows the results of the homogeneity test by the university variable for the third field.

**Table 11:** Results of homogeneity test

Livni coefficient	Level of significance
3.858	0.033

Table 11 shows that the data are not homogeneous because the significance level is less than (0.05). Therefore, we use the Tamahani test, whose results are shown in Table 12.

**Table 12:** Tamhani test results

The field	Differences	Islamic	Al-Aqsa
Provides IT infrastructure	Al-Azhar	1.14879*	.00735
	Al-Aqsa	1.14144*	

\*Means that there are statistically significant differences at the significance level of 0.05

Table 12 shows differences between respondents' responses due to the university variable for the third field. There are differences between the Islamic University and Al-Aqsa University and Al-Azhar Universities in favor of the Islamic University.

Table 13 shows the results of the homogeneity test according to the university variable.

**Table 13:** Results of homogeneity test

Livni coefficient	Level of significance
3.668	0.028

Table 13 shows that the data are not homogeneous because the level of significance is less than (0.05). Therefore, we use the Tamahani test, whose results are shown in Table (14).

**Table 14:** Tamhani test results

The field	Differences	Islamic University	Al-Aqsa University
University System in Human Resource Management	Al-Azhar University	1.32032*	.01885
	Al-Aqsa University	1.30147*	

\*Means that there are statistically significant differences at the significance level of 0.05

Table 14 shows differences between respondents' responses due to the university variable for the fourth field, where there are differences between the Islamic University and the universities of Al-Azhar and Al-Aqsa in favor of the Islamic University.

Table 15 shows the results of homogeneity test by the university variable for the fifth field.

**Table 15:** Results of homogeneity test

Livni coefficient	Level of significance
9.832	0.000

Table 15 shows that the data are not homogeneous because the level of significance is less than (0.05). Therefore, we use the Tamahani test, whose results are shown in Table 16.

**Table 16:** Tamhani test results

The field	Differences	Islamic University	Al-Aqsa University
University system providing e-learning services	Al-Azhar University	1.60468*	.26092
	Al-Aqsa University	1.34376*	

\*Means that there are statistically significant differences at the significance level of 0.05

Table 16 shows that there are differences between the responses of the sample members due to the university variable for the fifth field, where there are differences between the Islamic University and Al-Azhar and Al-Aqsa universities in favor of the Islamic University.

**H1-2 test:** There are statistically significant differences in the respondents' response to the reality of electronic human resources management in the Palestinian universities from the perspective of the staff in IT centers due to the variable (age group).

To examine the age variable and whether there were statistically significant differences in the response of the sample, the researchers used the one way Anova method to compare the age variable.

In order to examine whether there were differences, the researchers formulated the following hypothesis: "There are statistically significant differences in the response of the sample members on the reality of e-HRM in Palestinian universities due to the age group variable". Table 17 shows the results of this test.

**Table 17:** Analysis of the hypothesis with age variable

S.N.	Field	The mathematical mean of the age variable			F Value	Sig.
		Less than 30	30 -Less than 40	40 -Less than 50		
1	The importance of managing human resources electronically at different administrative levels	8.09	8.31	8.45	1.283	.283
2	Support the university administration towards the transition to electronic management	6.69	7.27	7.10	1.437	.235
3	Provides IT infrastructure	7.22	7.55	8.06	.513	.683
4	University System in Human Resource Management	6.53	6.49	6.29	.359	.783
5	University system in providing e-learning services	5.83	6.38	6.52	1.484	.222
<b>All Paragraphs</b>		6.86	7.14	7.09	.817	.487

Table 17 shows that the value of the significance level is greater than (0.05) for all fields, leading to acceptance of the null hypothesis and rejecting the alternative hypothesis which states that "there are statistically significant differences in the response of the sample members on the reality of electronic human resources management (e- (HRM) in Palestinian universities due to the age group variable.

**H1-3 test:** There are statistically significant differences in the response of the sample members on the reality of electronic human resources management in the Palestinian universities from the point of view of the staff in IT centers due to the variable (scientific qualification).

To examine the scientifically qualified variable and whether there were statistically significant differences in the response of the sample, the researchers used the one way Anova method because the data were subject to normal distribution and the sample size is greater than 50, in order to compare the age group variable with four categories.

In order to examine whether there were differences, the researchers formulated the following hypothesis: "There are statistically significant differences in respondents' response to the reality of human resources management (e-HRM) in Palestinian universities due to the variable of scientific qualification."

According to the results of the descriptive analysis, most of the employees are bachelor holders (83.9%) and 6.1% are masters. Therefore, the researchers used the exam for the Independent Samples T-Test. Table 18 shows the results of this test for the third field.

**Table 18:** Analysis of the hypothesis with the variable of scientific qualification

Field	The mathematical mean of scientific qualification variable		F Value	Level of significance at F	T value	Level of significance at T
	BS	MS				

Field	The mathematical mean of scientific qualification variable		F Value	Level of significance at F	T value	Level of significance at T
	BS	MS				
Provides IT infrastructure	7.36	7.61	2.143	.154	-.537	.595

Table 18 shows that the value of the significance level for the T test is greater than (0.05), so there are no differences attributed to the scientific qualification variable.

**H1-4 test:** There are statistically significant differences in the respondents' response to the reality of electronic human resources management in Palestinian universities from the perspective of the staff in IT centers due to the variable (years of service).

Table 19 shows the results of the homogeneity test. Based on its results, we use either the Shafih or Benfrone test for multiple comparisons of homogeneous data or the Tamhani test for multiple comparisons of heterogeneous data, depending on the number of years of service.

**Table 19:** Results of homogeneity test

Livni coefficient	Level of significance
1.397	.264

It is clear from Table 19 that the data are homogeneous because the level of significance is greater than (0.05). Therefore, we use the "Shafi" or "Benfrone" test, whose results are shown in Table 20.

**Table 20:** Benfrone test results

The field	Differences	Less than 5	From 5 - less than 10
Provides IT infrastructure	From 5 - less than 10	-.04396	-2.37059*
	From 10 - less than 15	2.32663*	

\*Means that there are statistically significant differences at the significance level of 0.05

Table 20 shows differences between respondents' responses due to the variable number of years of service, where there are differences between the number of years of service "less than 5" and "less than 15" for "less than 5", and there are differences between "From 10 to less than 15" and "from 5 to less than 10" for "less than 5".

**H1-5 test:** There are statistically significant differences in the response of the sample members on the reality of electronic human resources management in Palestinian universities from the perspective of the staff in IT centers due to the variable (job title) (Kassab, and others, 2017).

In order to study a functional variable, and if there were statistically significant differences in the sample response, the researchers used the one way ANOVA method because the data were subject to normal distribution and the sample size was greater than 50 so as to compare the variable job title where it contains five categories.

In order to examine whether there were differences, the researchers put forward the following hypothesis: "There are statistically significant differences in respondents' response to the reality of electronic human resources management in Palestinian universities because of the changing functional designation". Table 21 shows the results of this test.

**Table 21:** Analysis of Hypothesis with Variable Job Title

S.N.	Field	The mathematical mean of the job title			F Value	Sig.
		Manager	Head	Other		
1	The importance of managing human resources electronically at different administrative levels	8.45	8.48	7.94	1.860	.122

S.N.	Field	The mathematical mean of the job title			F Value	Sig.
		Manager	Head	Other		
2	Support the university administration towards the transition to electronic management	7.34	7.00	6.99	.805	.524
3	Provides IT infrastructure	7.91	7.57	7.28	.553	.581
4	University System in Human Resource Management	6.55	6.33	6.45	2.197	.073
5	University system in providing e-learning services	6.36	6.34	5.82	1.138	.342
<b>All Fields</b>		7.19	7.04	6.90	1.366	.249

Table 21 shows that the value of the significance level is greater than (0.05) for all fields, leading to acceptance of the null hypothesis and rejecting the alternative hypothesis which states that "there are statistically significant differences in the response of the sample members on the reality of electronic human resources management (e- HRM) in Palestinian universities due to the variable job title ".

All fields are not affected by a functional variable since the value of the significance level is greater than (0.05). Therefore, the opinion of the sample members does not change according to the variable of the job title.

#### 14. RESEARCH RESULTS

After conducting various statistical analyzes of the study instrument, and using a carefully selected set of analyzes to obtain accurate results consistent with the importance of the study and its problem, the following results were obtained:

- Information technology centers in the universities involved in the study are considered to be practically sufficient for transition to electronic management, and researchers explain this because of the increasing reliance on the use of modern technologies in all areas of work.
- There were no statistically significant differences in the responses of the sample members due to the demographic variables (age group, academic qualification, number of years of service, job title) due to the convergence between the specifications of the sample members in the universities concerned.
- There are statistically significant differences in the response of the sample members due to the university variable in favor of the Islamic University.
- Universities offer different means of communication with their employees using various ICT means such as e-mail and SMS.
- Provides computerized management information systems for the universities concerned.
- The universities concerned have the human competencies and the technical capabilities necessary for transition to electronic management.
- ICT tools are primarily used for polarization, attendance and feedback, performance assessment and employee feedback. The researchers explain that these functions are key activities of the e-HRM system.
- The universities involved have different e-learning services in terms of tools, with interactive video conferencing, video conferencing and online video service.
- The results of the study showed that no means of distance learning and training was used, despite the availability of the necessary tools and the many advantages offered by distance learning and training.
- ICT tools are not used optimally in human resources management electronically, and researchers explain that by the lack of e-HRM systems in universities.

#### 15. RESEARCH RECOMMENDATIONS

The following is a set of recommendations based on the results of the study, hoping for the managements of the universities concerned to study the development of e-HRM, and to benefit from this field in enhancing the orientation towards electronic management. These recommendations are:

- The need for university managements to take an official and practical approach to electronic management and its systems.
- The importance of cooperation and coordination among universities in terms of the transition to electronic management.
- Need to provide and increase financial support to IT centers for their importance in the process of change to electronic management.

- The need to find sources of funding for the projects of change to electronic management and put them in the priorities of strategic plans for universities.
- Making use of ICT tools in the process of change to electronic management.
- The need to keep pace with the rapid changes in the field of electronic management and the tools and means of ICT.
- Raise the level of cultural awareness of the importance of transition to electronic management and the use of tools in the daily work of the employee.
- To develop computerized management information systems to cover all administrative aspects.
- Developing the administrative structure of universities in line with the process of change to electronic management.
- The development of the use of ICT in the activities and functions of human resources management in universities, where the ESS is still limited to all universities, performance evaluation and applications for employment in the Islamic University only, and there are still many activities that can be implemented through the exploitation of the existing tools and means of ICT in universities.
- E-HRM development in universities, as they play a key role in the success of the transition to e-governance.
- Expanding the use of electronic forms to manage the affairs of employees to take advantage of its multiple advantages such as reducing expenses and reducing the time of completion of transactions.
- The adoption of internal electronic correspondence instead of paper, which contributes significantly to reduce administrative financial expenses, and the speed of completion of work.
- Making use of e-learning services in the activities and functions of human resources management such as distance learning and training, as the possibilities are available but not exploited in this area for the employee.
- Enhancing cooperation with the private sector in the ICT sector, where the private sector has the capacity to assist IT centers in the process of change to electronic management.
- Optimize the tools and means of ICT available at universities, internet networks and computers in order to complete the work and streamline its procedures, and consider these tools to be an investment for the university and not the equipment. The goal is not to set up a computer for every employee and internet line only. ICT tools in all areas to the maximum extent possible.
- Integration of computerized management information systems and work to link what is currently fully established as a beginning to a gradual transition to electronic management.

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