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# The Efficiency of Information Technology and its Role of e-HRM in the Palestinian Universities

Mazen J. Al Shobaki<sup>1</sup>, Samy S. Abu Naser<sup>2</sup>, Youssef M. Abu Amuna<sup>3</sup>, Suliman A. El Talla<sup>4</sup>

Department of Information Technology, Faculty of Engineering and Information Technology,  
Al-Azhar University, Gaza, Palestine

<sup>1</sup>mazen.alshobaki@gmail.com, <sup>2</sup>abunaser@alazhar.edu.ps, <sup>3</sup>yabuamuna@gmail.com, <sup>4</sup>Eltallasuliman@gmail.com

**Abstract:** *The research aims to identify the efficiency of information technology and its role in human resources management electronically at universities in the Gaza Strip, and the population of the study consists of IT staff centers, where the number reached 35 employees working in universities in the Gaza Strip,. The researchers used the questionnaire as a tool for the study, descriptive and analytical approach was used to achieve the objectives of the study, (SPSS) program has been used to analyze the study data.*

*The results of the study showed that there is agreement from the sample of the study on the availability of infrastructure in the IT center, which is statistically significant at (0.05), where the relative weight reached (73.97%) and the arithmetic mean (7.4). The results showed that the sample was highly agreeable, as all the results were statistically acceptable and above the arithmetic mean (6). The study stressed that the cooperation of information technology centers of private sector institutions is few and limited. The results confirmed the availability of management information systems for all administrative systems in a medium way, and that these systems are moderately adequate to build an electronic management system.*

*The study reached several recommendations, the most important of which is the need to provide financial support to IT centers for their importance in the process of change to electronic management. The need to develop computerized management information systems to cover all administrative aspects. The need to develop e-HRM in universities, because they have a key role in the success of the process of transition to electronic management. The importance of the adoption of internal electronic correspondence instead of paper, which contributes significantly to reduce administrative financial expenses, and the speed of completion of work. The need to integrate computerized management information systems and work to link what is currently fully present as a beginning to a gradual transition to electronic management.*

**Keywords:** The efficiency of information technology, human resources management electronically, Palestinian universities.

## 1. INTRODUCTION

It is known that all departments, including human resources management work to achieve success and overcome the problems and crises, through scientific bases that lead to success and the adoption of correct ideas that lead and achieve scientific methods. Thus human resources management is the most important functional departments in the organization because they are dealing with the most important production and more resources of the Organization elements susceptible to changes of the internal environment or external, so organizations began to draw attention to human resources management, it is that department whose main work around the individual worker from the moment of searching for it in the labor market until the moment of the end of its relation to the organization through retirement, resignation, dismissal, or stop the services, but some writers go to expand the activity of human resources management, even after the end of the relationship of the individual and the organization that rehabilitated for jobs in other organizations.

IT has invaded various aspects of administrative work in business organizations and we do not find an organization devoid of databases of different administrative functions. Databases have become a modern organization's necessities and without it the Organization cannot continue to operate. Where human resources management in both the public and private sectors of the world as a whole faces enormous challenges on the threshold of the twenty-first century, which is fraught with rapid and complex political, economic, social, technological and cultural changes (AL-Najjar, 2008). Human resources have a significant impact within this change in the environment technology factor, since the changes that will result from this factor over the next 50 years are equivalent to the changes that have occurred in this area during the previous millennium (Mondy and Noe, 2005).

With the advent of the Internet, the evolution of information technology and ICT, 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 government, business organizations, trade unions, Internal, external networks, and the Internet (AL-Najjar, 2008).

The use of technology in human resource management or human resources management electronically is called e-HRM, meaning the application of Web-based techniques in HR-related systems and functions (Hopkins and Markham, 2006). In order to study the efficiency of information technology and its role in the management of human resources electronically, the researchers chose the higher education sector in Gaza, as the higher education institutions represent an ideal model to study the changes that take place in the environment, as they contribute mainly to the service and development of society. It is essential for the development of human resources, taking into account creativity, innovation and the advancement of science on the basis of equality and equality and advancement to reach the level of contemporary.

## **2. RESEARCH PROBLEM**

Research and studies indicate that the use of modern technologies in business organizations is reflected in the productivity and trends of work. There has been a significant difference between levels of production before and after the introduction of modern technology. The improvement in some organizations has reached an encouraging level after the use of modern technology (Abu Eid, 2011). Universities are centers of scientific radiation, a model of education organizations, their human resources represented by the university professor and the employment of knowledge through which the civilizational project of the nation arises and crystallizes. Their core work is the specialized knowledge which is the king of scientific work in innovating, managing, organizing and motivating (Najem, 2004). The ICT revolution has played a key role in moving towards the so-called knowledge-based economy, which has been based on information technology in its success, and on the R & D system, which is the lifeblood of this economy, resulting in significant changes in economic reality (Juma, 2009), (Abu Naser & Al Shobaki, 2016), (Abu Naser et al., 2017) and (Al Shobaki et al., 2017).

In light of the growing importance of the information industry and the rapid application of it in the Palestinian universities, and the challenges faced by these universities, all of this necessitated the need to pay attention to the creative aspects that are usually the main source of human rights. Palestinian universities directly affect the Palestinian society and have a great role in supporting the institutions and sectors of society. With the necessary human resources in all fields, and the universities are the leading institutions in the adoption of modern systems and concepts in various fields to achieve the same competitive advantage, and even graduated specialists are in line with the developments of the age are able to contribute to the process of developing human resources and society. The problem of the present study is to answer the following question:

**How efficient is IT and its role in the management of human resources electronically in the Palestinian universities in the Gaza Strip?**

## **3. PREVIOUS STUDIES**

- Study of (Atallah, 2016), the Impact of Electronic Human Resource Management (E-HRM) on Organizational Development of UNRWA in Gaza Strip. This research studies the impact of Electronic Human Resource Management on Organizational Development of UNRWA in the Gaza Strip, from the perspectives of the Gaza Field office employees. It also highlights the relationship between these factors "EHRM" and "UNRWA organizational development". The descriptive, analytical approach used and utilized both primary and secondary data. In order to achieve the research objectives, a structured questionnaire has designed. The study population was (630) who are administrative and management staff classified between grade 6-20 and working in UNRWA Gaza Field office. A stratified random sample representative of the research population is used, with a total of (308) copies of the questionnaire were distributed and (308) copies were received. The main findings of the research were: It has concluded that E-HRM components have positive effect on organizational development to UNRWA. E-HRM contributes to achieve the objectives of the UNRWA and in the staff development. There is a strong positive relationship between the electronic components of human resource management and organizational development for UNRWA. E-Recruitment took top rankings in terms of its impact on organizational development and then E-Selecting, followed by E-Training, E-Development, and E-compensation. E-Recruitment and E-Selection have a significant impact on organizational development for UNRWA. Applying the electronic human resources management helps organizational development. The main recommendations of the research were: E-HRM outcomes in terms of efficient HRM processes, higher level of service delivery and a higher strategic contribution as well as the real use of E-HRM systems should be clearly communicated to UNRWA employees to ensure better utilization of EHRM applications. The success of E-HRM systems depends highly on the employees; therefore, UNRWA should work to improve the relationship between the HRM department and the employees. More efforts should be undertaken by UNRWA to encourage employees to participate in training programs related to the use of E-HRM applications. E-HRM systems should be strategically aligned with HR needs, in such

big organizations like UNRWA with a diverse workforce and a bureaucratic culture. UNRWA can utilize the E-HRM system to understand the electronic interactions between managers and employees, preventing miscommunications and misinterpretations of information. UNRWA should consider the challenges related to the use of E-HRM systems in the organization, for instance, cost implications, data entry errors, improper use of the system and security of the information.

- Study of (Saleh, 2014), Factors Affecting the Acceptance of electronic human resource management System in Palestinian Service Sector. This study aims at investigating factors affecting the adoption of Electronic Human Resource Management system (e-HRM) in Palestine and to develop an e-HRM framework that adopted by the Palestinian organizations to utilize technology effectively in their operations. The study relied on a representative sample of banks, government organizations, hospitals, insurance companies, internet service providers, logistics companies, telecommunication companies and universities working in Palestine. The development of the framework has based on the extension of other existing models, namely, Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB), Yale model of Communication and Persuasion, Perceived Risk, Social Risk, and Organizations Role. To conduct the study, both qualitative and quantitative research methods have used. Qualitative data has been collected via interviews with IT specialists and HR managers. Besides, a self-report questionnaire has designed to gather the pertinent quantitative data from sample of HR managers, IT managers, department managers, and employees in the targeted organizations. Research Conclusions: The results indicate the perceived ease of use; attitude, intention and communication are the most significant factors influencing e-HRM adoption in Palestine. The results indicate that perceived risk, system security, organization role and availability of resources are influencing e-HRM technology adoption in less degree.
- Study of (Abu Amra, 2012), The Evaluation of UNRWA Organizational Development from Gaza Field Office staff member's perspectives. This Study aims to identify UNRWA – Gaza Field Office staff member's evaluation of the UNRWA Organizational Development Plan, especially the Leader and Management sector. The researcher used the descriptive method and comprehensive survey to collect data to meet the research objectives using SPSS program to analyze data. Ninety-nine Questionnaire was used as a tool to explore the responses of the study population, the collected questionnaires were (81) with recovery rate (82%). Research Conclusions: Gaza Field Office staff members have moderate evaluation regarding the results of organizational development initiatives that related to leadership and management. There is a positive relationship, statistically significant at a level of 4%, between the following variables (leadership and management skills improve. Discussion and internal communication with staff members. Accountability, transparency, monitoring, and networking fundraising) and leadership and management development level.
- Study of (Ammar, 2012), the satisfaction level of employees towards the implementation of E-HRM in UNRWA. The purpose of this study was to determine the satisfaction level of employees towards the implementation of E-HRM in UNRWA. The researcher adopted the descriptive, analytical approach, by which data had collected and interpreted; a questionnaire was used to explore the opinion of the study sample that were 302 employees, it represented 46% of the study population, which consists of 663 employees who are the administrative staff in the education department and all the staff members in the HR department. Study Conclusions: E-HRM implementation participated in simplifying work procedures, decreasing workload, increasing effective communication and achieving transparency. Employees are Satisfied with E-HRM implementation in UNRWA, and the satisfaction level is estimated by 72.88%. There is a significant correlation between the level of employees' satisfaction towards E-HRM and the benefits of E-HRM system, such as Simplifying work procedures, decreasing workload, increasing effective communication and achieving transparency. There is a significant correlation between the level of employees' satisfaction towards E-HRM and the implementation of E-HRM system due to the easiness of dealing with the system and its various applications, compatibility of the used electronic applications with work requirements, and providing the technical requirements of the system. There are significant differences in respondents' responses to the level of satisfaction towards E-HRM system at UNRWA due to Position title, position Grade and the place in which employee works.
- Study of (Khashman et al., 2015), the Impact of Electronic Human Resource Management (EHRM) Practices on Business Performance in Jordanian Telecommunications Sector: "The Employees Perspective". This Paper aimed to identify the impact of electronic human resource management practices through the main study dimensions represented in the (e-recruitment, e-selection, e-training, e-performance appraisal, e-communications and e-compensation) on the operational performance. Represented through the main dimensions shown as follows: (Time, financial cost, quality of service and flexibility) in the Jordanian telecommunications sectors represented by the three companies of Cellular Communications (Zain, Orange and Umniah). The study population consisted of all supervisory positions, employees in the three companies. To achieve the objectives of the study, the researcher used the descriptive, analytical method and a stratified random sample consisting of 178 employees males and females who were selected to collect data needed, then the questionnaire was developed and distributed to the sample, data were analyzed using SPSS statistical software, a descriptive and analytical statistics were used for the process of analysis. Research Conclusions: The results showed that there was an existence of a positive, statistically significant

impact of dimensions of electronic human resources management (e-recruitment, e-selection, e-training, e-performance appraisal, e-communications and e-compensation) on the dimensions of operational performance (time, cost, quality of service, and flexibility). The paper showed the role of E-HRM practices in achieving operational performance by providing the members of the organization with real information enabling correct right decisions reactions in making orders to enhance operational performance.

- Study of (Rawash et al., 2012), the Impact of Electronic Human Resource Management on Organization's Market Share: An Empirical Study on the Housing Bank for Trade and Finance in Jordan. This study aimed to investigate the impact of Electronic Human Resource Management (E-HRM) on organization's market share: An empirical study on the Housing Bank for Trade and Finance in Jordan. The main goal of this study is to attempt to understand the role of electronic management and the role of human resources in achieving high market share for the organization. Thus, the study seeks to identify the relationships between electronic management and human resource management and how it achieves high market share for the organization from the perspective of workers at the Housing Bank for Trade and Finance. In this study, the sample contains the employees in the Housing Bank for Trade and Finance in Jordan. Research Conclusions: There is significant relationship between the electronic management and the market share of the Housing Bank for Trade and Finance. There is significant relationship between the electronic management and the development of human resource of the Housing Bank for Trade and Finance. There is significant relationship between the human resource development and the market share of the Housing Bank for Trade and Finance. There is clarity among a sample of the study about the importance of electronic human resources management. Furthermore, it was found that there is a lack of empirical research regarding the integrating between EM and HRM to improve organization performance. Therefore, the author attempts to address these gaps in literature by proposing an empirical integration.
- Study of (Ukandu et al., 2014), Influence of E-HRM in decision making in selected tertiary institutions in South Africa. The study aims to explore the influence of electronic human resource management (EHRM) systems in decision making specifically to uncover the benefits and challenges of using E-HRM systems in the human resource management (HRM) functions of South African tertiary institutions. In order to examine the utilization of E-HRM system in the universities, a combination of both qualitative and quantitative research methods has employed. This research design enabled the researchers to have a better understanding of the study from a subjective and objective point of view since it involved the use of in-depth interviews, and questionnaires. The target population for this study comprised university staff members' namely human resource directors and managers (HR Staff) and other university staff members who use the services of the human resource department. Stratified sampling has employed. Altogether, 450 questionnaires have been distributed while 306 responses were returned. Research Conclusions: The agreement of HR staff that E-HRM would indeed improve the levels of efficiency and effectiveness in their institutions. The utilization of E-HRM system by the HR managers has brought about faster turnaround time, efficiency and immediacy in feedback to staff queries and helping the HR managers in making good decisions. The function of E-HRM system includes enabling the HR managers in recording and managing absenteeism. It also enables them to respond to their applicants speedily. However, it was clear from the analysis that not all HR managers in the South African tertiary institutions are optimally utilizing E-HRM system for decision-making in their HR functions.
- Study of (Moilanen, 2013), the consequences of e-HRM on line managers the purpose of this research was to provide a deeper insight into the consequences of electronic human resource management (e-HRM) for line managers. The consequences were viewed as used Information System (IS) potentials pertaining to the moderate voluntarist category of consequences. Due to the need to contextualize the research and draw on line managers' personal experiences, a qualitative approach in a case study setting was selected. The empirical part of the research is loosely based on literature on HRM and e-HRM and it was conducted in an industrial private sector company. In this thesis, method triangulation was utilized, as nine semi-structured interviews, conducted in a European setting, created the main method for data collection and analysis. Study Conclusions: E-HRM has partly been taken into use, but all features and possibilities of the system are not familiar to the managers, and there were even some misunderstanding of the features available. The advantages of E-HRM are in line with the company's goals. The advantages are e.g. an transparency of data, process consistency, and having an efficient and easy-to-use tool at one's disposal. However, several unintended, even contradictory, and mainly negative outcomes can also be identified, such as overcomplicated processes, insecurity in use of the tool, and the lack of co-operation with HR professionals. And the use of e-HRM and managers' perceptions regarding E-HRM affect the way in which managers perceive the consequences of E-HRM on their work. Overall, the consequences of E-HRM are divergent, even contradictory. The managers who considered E-HRM mostly beneficial to their work found that E-HRM affects their work by providing information and increasing efficiency. Those managers who mostly perceived challenges in E-HRM did not think that E-HRM had affected their role or their work.
- Study of (Ramezan et al., 2013), the Effect of Electronic Human Resources Management on Quality of Services Provided By Human Resources in the Insurance Industry (Case Study: Iran Insurance Company in Khorramabad City). This research is

attempting to explore and study the important dimensions of electronic human resources management and the effect of these dimensions on quality of services provided by human resources of Iran insurance company in the city of Khorramabad. After studying the previous research to build a conceptual model a questionnaire consisting of dimensions of electronic human resource management and quality of services provided by human resources (with confirmed reliability and validity), the questionnaires were given to the employees of Iran insurance company in the city of Khorramabad and finally, the data collected from 72 questionnaires were analyzed by using the structural equation modeling by AMOS software. The study is a correlation survey in which the electronic human resources management is considered as the independent variable and the quality of services provided by human resources as the dependent variable. Study Conclusions: The organizations have paid more attention to electronic human resources management, the quality of services provided by human resources have been improved. According to the results of the study, Iran insurance company of the city of Khorramabad, from the E-HRM view is in relatively good condition but it needs to be more sensitive in regard to e-learning and to devote more attention to this issue and simultaneously, the electronic programs of assessment of staff performance should not be ignored. The company also should use an electronic rewarding system and further develop the programs of E-HRM and by using of these systems, create motivation and enthusiasm in the organization to provide a more conducive environment in order to improve the quality of services provided by the human resources.

- Study of (Abzari et al., 2013), Analyzing the Effects of Electronic Human Resource Management on the Talent Management Strategies (Medical University of Isfahan as a Case Study). The purpose of this study is to examine the effects of implementation of electronic human resource Management subsystems on the talent management strategies in the medical university of Isfahan. This study is a practical research from purpose perspective and is a descriptive-survey one from methodological view. A sample of 70 employees has been selected randomly based on the primary sampling information. In order to collect the data, a self-administrated questionnaire has been used. Study Conclusions: The results indicate that 77% of the variations of management strategies positively can be explained by electronic human resource planning subsystem. 69% of the variations of management strategies positively can be explained by electronic recruitment and selection subsystem. 74% of the variations of management strategies positively can be explained by electronic performance evaluation subsystem. 70% of the variations of management strategies positively can be explained by electronic compensation subsystem. 62% of the variations of management strategies positively can be explained by electronic human resource development subsystem. 57% of the variations of management strategies positively can be explained by electronic discipline and moral criterions subsystem
- Study of (Shilpa et al., 2011), the Implications of Implementing Electronic- Human Resource Management (E-HRM) Systems in companies. This study aims to identify the challenges facing the implementation and maintenance of systems (E-HRM), to identify the factors and basic requirements for the success of the system (E-HRM), make the necessary proposals to enhance the effectiveness of systems (E-HRM) through a comparative study between the industrial sector and the services sector in regard to adoption of systems (E-HRM) in Indian companies. The sample was composed of 1,000 companies in the private sector, where these companies apply at least three functions of E-HRM, then these companies were divided into 344 service-company 656 industrial company. The data were collected using both the questionnaire and interview. Study Conclusions: The most important findings of the study that more factors pushed for the adoption of a (E-HRM) system in both service sectors and industry sectors, which will help companies in reducing the human resources management and control expenses and reduce time lost in administrative routines achievement and reduce paperwork. In the services sector, the factors that led to the adoption of (E-HRM) are: the desire to improve transactions and procedures for human resources in terms of accuracy, speed and integration. However, one of the major obstacles in the application of (E-HRM) is the lack of adequate sources of funding in both sectors. Besides, for industrial companies the second obstacle was the resistance to change and a lack of adequate training and poor infrastructure with respect to the technical requirements for the application of the system and poor privatization of services using the existing programs.
- Study of (Olivas-Lujan & others, 2007), conducted in Mexico, and examines the role of EHR in achieving a global competitive advantage for Mexican companies within the industrial services sector. The study concluded that these companies achieved a global competitive advantage through their application for recruitment and e-training. The study added that one of the main reasons for achieving this competitive advantage is the integration of the local concept of information technology with the adoption of human resources management strategies electronically. Mexico's dynamic business policies have helped implement HRM strategies because of its open-door policy, encouraging many international companies, especially the US and Canada, to open branches in Mexico, forcing corporate owners to switch to e-HR As a global trend that achieves a competitive advantage. The study recommended further studies on the impact of local and cultural factors in the adoption of human resources management and on conducting studies that measure the performance of EHRM in Mexico and other countries.
- The study of (Parry & others, 2007) was conducted under the supervision of the CIPD in 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 process of transition to human resources management electronically requires a change in the skills required of human resources staff and a change in management and managers. And that the information technology is used to take advantage of human resource management functions in a manner 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 achieved an 85% utilization rate in the institutions under study by adopting technology. Training, development and incentive activities are equivalent to 75%. The diversity management function received 57%. The selection and appointment function was 51%. Salary and wage activities were 50%. And that the performance evaluation process was 47%. Human resources planning activities received 29%. While knowledge management activities reached 25%. The strategic planning function for human resources and communication operations was at the lowest rate of 18%. The study recommended that the use of technology within human resources should be applied as a major focus of the Organization, since technology has a major impact on the efficiency and speed of human resources operations. She stressed the importance of developing HRMIS. It also recommended 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 (Ouda, 2008), entitled "Evaluating the Effectiveness of Application of Employment Procedures in Palestinian Universities in the Gaza Strip", which aims to evaluate the effectiveness of the application of employment procedures in Palestinian universities in the Gaza Strip. Organizational structure of universities and the effectiveness of human resources planning policy. The study concluded that the process of functional analysis in the universities is good, that the tests and interviews are appropriate and there is a competent body that plans the workforce. The results of the study showed that polarization methods are conducted electronically, while interviews and tests are conducted in traditional ways. The study recommended the importance of updating the electronic system on a regular basis in order to keep up with the technological developments in the world.
- The study of (Al-Dahdar, 2006) entitled "The Relationship between the Strategic Direction of Senior Management in Palestinian Universities and its Competitive Advantage", which was aimed at Palestinian universities in Gaza, analyzed the relationship between some variables of strategic direction (the commitment of senior management to strategic planning, Technological change in e-learning, continuous improvement, attention to the human element) as independent variables and the acquisition of competitive advantage according to Porter's theory. The study found a statistically significant relationship between all variables of strategic orientation and competitive advantage of institutions of higher education in the Gaza Strip. The study recommended that the university adopt scientific methods and tools to improve the services provided to employees on an ongoing basis.
- The study of (Abu Rahma, 2005), entitled "Human Resources Information Systems and their Impact on the Effectiveness of Personnel Management in the Ministries of the Palestinian National Authority in the Gaza Strip", which aimed at identifying the human resources information systems used in the personnel departments of the ministries of the Palestinian National Authority in the Gaza Strip, and to assess the areas of their use and analysis with a view to identify the difficulties faced by those systems and limiting their efficiency and effectiveness. The study found that the departments of personnel in the ministries use the manual systems by 73% followed by the computer by 36% as a system supporting the manual systems. The study found that the use of human resources information systems is concentrated in the areas of personnel affairs, which relate to staff time by 75%. Therefore, the limited areas of use of human resources information systems adversely affect the effectiveness of personnel management in the ministries. The study recommended the need for all personnel departments to take advantage of modern file-keeping techniques and the need for coordination and cooperation between them and the staff office to guide the use of human resources information systems towards wider areas such as planning and development, in order to ensure the good use of the human element, such as selecting competent individuals to fill jobs and motivate and reward them for their efforts. The study also recommended that the senior management should provide the necessary financial support to provide personnel departments with the equipment and equipment required for the establishment and operation of human resources information systems using computer.
- The study of (Haroun, 2005), entitled "The New Strategic Directions in Human Resources Management", presented to the 21<sup>st</sup> Annual International Scientific Conference on "A Strategic Vision for Activating the Role of Human Resources in Contemporary Technologies". The study focused on globalization, technological revolution and economic changes taking into account the appropriateness of adapting these changes to the requirements of the local market and the possibilities available. The study recommended several points, the most important of which was the strong entry into the information age, technological competition and the acquisition of the skills required by the work. The importance of technology transfer, assimilation, localization and conversion to production technology that corresponds to our identity and reflect our creativity

and skills. Benefit from the huge number of researchers and scientists in Egypt and the Arab world within the framework of a comprehensive plan to achieve a high-level technological breakthrough. And focus on the outstanding role of universities and scientific research centers in the activation and management of human resources in light of technological development and modern technologies and communication with the outside world.

- The study of (Ruel & others, 2004) is an experimental exploratory study of five large companies, Ford Motor, Belgacom (IBM, Dow Chemicals, ABN), each containing more than 15,000 employees to study their use of e-HRM functions using Web technology. The study found that the trend towards e-HRM is closely related to the organization's operations and its globalization orientation, and that there is a gap between (E-HRM) as a technical concept on the one hand, and between the use and adoption of management and managers, which leads to the disruption of utilization E-HRM is supposed to help reduce costs as one of its main benefits, but the study found that this reduction was only in reducing the number of people working in human resources management mostly, new functions as a result of the use of technology. E-HRM achieves strategic integration of human resources management with the organization's strategy, enabling employees to exercise certain HR functions on their own, and companies using e-HRM to achieve uniformity and integration of information, helping them play a global and local role. The study recommended several points, including the need to change the mentality of managers and employees, to understand the usefulness and importance of e-HRM, the need for clear objectives and strategies to ensure that there is no conflict with change. E-HRM is an innovation whose importance should not be overlooked, both for management and individuals, bearing in mind that the nature of the work of different organizations makes it difficult to develop specific regulations that are applied to all. And the need for further studies on e-HRM, which aims to identify the process of growth or planning, how to implement, what factors affect the long term and how they affect the role of human resources management.
- The study of (Baloh & Trkman, 2003) conducted in Slovenia, examined the impact of the Internet and information technology in our lives, how to communicate, learn and work, how to change the Internet and information technology for the human lifestyle and way of thinking. The study found that the Internet and information technology are heavily used in new work patterns that have arisen through the development of ICT, such as teleworking and targeted projects. The use of ICT to train, develop and motivate staff. Changing the working environment of organizations and their globalization orientation. Changing leadership style in organizations and increasing delegation. Changing the structure of organizations as a result of the trend towards downsizing of the workforce and structural flattening. Extensive use of polarization and selection of staff. Changing personnel functions and working procedures. Changing the methods of control and control of employees. Changing ways of managing information and exploiting knowledge. The study recommended conducting further studies and research on this subject, especially since the study did not cover all aspects of change arising from the development of ICT. It also recommended that the resulting change due to ICT should not be neglected and widely exploited to increase the efficiency of the organization as an irony in organizations and the working environment. And the need to exploit the change resulting from the ICT revolution to achieve a competitive advantage for the organization and create new jobs in a rapidly changing environment.
- A study by (Ruel & others, 2007) on measuring the contribution of e-HRM to the efficiency of human resource management, through a quantitative study conducted on the Ministry of the Interior in the Netherlands and whether the transformation process is useful to the ministry. The study found that the actual implementation of human resources management (e-HRM) is linked to the efficiency of human resources management. Through regression analysis, researchers found that the quality of HR applications in terms of content and content is the most important explanatory factor in the efficiency of HR technology and strategy. The study recommended further quantitative research on measuring the efficiency of e-HR management and introducing more variables to the model developed by the researchers.
- The study of (Abu Sabt, 2005) entitled "Evaluation of the Role of Management Information Systems in the Decision-Making Process of Decision-makers in Palestinian Universities in the Gaza Strip". The study aimed at evaluating the role of management information systems in the decision-making process among Palestinian decision- Gaza. The study found that there are differences in the components of MIS for the Islamic University and the existence of modern techniques in general in the components of information systems in the Palestinian universities have made the users rely on them entirely in decision-making. The study also showed that the current information systems do not rise to the level of expert systems as they do not give solutions to problems and are not connected with each other and are not linked to centers of statistics inside or outside the country. The study presented a number of recommendations, the most important of which is the continued development and upgrading of computerized management information systems, in accordance with the latest technological developments and the continued development of the organizational level of computerized management information systems. The study also recommended increasing the quality of information, updating information systems data and linking them to statistical centers and working to raise the efficiency of employees in these systems.



- The study of (Al-Duhdar, 2006) entitled "The Relationship between the Strategic Direction of Senior Management in Palestinian Universities and its Competitive Advantage". This study, which was conducted on Palestinian universities in Gaza, aimed to analyze the relationship between some variables of strategic direction, rates of innovation and technological change in e-learning, continuous improvement, attention to the human element) as independent variables and gaining competitive advantage according to Porter's theory. The study found that there is a statistically significant relation between all variables of strategic orientation and competitive advantage of institutions of higher education in the Gaza Strip. The study recommended that the university adopt scientific methods and tools to continuously improve the services provided to employees.
- The study of (Al-masry, 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 to identify the requirements of using electronic signature in the management of information technology centers in Palestinian universities in the Gaza Strip. Explain 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 points, the most important of which is the need to adopt official e-mail using electronic signature, updating 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 (Shaaban, 2006), entitled "Contemporary challenges to Arab human resources and ways to overcome them". The study examined the role of human resources in achieving development, especially in the information age or in the future society (Knowledge Society). The researchers presented the contemporary and future challenges facing Arab human resources in the modernity of information and globalization. The study identified the possible mechanisms to address these challenges resulting from cultural and economic globalization, supported by information revolution tools, through training, development, modernization and change of methods and administrative systems based on the management of Arab human resources. The study recommended a number of measures, including the necessity of eradicating primary illiteracy (illiteracy) and the second (illiteracy of dealing with computers), combating unemployment and disguised unemployment, updating the education system at various stages and in particular, encouraging and supporting scientific research. Through the establishment of independent administrative and financial research centers, to focus on training, rehabilitation and continuing education and to enable contemporary techniques for all levels of management in organizations to increase the capacity of human resources through the use of Internet and communication technologies in the training programs and other tasks.
- The study of (Al-Gedaia, 2008), entitled "The level of use of ICT tools and its impact on the organizational performance in Jordanian industrial companies". The study explored the level of use of ICT tools in Jordanian industrial companies and analyzed the relationship between these tools and organizational performance. The study found a positive correlation between ICT usage level, overall business performance, Internet usage level and teamwork. The study recommended a number of recommendations, the most important of which is the activation of the use of ICT tools among the organizational units because of its impact on facilitating and accelerating the performance of operations. Optimizing the use of the Internet by dealing with suppliers and customers as one of the most important low-cost strategic resources as a major source of competitive advantage. And the harmonization between the acquisition of advanced computers and the utilization of the potential and the potential of these devices to exploit the maximum capacity in the performance of business to achieve the main goal of ownership as an investment of resources and not exclusive luxury furniture.

#### 4. RESEARCH IMPORTANCE

This research highlights the importance of E-HRM, as one of the modern management topics, which significantly affects the performance of the organization, where the application of E-HRM aimed at improving the performance of employees and provide better services to the beneficiaries quickly, with minimal effort and cost possible. Also its importance comes from:

1. Enhancing ongoing research in E-HRM and therefore, enhancing the library resources in the field of E-HRM as a result, it can be useful to the management practitioners as well as the academicians through providing guidelines to other researchers on carrying out research related to E-HRM application and impact.
2. Providing awareness to other organizations about the impact of E-HRM on the organization as a whole, the contribution and the benefits that the application of E-HRM brings to an organization. Further, providing recommendations for the application of E-HRM for different organizations, as strong tool to increase the management's ability to control work; to create a transparent environment; to raise the level of employee satisfaction; to improve the communication between different managerial levels and to enhance organizational efficiency by improving the services provided by the HRM.

3. 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.
4. The study focuses on modern management methods for e-HRM and the extent to which they are used in educational institutions.
5. The importance of the technology factor in influencing the efficiency and development of organizations.
6. 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.
7. Keeping pace with the latest scientific developments and harnessing them to serve the local community, and try to circulate the various administrative functions used electronically to all institutions of society.
8. The lack of studies on e-HRM, where local and Arab libraries lack extensive scientific contributions in this field, is expected to open many fields for researchers and interested in this subject and related topics.

## 5. RESEARCH OBJECTIVES

The main objectives of this research are:

1. Knowledge of the availability of IT infrastructure for HR applications.
2. Identify the importance of human resources management electronically.
3. To identify the extent to which the university departments are interested in applying the human resources management electronically in comparison with their interest.
4. Making 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 LIMITS AND SCOPE

**Place Limitations:** the study was conducted on the Palestinian universities in Gaza Strip, two of which are public universities and one governmental university.

**Human Limitations:** The study was conducted on the administrative and academic staff with administrative post in Palestinian universities in Gaza Strip.

**Time Limitations:** the study was conducted, preliminary data was collected, and statistical analysis was performed during the year (2017).

**Subject (Academic) limitations:** The objective of the research is limited to the study of the efficiency of information technology and its role in the management of human resources electronically in the Palestinian universities in the Gaza Strip

## 7. RESEARCH HYPOTHESES

**H1:** Availability of adequate infrastructure at the Technology Center at the University of Information affects statistically significant effect in human resources management electronically.

## 8. THEORETICAL FRAMEWORK

### First- HRM Definition:

Many people find HRM to be a vague and elusive concept - not least, because it seems to have a variety of meanings. This confusion reflects the different interpretations found in articles and books about human resource management. HRM is an elastic term. It covers a range of applications that vary from book to book and organization to organization (Alan price, 2011).

HRM refers to activities and tasks useful in maximizing employees performance in the organization, it is a dynamic and evolving practice used by leaders and managers throughout a firm to enhance productivity, quality, and effectiveness (Gilley, et.al 2009). Besides, the HRM is a process of the utilization of an organization's human resources to achieve organizational objectives (Mondy and Noe, 2005). Other researchers defined HRM as a set of philosophies, processes, and procedures that a company uses to manage (Bruner, et.al, 2003):

1. Entry and exit processes in the firm.
2. The growth and development of employees.
3. The reward and recognition systems.
4. The total organizational climate for how people are treated.

While, other believes that HRM is concerned with all aspects of how people are employed and managed in organization (Armstrong, M., 2012). Dessler says that HRM refers to the policies and practices involved in carrying out the ‘human resource’ aspects of a management position including human resource planning, job analysis, recruitment, selection, orientation, compensation, performance appraisal, training and development, and labor relations (Dessler, 2007). HRM contributes to create high performance work systems by linking various employees in different departments in the same organization (Brewster, 2007). Further, organizations use the effectual HRM system to increase their competitiveness by investing in employee development (Sutiyono, 2007). Additionally, HRM is a pattern of planned HR development and activities, which affect the behavior of individuals with the intention of enabling organizations to achieve their goals (Wood, et al., 2006). In fact, all HR activities are dependent upon the managers’ efforts to formulate and implement the organizational strategy (Wei & Lau, 2005). While, Stone believes that HRM refers to the policies, practices, and systems in organizations for recruiting and developing their employees, as well as influencing their behavior, attitudes, and performance to achieve the organization’s goals (Stone, 2008). Having referred to several researchers and authors’ views on what HRM actually is, the researcher can therefore say that HRM is an essential tool to link different people in the same organization to use their various capabilities for achieving the organization’s goals. HRM has not understood as only working for managers or employees. Rather, it is a managerial function for creating the organization’s competitive advantage and growth.

### **Definitions of E-HRM:**

Researchers use a wide range of terms to describe the use of technology in human resources management; for example, the terms E-HR, E-HRM, HR intranet, HR portals and self-service are in common usage, while terms such as web-based HRM and Business-to-Employee (B2E), are less common but equally valid (Ruel et al., 2004). Older definitions, still used by many organizations and some academics, include the terms ‘HRIS’ (Human Resources Information Systems) and ‘HRMS’ (Human Resource Management Systems). If taken to its extreme, one might conclude that E-HRM consists of any form of technology that supports the delivery of HR services (Lengnick, et al., 2003).

In general, E-HRM has defined as an enterprise-wide strategy that uses scalable, flexible, and integrated technology to link internal processes and knowledge workers directly to the business objectives of the organization (Marler, 2007). In addition, other researchers define E-HRM as the application of any technology that enables managers and employees to have direct access to HR and other workplace services for communication, performance appraisal, reporting, team management, knowledge management, and learning of administrative applications (Lujan et al, 2007). Additionally, E-HRM could be defined as “the application of any technology enabling managers and employees to have direct access to HR and other workplace services for communication, performance reporting, team management, knowledge management, learning and administrative applications” (Wyatt,2006). Besides, E-HRM was defined as a way of implementing HR strategies, policies and practices in organizations through a conscious and directed support of and /or with the full use of Web-technology –based channels (Challapalli, 2005). Further, E-HRM “as the administrative support of the HR function in organizations by using Internet technology”, but also emphasis the importance of understanding that the introduction of E-HRM may lead to change in content and positioning of the HR function (Voermans and Veldhoven ,2007)

Others defined E-HRM as the umbrella that covers all the mechanisms and implications of the possible integration between human resources management and information technology in order to create value for employees and management in the organizations (Bondarouk et al., 2009). This definition suggests integration of the four aspects as following (Bondarouk et al., 2009) and (Gregeby, 2007):

1. The content of the E-HRM system: where it focused on the used practices of both human resources and information technology and the link between these departments.
2. Application of the E-HRM system: where it focused on the E-HRM system adoption process and its suitability for workers in the organization
3. The targeted employees and directors: where it focused on stakeholders specifically, not on the human resources department or even on the organization. In fact, it focused on the executives and employees who use the E-HRM system applications significantly
4. The consequences of the use of E-HRM system: these multi-levels consequences, where the application of the system leads to the creation of value not only at the enterprise level, but also on the user’s personal level.

As stated, E-HRM is the use of web-based technologies for the implementation of various HRM strategies or practices (Ruël et al., 2004). While, other says that “E-HRM is an umbrella term covering all possible integration mechanisms and contents between HRM and information technologies aiming at creating value within and across organizations for targeted employees and

management” (Bondarouk et. al., 2009). Through this research, the researcher will use the latter definition. This is because we believe that it captures all-important components of E-HRM and as stated by its authors, it is a consensus understanding of most existing definitions of E-HRM. The application of web-based technologies to the human resource function combines two elements, namely the use of electronic media and the active participation of people in the process. People are the drivers behind the technology. They make use of the technology that helps organizations lower administration costs, improves employee communication and satisfaction, provides real time access to information, while at the same time reducing processing time and costs (Hawkin et. al, 2004). E-HRM also involves many more stakeholders besides personnel in the HR department and the business and also includes job applicants and employees from all levels. EHRM and the use of web-based technologies for human resource management practices and policies are growing within organizational life (Bondarouk et. al., 2004).

There is a fundamental difference between human resource information systems and EHRM. HRIS is intended for the human resource department where users of this technology are largely HR professionals who use the system to enhance processes within the HR department, with the aim of improving service to the business. E-HRM, on the other hand, targeted at employees and management. The authors identify the main difference between HRIS and E-HRM. HRIS concerns the automation of HR services and E-HRM provides technological support of information regarding HR services. “Technically speaking, it can be said that e-HR is the technical unlocking of HRIS for all employees of an organization” (Ruël, et. al., 2004). Therefore, the researcher defines the E-HRM as the process of integration between Human resources management, and information technology, using web-based applications in human resources management.

### **E-HRM Goals:**

The objectives of the application of Electronic Human Resources Management system (E-HRM) are:

1. Reduce costs by streamlining human resource management processes (Marler and Fisher, 2010).
2. Improve efficiency by improving the services provided by the Human Resources Management (Marler et al., 2010, PP.33-34).
3. Improve the strategic direction of the Human Resources Management department (Foster, 2008) and thus convert human resources management to a strategic partner of the organization (Marler et. al., 2010).
4. Facilitate things, management and staff (Ruel, et. al., 2004).
5. Compilation, storage and dissemination of information about the organization staff. (Strone and Lukaszewski, 2009).

The researcher believes that the most important objectives of the E-HRM system is to facilitate the performance of the functions of human resources, which leads to saving time and effort of the human resources department staff, and improve the services provided, reduce paperwork and eliminate the complexities of daily work. Further, collecting data and made it available to the decision-makers with high speed and accuracy.

### **E-HRM Application Requirements and Success Factors:**

The most important (E-HRM) system application requirements are:

1. Commitment to the management of change, since the beginning of the application of the system.
2. The existence of a staff culture of information technology in the organization.
3. The involvement of all stakeholders in the system from the outset to win their support.
4. Demonstrate the value of technological solutions provided by the system for all users.
5. Illustrate the importance of using the system for each member of the staff to answer the question: How will I benefit from the system?
6. Adequate training for all users (Shilpa et. al., 2011).
7. The system’s ease of use by users, and its relationship to the functions of human resources, as the system characterized by safety and high quality, which enhances the confidence of the user and increases the efficiency of the use of the system (Ruel, et. al., 2007).

There are ranges of factors that lead to the success or failure in the application of the Electronic Human Resources Management system, according to the degree of the factors availability in the organization, and these factors are (Panayotopoulou et. al., 2007):

1. Organizational culture prevailing in the organization, as well as about the culture regard change management.
2. Staff skills of in using the technology.
3. Cooperation and coordination between departments of human resource management and information technology.

## **9. EMPIRICAL STUDY**

### **First- Research methodology:**

Based on the nature of the study and the objectives it seeks to achieve, the analytical descriptive method was used, which is based on the study of the phenomenon as it is in fact and it is concerned as a precise description and expressed in qualitative and quantitative terms. This method is not sufficient to collect the information about the phenomenon in order to investigate its manifestations and its different relations, But rather to analysis, linkage and interpretation.

### Second - Society and sample of research:

The study population consists of 35 employees in information technology centers. Their functions varied among managers and heads of departments, 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 summation
20	6	9	35

Source: Department of Personnel in the universities listed in the study, 2017.

### 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) (35) in the total sample (technical support personnel and networks were excluded).

The percentage of respondents in information technology centers was (88.57%) which represent (31) members of the study sample (35). Table (2) shows the distribution of the sample members to the universities under study.

**Table 2:** Distribution of the sample of the study

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

Table (2) 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 the IT 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. 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 3:** Distribution of IT Center personnel according to the different variables

Variable	Category for variable	Repetition	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	B.A.	26	83.9
	M.A.	5	16.1
Number of years of service	Less than 5 years	19	61.3
	From 5 - less than 10 years	10	32.3
	From 10 - under 15 years	2	6.5
Job title	Director	2	6.5
	Head of the Department	8	25.8
	Other than that	21	67.7

Table (3) shows that those aged "Less than 30" occupy the largest proportion (51.6%), middle age group (45.2%), while age group (40-50) was (3.2%). The bachelor's degree holders were (83.9%) compared to 16.1% for the master's degree. The researchers explain this as a result of the increasing interest of the universities in the field of information technology, which led to the recruitment of highly qualified graduates in this field from the bachelor's degree holders. The percentage of those who served less than 5 years was (61.3%), from 5 years to less than 10 years was 32.3%, and those who served from 10 years to less than 15 years were (6.5%). This indicates an increased interest in this area more than 15 years ago as a result of the tremendous development of information technology and the need for universities to keep pace with those developments. The rate of "manager" (6.5%) is the lowest, the proportion of "head of department" (25.8%), while the proportion of "other" and the intended programmers, web designers, systems analysts, e-publishing and e-education was the highest (67.7%). The researchers explain this by a change in the tendency of universities to provide e-learning services and e-management applications widely.

**Thirdly- the research tool:**

The tool is intended to measure what has been set for to measure. The accuracy of the questionnaire has been verified by the following methods:

**1.Validity from the point of view of the arbitrators:**

The questionnaire was presented to a number of competent arbitrators in order to ascertain the correctness of the linguistic language of the questionnaire, the clarity of the instructions of the questionnaire, the affiliation of the paragraphs to the dimensions of the questionnaire and the validity of this tool to measure the objectives associated with this research. Thus, the validity of the questionnaire was ascertained from the point of view of the arbitrators.

**2.Internal consistency:**

The integrity of the internal consistency was calculated by finding correlation coefficients for the identification axes, as shown in the following table:

**Table 4:** Correlation coefficients between each paragraph and the total score of its paragraphs

No.	Paragraph	Coefficient of correlation	Moral level	Level of significance
1.	The Center has a clear strategic vision to transform the University's administrative systems into electronic management systems	.615	.000	0.01
2.	The Center has administrative decisions relating to the application of electronic management	.707	.000	0.01
3.	There are scientific studies of the requirements of electronic management	.787	.000	.010
4.	A project is under way to transform the University's administrative systems into electronic management systems	.655	.000	0.01
5.	The Center contributes to the dissemination of e-culture among university staff	.803	.000	0.01
6.	The human competencies available are capable of completing the transformation project to electronic management	.542	.002	0.01
7.	Administrative information systems are available for all administrative systems at the University	.417	.020	.050
8.	Available management information systems are sufficient to build an electronic management system	.656	.000	0.01
9.	The computers currently available are sufficient to implement the e-governance project	.576	.001	0.01
10.	Currently available servers are sufficient to implement the e-management project	.740	.000	0.01
11.	The internal network currently available is practically sufficient to implement the e-governance project	.842	.000	0.01

No.	Paragraph	Coefficient of correlation	Moral level	Level of significance
12.	The current Internet connection is sufficient to implement the e-governance project	.633	.000	0.01
13.	Data protection is available	.431	.015	0.05
14.	Facilities for disaster and emergency crises are available	.678	.000	0.01
15.	Continuous technical support is available to users	.664	.000	0.01
16.	The Center cooperates with private sector institutions to implement some of the software components of electronic management systems	.382	.034	0.05
17.	Cooperation and coordination are constantly being conducted between the staff of the Center and the staff of other departments in order to achieve a high quality electronic management system	.466	.008	0.01

Table (4) shows that the correlation coefficients between the paragraphs and this indicates that the paragraphs are true to what has been set for measurement.

### The structural validity of the questionnaire

Structural validity is a measure of the validity of a tool that measures the extent to which the objectives of the tool are achieved. Table (5) shows that the correlation coefficients between the questionnaires of the study reached (.705) at the level of significance (0.01), and this indicates that all paragraphs of the questionnaire is true for what it was put to measure.

**Table 5:** Correlation coefficients

The field	Coefficient of correlation	Moral level	Level of significance
Provides IT infrastructure	.705	.000	0.01

## 10. STABILITY OF THE QUESTIONNAIRE

### First: the Split-half distribution method

Table (6) shows correlation coefficients between individual and marital vertebrates for each field of study, and correlation and consistency coefficients between all odd and even paragraphs.

**Table 6:** Correlation coefficients using Split-half method

The field	Coefficient of correlation	Stability coefficient	Type Parameter
Provides IT infrastructure	.782	.875	Jetman

Table (6) shows that the stability coefficient (.875) which indicates that the questionnaire sections have a high stability coefficient. The Jetman coefficient was used in fields with individual paragraphs and Spearman-Brown in fields with multiple paragraphs.

### Second: Measurement of stability coefficient using the Alpha Cronbach

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

The field	Number of paragraphs	Stability coefficient
Provides IT infrastructure	17	.895

Table (7) shows that the stability coefficient (.895) indicates that the questionnaire sections have a high stability coefficient.

### 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:

1. 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.

2. Alpha Cronbach Test: To calculate the stability coefficients of the questionnaire, and the coefficient of stability of each axis of the study axes.
3. Pearson correlation coefficient: to measure veracity of vertebrae (constructional honesty).
4. Test one sample t test: to analyze the clauses of the questionnaire and the hypotheses of the study.

## 11. STUDY RESULTS AND INTERPRETATION

### Natural distribution test

Table (8) shows the results of the Kolmogorov-Smirnov test, as the values of the significance level are greater than (5%), which means that the data are subject to normal distribution.

**Table 8:** Normal distribution test

The field	Number of paragraphs	Value of Z	Value of significance level
Provides IT infrastructure	17	.978	.294

### Analysis of the study paragraphs

The researchers used a single sample t-test to analyze the vertebrae, where the paragraph is positive and community members agree if the level of significance is less than 0.05 and the relative weight is greater than 60%. The paragraph is negative and the members of the community disagree with it if the level of significance is less than (0.05) and the relative weight is less than (60%). The opinions of the community in the paragraph are neutral if the level of significance is greater than (0.05).

### Analysis of paragraphs

The field discusses the availability of IT infrastructure, consisting of (17) paragraphs and table (9) shows the results of the use of t-test.

**Table 9:** Analysis of paragraphs (availability of IT infrastructure)

No.	Paragraph	SMA	Relative weight	The value of t	Moral level
1.	The Center has a clear strategic vision to transform the University's administrative systems into electronic management systems	7.94	79.35	6.092	0.000
2.	The Center has administrative decisions relating to the application of electronic management	7.77	77.74	4.684	0.000
3.	There are scientific studies of the requirements of electronic management	7.00	70.00	2.675	0.012
4.	A project is under way to transform the University's administrative systems into electronic management systems	6.77	67.74	1.601	0.120
5.	The Center contributes to the dissemination of e-culture among university staff	7.42	74.19	3.127	0.004
6.	The human competencies available are capable of completing the transformation project to electronic management	7.32	73.23	4.433	0.000
7.	Administrative information systems are available for all administrative systems at the University	6.39	63.87	1.417	0.167
8.	Available management information systems are sufficient to build an electronic management system	6.45	64.52	1.327	0.194
9.	The computers currently available are sufficient to implement the e-governance project	7.58	75.81	6.714	0.000
10.	Currently available servers are sufficient to implement the e-management project	7.61	76.13	7.304	0.000
11.	The internal network currently available is practically sufficient to implement the e-governance project	8.23	82.26	12.110	0.000
12.	The current Internet connection is sufficient to implement the e-governance project	8.42	84.19	12.041	0.000
13.	Data protection is available	8.29	82.90	15.469	0.000



No.	Paragraph	SMA	Relative weight	The value of t	Moral level
14.	Facilities for disaster and emergency crises are available	7.71	77.10	8.204	0.000
15.	Continuous technical support is available to users	8.23	82.26	9.287	0.000
16.	The Center cooperates with private sector institutions to implement some of the software components of electronic management systems	5.06	50.65	-2.189	0.037
17.	Cooperation and coordination are constantly being conducted between the staff of the Center and the staff of other departments in order to achieve a high quality electronic management system	7.55	75.48	5.358	0.000
<b>All paragraphs</b>		7.4	73.97	8.042	0.000

Table (9) shows the response by respondents working in information technology centers. These results are summarized as follows:

1. There is a consensus of the study sample on the availability of IT infrastructure. The third area is statistically significant at (0.05), where the relative weight is (73.97%) and the mean (7.4).
  2. The paragraphs were positive, meaning that the sample members agreed to them to a large extent, since all the results were statistically acceptable and above the arithmetic mean (6).
  3. The results of the field are consistent with the study of (Abu Sabt, 2005) which found the existence of modern techniques in general in the components of information systems in Palestinian universities, which are the basis of electronic management in general.
  4. The findings of the study (Al-masry, 2007) that the security equipment and software used need to be updated and developed. The management of information technology centers in the Palestinian universities does not work within a clear strategic plan and the absence of the name of the post of information security director. The researchers explain this by the remarkable development witnessed by IT centers in Palestinian universities during the last two years, according to field researchers' interviews, the Islamic University has a newly appointed information security officer, and a modern department in the structure is named Information Security Service.
  5. The paragraph of (ITC collaborates with private sector institutions to implement some software components of electronic management systems) has a negative result, indicating that the IT centers' collaboration with private sector institutions is limited. This is explained by the availability of IT professionals as university officials. In addition, there is a lack of material funding, as dealing with the private sector is relatively expensive.
  6. The paragraph (there is a project under way to transform the University's administrative systems into electronic management systems) has obtained a neutral result. This indicates that there is a project under way to transform the University's systems into electronic management systems in a medium way. It is in line with (Abu Sabt, 2005). The researchers explain that the percentage of respondents from the sample of information technology centers in the Islamic University reached (54.8%), more than half, and since there is no integrated project for the computerization of administrative processes only at the Islamic University, a project funded by Quality Support Fund would be a drastic and significant changes in the functioning of the administrative work in the way the university is happening, hence came the response medium.
1. The results of the paragraph (administrative information systems for all administrative systems at the university are available) were neutral, and the results of the paragraph (the available management information systems are sufficient to build the e-management system) were also neutral, indicating the availability of management information systems for all administrative systems. (Abu Sabt, 2005) suggests that the current information systems do not rise to the level of expert systems. According to their knowledge, the information systems are still under development in the universities under study;
- Although administrative information systems exist in all universities, some of them have not yet been completed; there are systems under design, and others under development.

## 12. ANALYSIS OF THE STUDY

Table (10) shows the results of using t-test.

**Table 10:** Analysis of the field of study

The field	SMA	Relative weight	The value of t	Moral level
Provides IT infrastructure	7.40	73.97	8.042	0.000

Table (10) shows respondents' responses to all areas of study. The results were as follows:

1. The mean for all fields of study was 7.04 and the relative weight was 70.35.
2. The value of t was 13,564, which is greater than the tabular value of (1.98) at the level of significance (0.000).
3. From the above, we can point out that the reality of electronic resource management (e-HRM) in the Palestinian universities is above average (6) and is considered statistically acceptable. The researchers explain this by the increasing interest of university administrations towards the shift to electronic management in general, In particular, and benefiting from them to serve the administrative and academic system.

### 13. ANALYSIS OF THE HYPOTHESIS OF THE STUDY

The main premise: The availability of infrastructure at the university's IT center has a statistically significant impact on human resources management electronically

To test the relationship between the reality of e-HRM in Palestinian universities and the availability of IT infrastructure at the university, the researchers used a single sample T-test. Table (11) shows the results of this test.

**Table 11:** Analysis of the main hypothesis

Hypothesis	SMA	Relative weight	The value of t	Moral level
The availability of IT infrastructure at the university has a statistically significant impact on human resources management electronically	7.40	73.97	8.042	0.000

Table (11) shows that the mean score was 7.40, which is greater than the arithmetic mean (6). The value of t (8.042) is greater than the tabular t value (1.98) and the result is statistically significant at 0.05. Thus resulting in the rejection of the null hypothesis and acceptance of the alternative hypothesis that "the availability of an infrastructure at the university's information technology center has a statistically significant impact on human resources management electronically".

The availability of an infrastructure at the University's IT Center has an impact on the shift to human resources management. This is in line with the study of (Shaaban, 2006), the need for modern technologies for all levels of management in the organization to increase the capacity of human resources. The study of (Al-Gedaia, 2008) shows there is a positive correlation between the level of use of ICT tools, overall business performance, and the level of Internet use and teamwork. It is also consistent with the study of (Haroun, 2005), which recommended a strong entry into the information age and technological competition, the importance of technology transfer, assimilation, localization and conversion to production technology. It also agreed with the study of (Abu Sabt, 2005), which recommended the need to develop computerized management information systems in Palestinian universities according to modern technological developments, continue to develop the organizational level of the computerized administrative information systems, increase the quality of information and improve the efficiency of their employees. It also agrees with the study of (Al-Duhdar, 2006), which recommended that attention should be given to human competencies and development, attention to infrastructure and plans in all government institutions, and the necessary legal and legislative support to achieve e-government.

### 14. RESEARCH RESULTS

After the statistical analysis of the study tool, the following results were obtained:

1. IT infrastructure in the universities involved in the study is 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.
2. Has found the existence of modern techniques in general in the components of information systems in Palestinian universities, which are the basis for electronic management in general.
3. Has found that the security equipment and software used need to be updated and developed, the management of information technology centers in Palestinian universities does not work within a clear strategic plan and there is no named job of information security manager,

4. The cooperation of IT centers and private sector institutions are limited,
5. The existence of a project in progress to transform university systems into electronic management systems in a medium way
6. Provide management information systems for all administrative systems in a medium way, and that these systems are moderately adequate to build an electronic management system.

## **15. RESEARCH RECOMMENDATIONS**

The following is a set of recommendations based on the results of the study, hoping for the administrations 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:

1. Providing financial support to IT centers for their importance in the process of change to e-governance.
2. Searching for sources of funding for changing projects to electronic management and put them in the priorities of strategic plans for universities.
3. Making use of ICT tools in the process of changing to electronic management.
4. Keeping abreast of the rapid changes in the field of electronic management and the tools and means of ICT.
5. Developing computerized management information systems to cover all administrative aspects.
6. Developing e-HRM in universities, as they have a key role in the success of the process of transition to electronic management.
7. Adopting internal electronic correspondence instead of paper, this contributes significantly to reduce administrative financial expenses, and the speed of completion of work.
8. Integrating computerized management information systems, and work to link what is currently fully present as a beginning to a gradual transition to electronic management.

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