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# The Impact of Information Technology on The Human Resources Management Performance

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**Abstract**

The current study has focused on two variables, which are technology variable and human resource management (HRM) variabe that includes sub-variablesthat areemployment and selection, training and development, motivation andmanagingemployeerelationsemployment. Therefore, the aims of the current study is to show the impact of information technology applications on the human resource management functions including employment and selection, training and development, motivation andmanagingemployeerelationsemployment.

The methodolgy partcomprises a number of steps. The first step was taking a sample of employees from the Zitouna University to collect data via a questionnaire regarding the impact of technology on the human resources management.

The results showed that there is a positive impact of the utilization of the contribution of information technology on the human resource management practices including employment, training and development, motivation, selection and managing employee relations.

**Keywords:** Human Resources Management, Technology, Libya, ZitounaUniversity

**Jel Code:** M13

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**Bilgi Teknolojisinin İnsan Kaynakları Yönetimi Performansına Etkisi**

**Özet**

Bu çalışma, istihdam ve seçim, eğitim ve gelişim, motivasyon ve yönetim çalışanların istihdam edilmesi gibi alt değişkenleri içeren teknoloji değişkeni ve insan kaynakları yönetimi (İKY) değişkenleri olmak üzere iki değişkene odaklanmıştır. Bu nedenle, bu çalışmanın amacı, bilgi teknolojisi uygulamalarının istihdam ve seçim, eğitim ve gelişim, motivasyon ve çalışan istihdam yönetimi gibi insan kaynakları yönetimi işlevleri üzerindeki etkisini göstermektir.

Metodoji bir dizi adımı içerir. İlk adımda, teknolojinin insan kaynakları yönetimi üzerindeki etkisine ilişkin bir anket aracılığıyla veri toplamak için Zitouna Üniversitesi'nden bir çalışan örneği alınmıştır.

Sonuçlar, bilgi teknolojisinin istihdam, eğitim ve gelişim, motivasyon, seçim ve çalışan ilişkilerinin yönetilmesi gibi insan kaynakları yönetimi uygulamalarına katkısının kullanılmasının olumlu bir etkisi olduğunu göstermiştir.

**Anahtar Kelimeler:** İnsan Kaynakları Yönetimi, Teknoloji, Libya, Zitouna Üniversitesi

**Jel Kodu:** M13

## 1. Introduction



Global competition has created an increasing pressure on the managers to have an effective ability to make faster and superior business decisions. Investments in information technology are frequently touted as a significant means of accelerating and improving management decision making especially in the human resource management area. However, it has verified distressingly difficult to understand the potential of investments in the information technology. This is extremely important in several business areas for instance Human Resources Management (HRM), yet the extendedleadtimesconventionallyconnectedwithchanges in Human Resourcessystems, that ishumanresourcemanagementcan be a leading candidate to gain benefits from information technology (Broderick & Boudreau, 1992).

Until the companies can be more competitive, managers should control labor costs, motivate workers and/or employeestocustomer-oriented performance, high quality, andcontinuouslydiscover new and better ways of doing both. Thus, all managers have a responsibility to exploit information technology to well manage their human resources (Broderick & Boudreau,

1992). In fact, the main goals of human resource management in organizations are to attract, select, motivate, and retain skilled employees. Such goals have become tremendously important in new years since organizations compete based on the skills and talents of their employees (Stone, Deadrick, Lukaszewski, & Johnson, 2015). Thus, technology has changed the way human resource processes are now managed, primarily in terms of how organizations gather, store, utilize, and distribute information regarding candidate sand employees. Moreover, the technology has transformed the nature of jobs, job relations, and supervision. For example, several innovations for example telework, web-based job applicationsc and virtual teams are owing to the significant innovations in technology (Stone et al., 2015).

**First: Employment and Selection**

It has been known that the employment represents the recruitment and selection process. As, selection is the process of choosing persons with the correct qualifications needed to fill specific jobs in organizations. Without these qualified employees, the organizations are far less probably to succeed (Mathis, Jackson, Valentine, & Meglich, 2016).



Indeed, based on job analysis and design, any organizations can identify the kinds of employees it needs. With this knowledge, it carries out the function of recruiting and hiring skilled employees. The recruitment is the process through which the organizations seek applicants for potential employment. That is, the organizations apply the process by which the organizations try to identify applicants with the necessary knowledge, skills, abilities, and other characteristics that can help the organizations achieve their goals. The organizations make selection decisions in order to add employees to its workforce, along with transferring existing employees to new positions (Noe, Hollenbeck, Gerhart, & Wright, 2010).

Approaches to recruiting and selection include a several types of alternatives. Several organizations may actively recruit from many external sources, for example Internet job postings, newspaper want-ads, and college recruiting events. Other organizations may rely seriously on promotions from within, applicants referred by current employees, and the availability of in-house people with the necessary skills. At several organizations, the selection process may focus on specific skills, for instance experience with a particular programming language or type of tools and equipment. At other organizations, selection process may focus on wide-ranging abilities, such as the ability to

work as part of a team or discover creative solutions. The concentration an organization favours will influence many choices, from the way the organizations measure ability, to the questions they ask in interviews, to the places they recruit (Noe et al., 2010).

**Second: Training and Development**

Even though organizations have hiring decisions on candidates' existing qualifications, many organizations make available ways for their employees to improve their knowledge, skills, and abilities. To do this, organizations support employee training and development. Training is always considered to be a planned effort to qualify employees to learn job-related knowledge, skills, and behaviour. For instance, several organizations provide for safety training to educate employees safe work habits. Development deals with acquiring behaviour, knowledge and skills that play a role improving employees' ability to meet the challenges of a variety of new and/or existing jobs, For example the client and customer demands of those jobs (Noe et al., 2010). In fact, development programs mainly revolve around preparing employees for management responsibility. Similarly, if organizations plan to make teams to manufacture products, it may provide for a development program to help employees learn the ins and outs of effective teamwork (Mathis et al., 2016).



In the relevant literature, it has been suggested that employee training enables employees to acquire and utilise the new skills (Li, Zhao, & Liu, 2006). For example, in high-tech organizations, employees with more innovative knowledge are significant resources of the organizations, and they are needed to repeatedly acquire new skills and knowledge to keep pace with technological development. In fact, the training could improve employees' capabilities of accepting novel skills and utilising modern knowledge and improving employees' competence in innovation. Innovation includes the production of novel ideas that could be applied to solve some important novel problems (Li et al., 2006). In addition, it has been shown by continuedly providing training, the employees could more quickly obtain new knowledge, as well as they can increase their innovation ability. Thus, when the employees who have extended their expertise and knowledge, they could produce further technological innovations (Li et al., 2006).

**Third: Motivation**

The desire within an individual causing that individual to act is called motivation. People typically act to meet a goal, which means that motivation is considered a goal-directed drive that rarely occurs in a void. The need, want, desire, and drive are all similar words to motive, as the word motivation was derived. Theories to understanding the concept of motivation vary for the reason that diverse theorists have developed their own models and views. Therefore, each approach has played a significant role in understanding the human motivation.

In fact, the motivation is usually individualized and complex; thus, several managerial strategies and tactics must be adopted to address the motivation concerns of employees at work. However, there are some factors that can obstruct motivation and work performance include an employees' capabilities and determination to get work done in spite of difficulties. For example, with poor-performing workers, managers should determine if inadequate individual behaviour is caused by inconsistent reward policies, employee insufficiencies or deficiencies, or low desire for the rewards offered (Mathis & Jackson, 2010).



When the organizations have supportive managers and supervisors who serve as mentors, worries about motivations could be well addressed with workers. The issue of understanding motivation is important since the employee engagement may affect both retention and performance. Increasing motivation could improve the employee performance and could reduce turnover. Several organizations spend a substantial amount of money to "motivate" their workers, utilizing a wide range of strategies. For instance, some organizations hire motivational speakers to stimulate employees, as well as "motivational coaches" command fees reach to $50,000 a speech. Other companies or employers provide employees items for example books as motivators, T-shirts, mugs. Nevertheless, such efforts might or might not be effective in increasing employees' job satisfaction and loyalty. Numerous employees depend on the unspoken psychological contract, and their hope that the firm or employer will honour this "agreement" influences their job motivation and satisfaction. For example, one survey revealed that 45% of the investigated employees stated that main motivation for their job performance was personal job satisfaction (Mathis & Jackson, 2010).

In fact, the employees require or need organizational incentives to boost

the innovation process. Employees' behavior can mainly be explained in terms of two main interests, which are social acceptance and economic gain (Li et al., 2006). Both social acceptance and economic gain interests provide incentives for the employees. Therefore, the incentives for the employees could be divided into material incentives and non-material incentives. The non-material incentives are primarily social acceptance while the material incentives are primarily economic gain. The material and non-material incentives could meet the diverse needs of the employees in technological innovation activities (Li et al., 2006).

A series of studies (Li et al., 2006) have indicated that extrinsic rewards, including for example pay increases, bonuses, and awards are harmful to innovation. Thus, rewards based on innovative results can have a negative impact on the innovative ideas.

For example, In China, many high-tech small firms need to implement differentiation strategy and exploit explorative innovation. As during economic transitional period in China, for the reason that the capital market is not well developed and high-tech small firms couldn't use some techniques such as stock rights and option rights as organizational incentives, as the material motivation technique is fairly simple. However, in, because most employees, who work in many Chinese high-tech firms, have a higher salary level, it is not easy to utilize material incentives to inspire the employees to engage in high risk innovation activities. Consequently, the material incentives might not encourage the employee to engage in high risk innovations and long-term projects owing to the characteristics of material incentives. Furthermore, for the reason that the knowledge level of the high-tech firms' employees is higher than the traditional firms, the employees, who join in innovation, usually have strong desires for self-actualization. Therefore, the employees, who are competent in innovation, can tend to follow their own interests and ideas (Li et al., 2006). Hence, material incentives might have an undesirable relationship with the employees' enthusiasm, while non-material incentive could play a significant role in meeting the needs of self-actualization and plat a role in creating a positive relationship with technological innovation (Li et al., 2006).



**Fourth: Managing Employee Relations**

The employee relations are defined as the process of creating and negotiating the terms and expectations of the employment relationship. This process is particularly vital for employees in a business that is renowned for its

unsafe and unfair practices. By tradition, the negotiation is committed by employment unions on behalf of members in the form of collective agreements (Loosemore, Dainty, & Lingard, 2003). However, employee relationship management is related with a process that organizations use to excellently manage all interactions with workers or employees, eventually to accomplish the goals of the organizations. The human resources department (HRM) could play a critical role the employee relationship management, both in terms of training and educating managers and executives on how to efficiently establish and foster relationships with their employees and in determining and monitoring those relationships to identify whether goals are being met (Behara, 2012).

Indeed, communication is critical to creating strong employee relationships. Managers should be committed to communicating frequently and reliably with employees about the issues that have an impact on their work. The more open organizations could be, the more probably the employees are to begin strong relationships that bring about increased loyalty and productivity among workforces and then decreased turnover and dissatisfaction. In addition, managers and the HR departments must always be alert for signs of dissatisfaction, which can be subjective, over and above carefully observing the findings of more formal assessments. These findings should also be shared with relevant employees. Too often employees or workers are questioned to complete surveys and are not informed of the findings -or what will be done with the findings (Behara, 2012).



**The role of Human Resource in Raising Performance**

In attempting to observe the effect of human resource practices on the firm or organisational performance, several researchers have revealed some remarkable and direct effects and influences. Fro example, as referred to by (Ramsay, Scholarios, & Harley, 2000, p. 502) they stated that "the ‘high road’ approach to management, in which organisations choose to compete primarily on quality and rely especially on human resource development and employee contributions to succeed in this". Plentiful of the research has been conducted in America, for example Huselid (1995) as cited in (Stredwick, 2005), who conducted in-depth surveys in top organizations, comparing the nature of the human resource practices against the organizational performance measures, for instance productivity, growth and profits. Using market value as the crucial indicator, he discovered that organisations with outstandingly above average

scores on using human resource practices provided an additional market value per employee of between ten thousand pounds and forty thousand pounds. As well as, Huselid (1995) also demonstrated that the introduction of such human resource practices lead to a direct impact (Stredwick, 2005).

In the United Kingdom, a CIPD-financed project that undertaken by the University of Sheffield's Institute of Work Psychology (Stredwick, 2005) showed that human resource practices are not only significant to business performance but also have a greater significance than an emphasis on technology, quality and research and development (R&D) in terms of the effect on bottom-line profits. For instance, effective human resource practices are found to make up 19% of the variation in profitability and 18% in productivity while research and development (R&D) comprised only 8%. This led them to infer that if managers want to impact performance of their organizations, the most important area they must emphasise is the management of employees. Patterson and his colleagues (As cited in Stredwick, 2005) are examining a group of small- and medium-sized organizations and an instance of the type of human resource practices implemented in the most successful organization of the group (Stredwick, 2005).



**The impact of Information Technology on the Performance of Human Resource Management**

There are several studies discussed the impact of technology on the performance of HRM in terms of employment and selection, training and development, motivation and managing employee relations employment. For example, both O'Brien (2004); Orlikowski and Baroudi (1991) found out that the information technology or computerization has an impact on the job skills and employment practices. In addition, the previous studies have shown that the information technology has an impact on the employment via improving the opportunity of employment and even employment practices in the organizations. In addition, other studies (Shaw, 2002) have shown that information technology (IT) has an impact on the employment practices. As the technology is a likely cause for rising wage inequality and decreasing employment levels for less-educated (or less-skilled) employees (Shaw, 2002).

In addition, it has been shown that the information technology plays a role in designing and providing in-depth knowledge about the training and development programs of the human resource. For example, Goldstein and Ford (2002) provided details about the use of computer technology and the

Web to conduct training and development programs, as they argue that the information technology has a positive impact on the training and development through facilitating the design training programs. Furthermore, The current findings are in line with the findings of Al-Alwani (2005) who provided an evidence that shows that employees who received training programs utilized IT significantly more often than those who did not receive any training programs.

In addition, it has been shown that employee training enables employees to acquire and utilise the new skills (Li et al., 2006). For instance, in high-tech organizations, employees with more innovative knowledge are significant resources of the organizations, and they are needed to repeatedly acquire new skills and knowledge to keep pace with technological development. In fact, the training could improve employees' capabilities of accepting novel skills and utilising modern knowledge and improving employees' competence in innovation. Innovation includes the production of novel ideas that could be applied to solve some important novel problems(Li et al., 2006). In addition, it has been shown by continuedly providing training, the employees could more quickly obtain new knowledge, as well as they can increase their innovation ability. Thus, when the employees who have extended their expertise and knowledge, they could produce further technological innovations (Li et al., 2006).



In addition, other scholars and researchers, specifically Bondarouk and Ruël (2008); Ghazzawi, Al-Khoury, and Saman (2014) have revealed that there is no enough details about the role of information technology in the motivation. For example, Ghazzawi et al. (2014) have provided results regarding the role of information technology, as they revealed that HRM system for IT implementation has directly and indirectly impact on the employees' motivation to perform or achieve their activities by providing incentives and rewards, as well as the information technology applications play a role in encourage (motivation) employees to work with the IT.

Finally, several studies (Such as, Anderson, 2003; Soliman & Spooner, 2000) have shown that the information technology plays a role in building the knowledge management database about the recruitment and selection procedures andpractices. However, the previous studies have not provided in-depth details about the impact of information technology on the employees' relations (Fulmer, Gerhart, & Scott, 2003); nevertheless, some important studies (Collins & Smith, 2006; Fulmer, Gerhart, & Scott, 2003) revealed that

positive employee relations has a positive impact on the organizational performance in high-technology firms by creating positive employee attitudes.

**The Role of availability of information technology and the utilization of the information technology**

There are several studies show that role of the availability of the information technology. It has been revealed the availability of information technology applications in US organizations has been determined ed as a way of improving the safety in the system and reducing the number of adverse events. Furthermore, there is evidence that specific IT applications are associated with improved the quality of work (Culler et al., 2006). Maskudi (2014) has stated that the availability of Information Technology (IT) that can play a role in affecting the characteristics of work or job performance, as the availability of Information Technology (IT) enables managers to make decisions precisely and rapidly, as a consequence the availability of Information Technology (IT) in turn can improve managerial performance.

In addition, it has been shown that the more discretion in the work-job that is enabled by information technology, the more staffs are involved in human resource management functions. Consequently, the employees are becoming more involved in HRM. Thus, the increasing in the availability of information technology, the human resource management function will be fully automated and that human resource management managers are no longer needed (Hooge Venterink, 2017). On the other hand, it has been shown that the utilization of technology research is that more utilization of the information technology leads to higher performance (Lee, Cheng, & Cheng, 2007). In addition, it has been revealed that the information technology system plays a role in improving the quality or the quality of information, this can be reflected in the utilization of the information technology. Therefore, the utilization resulting in a positive organizational impact, for example, user satisfaction (Engle & Barnes, 2000).



**3. Aims of Study**

The current study seeks to reveal the impact of information technology (i.e., availability of information technology and utilization and contribution of information technology) on the human resources management performance including employment, training and development, motivation, selection and managing employee relations.

**4. Scope and Methodology**

The positivist paradigm was used in the current study, because it helps in usingquantitativemethods (Crook & Garratt, 2005)fortestingthecurrentstudyhypotheses. Thus, the quantitative approach enables the current researcher to use the study data that must be collected by surveys or questionnaires. The questionnaire data were collected from the Zitouna University. As the Zitouna University was purposely chosen to represent the higher education institutions in Libya.The population of this study included all the employeesof human resources management departmentas well as employees of IT department who work at the Zitouna University, which is located Libya. Therefore, the study sample included the employees of human resources management departmentas well as employees of IT department from the Zitouna University. In the sampling processes, aconvenient sampling technique (David & Sutton, 2011) was utilized to collect data using questionnaires from a sample of the employees of human resources management department as well as employees of IT department who work at the Zitouna University. The potential respondents of the study were consisted of the employeesof human resources management departmentas well as employees of IT department. Thus, the sample elements included, staff, managers, IT employees and HRM employees.



During the data collection process, details about the current study questionnaire were explained to the HRM employees' and IT employees working at the Zitouna University. A verbal agreement (Orfanidou, Woll, & Morgan, 2014)-that is, third-person agreement-was gained by the HRM employees' and IT employees. Each questionnaire of the current study wouldhad a cover letter that includes a brief introduction of the goals of the study, in addition to confidential considerations. Thus, the current researcher is responsible for providing full instructions to each employee on how to answer each question of the study's questionnaire. During the analysis stage, the statistical Package for Social Sciences (SPSS) wasutilized for questionnaire data analysis. The regressionanalysis was used to demonstrate the significant impact of the information technology usage on human resources management performance.

**5. Research Model**

Based on the current research hypotheses, the following theoretical model will be tested by the relevant statistical techniques:

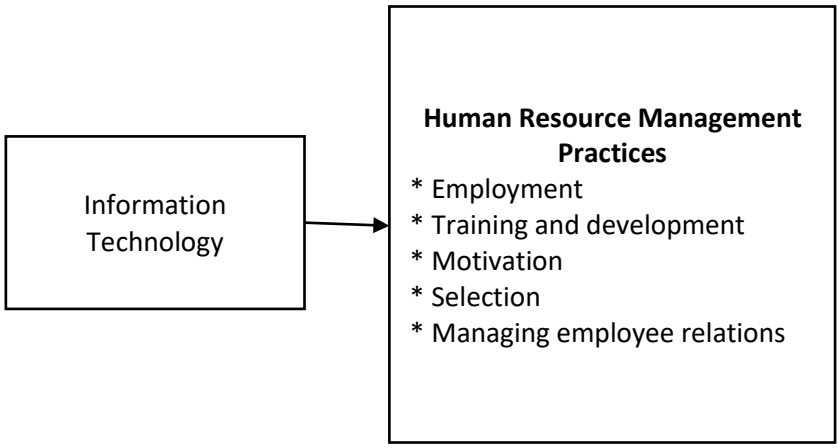


Figure 1. Research Framework



Based on the current study question, the currentmodel, therefore, leads to an assumption that indicates that the information techgnology applications play a sgnificant role in improving the human resources management practices (Galhena, 2015; Lewis, 2016; Li et al., 2006) in the Zitouna University. That is, the information techgnology applications leads to creating a positive improvment in the human resource management functions including employment, training and development, motivation, selection and managing employee relations

**6. Hypothesis**

**$H_i$:** The information technology applications will have a positive impact on the performance of the human resource management practices (employment, training and development, motivation, recruitment and selection, managing employee relations).

This main hypothesis will consist of the following sub-hypotheses:

In terms of the impact of the information technology or computerization on the job skills and employment practices, several studies (O'Brien, 2004; Orlikowski & Baroudi, 1991) have shown that the information technology has

an impact on the employment via improving the opportunity of employment and even employment practices in the organizations. However, other studies (Shaw, 2002) have shown that information technology (IT) has an impact on the is regularly mentioned as a likely cause for rising wage inequality and decreasing employment levels for less-educated (or less-skilled) employees. Therefore, the current study seeks to test the following hypothesis:

**$H_{I-1}$:** The information technology applications will have a positive impact on the performance of the employment practices

When focusing on the role of information technology, it has been shown that the information technology plays a role in designing and providing in-depth knowledge about the training and development programs of the human resource. For example, Goldstein and Ford (2002) provided details about the use of computer technology and the Web to conduct training and development programs, as they argue that the information technology has a positive impact on the training and development through facilitating the design training programs. In addition, Al-Alwani (2005) provided an evidence that shows that employees who received training programs utilized IT significantly more often than those who did not receive any training programs. Therefore, the current study seeks to test the following hypothesis:



**$H_{I-2}$:** The information technology applications will have a positive impact on the performance of the training and development

It has been revealed that the relevant literature has not yet provided enough details about the role of information technology in the motivation. However, it has been shown that in the information technology literature that both Bondarouk and Ruël (2008) and Ghazzawi et al. (2014) have provided results regarding the role of information technology, as they revealed that HRM system for IT implementation has directly and indirectly impact on theemployees' motivation to perform or achieve their activities by providing incentivesand rewards, as well as the information technology applications play a role in encourage (motivation)employees to work with the IT. Therefore, the current study seeks to test the following hypothesis:

**$H_{I-3}$:** The information technology applications will have a positive impact on the performance of the motivation

In terms of the impact of the information technology on the recruitment and selection practices, several studies (Anderson, 2003; Soliman & Spooner, 2000)

have shown that the information technology plays a role in building the knowledge management database about the recruitment and selection procedures andpractices.Therefore, the current study seeks to test the following hypothesis:

**$H_{I-4}$:** The information technology applications will have a positive impact on the performance of the recruitment and selection

Finally, in terms of the impact of the information technology on the employee relations, the relevant literature has not provided in-depth details about the impact of information technology on the employees' relations; nevertheless, some important studies(Collins & Smith, 2006; Fulmer et al., 2003) revealed that positive employee relations has a positive impact on theorganizational performance in high-technology firms by creating positive employee attitudes. Thus, the current study seeks to test the following hypothesis:

**$H_{I-5}$:** The information technology applications will have a positive impact on the performance of the employee relations.

**7. Analyse**

**Factor Analysis Findings**



The Table 1. shows that factor analysis of the relationship between information technology and human resource management.

Tablo 1. Availability of Information Technology

| Availability of İnformation Technology | Factor Load | Core value | Variance Explanation Rate *(%)* | Cronbach Alfa | Average | KMO value |
|---|---|---|---|---|---|---|
| Modern computers are available | .853 | 6.526 | 52 | 0.928 | 3.5544 | 0.912 |
| Internet access is available | .817 | | | | 3.1562 | |
| Internal internet network is available | .810 | | | | 3.0262 | |
| External internet network (extranet) is available | .807 | | | | 3.3186 | |
| There is an e-mail service | .804 | | | | 2.4904 | |
| The automatic finger print scanner for the hand fingers is available | .769 | | | | 2.1517 | |
| The Iris scanner is available | .722 | | | | 3.2038 | |
| Antivirus software is available | .714 | | | | 3.0706 | |
| Documents archiving software is available | .711 | | | | 3.8524 | |
| Software andoperating systems (Windows) areavailable. | .682 | | | | 3.2047 | |
| Exchange file sharing service is available | .673 | | | | 3.3270 | |
| Audio and video devices for meetings are available. | .268 | | | | 4.1356 | |
| Scanners are available | .243 | | | | 4.1016 | |



As shown in Table 1, the values of Kaiser-Meyer-Olkin (KMO)-for all variables (i.e., availability of information technology, utilization and contribution of

information technology, employment, training and development, motivation selection and managing employee relations)- were found to be 0.912, 0.924, 0.719, 0.655, 0.657, 0.691 and 0.695 respectively. Since this value is over 0.4 or even 0.5, it is shown that sampling is sufficient and meaningful factors can be obtained from research data.

The fact that all expressions have a factor load greater than 0.5 and an eigenvalue greater than 1 indicate that the expressions are suitable for use in analysis. The values of Cronbach's alpha coefficient for all variables (i.e., availability of information technology, utilization and contribution of information technology, employment, training and development, motivation selection and managing employee relations)- were found to be 0.928, 0.898, 0.819, 0.814, 0.889, 0.779 and 0.795respectively. Since these values greater than 0.60, the scale is highly reliable, and the variance explanation rate is 52%. Thus, it was decided that the scale could be used in scientific research. According to the consequences of the research, since the importance level of most of the scales included in the scale is between 2.15 and 4.47, it has been evaluated that the expressions in the measure are mostly accepted by the participants. This indicates that the information technology may have an impact on the human resource management performance.

Tablo 1. Utilization and Contribution of Information Technology (Cont.)

| Utilization and Contribution of Information Technology | Factor Load | Core value | Variance Explanation Rate *(%)* | Cronbach Alfa | Average | KMO value |
|---|---|---|---|---|---|---|
| It helps to divide the work. | .777 | 7.308 | 48 | 0.898 | 4.3128 | 0.924 |
| It helps to rely on modern decision-making methods. | .740 | | | | 3.9692 | |
| It increases the administration decentralization | .737 | | | | 4.3557 | |
| İt helps to achieve more flexibility in work performance | .723 | | | | 4.4790 | |
| It helps to avoid employee mistakes | .707 | | | | 4.1921 | |
| Facilitate work remotelyvia the Internet | .705 | | | | 4.1805 | |
| It helps to achieve the interaction among the departments | .704 | | | | 4.0368 | |
| Accelerate the process of getting information | .700 | | | | 3.9755 | |
| It leads to the accuracy of the information | .699 | | | | 4.3810 | |
| It contributes to the integration of the different departments | .691 | | | | 3.8906 | |
| Administrative processes are re-engineered to suit the shift in the electronic management | .683 | | | | 3.8747 | |
| It helps to accelerate the delivery of services to beneficiaries | .674 | | | | 4.1220 | |
| It helps to accurately define responsibilities, power sand tasks | .641 | | | | 4.1594 | |
| It increases the privacy by preventing unauthorized people to access to computer systems | .638 | | | | 4.0992 | |
| It minimizes papers for record keeping through electronic archiving | .636 | | | | 4.0795 | |

Tablo 1. Employment (Cont.)

| **Employment** | Factor Load | Core value | Variance Explanation Rate *(%)* | Cronbach Alfa | Average | KMO value |
|---|---|---|---|---|---|---|
| The information technology helps the university in the process of planning employment | 0.885 | 2.464 | 82.181 | 0.719 | 3.8463 | 0.889 |
| helps the university in Employment arrangements and remuneration | 0.936 | | | | 3.7630 | |
| helps the university in increasing the efficiency of archiving the employment documents | 0.896 | | | | 3.7308 | |

Tablo 1. Training and Motivation (Cont.)

| **Training and development** | Factor Load | Core value | Variance Explanation Rate *(%)* | Cronbach Alfa | Average | KMO value |
|---|---|---|---|---|---|---|
| enables the university in teaching employees new skills | .890 | 2.081 | 69.37 | 0.814 | 3.82 | 0.655 |
| enables the university employees to learn tasks associated with their jobs and to improve their skills | .818 | | | | 3.79 | |
| enables the university in designing and implmenting best traing programs | .787 | | | | 3.79 | |
| **Motivation** | Factor Load | Core value | Variance Explanation Rate *(%)* | Cronbach Alfa | Average | KMO value |
| enables the university in designing and implmenting a reward plan | .845 | 2.167 | 72.241 | 0.807 | 3.58 | 0.695 |
| increases the effectiveness and | .808 | | | | 3.97 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| efficiency of incentive system | | | | | | |
| enables the university in brining the justice in the incentive and reward plan | .747 | | | | 3.58 | |

Tablo 1. Recruitment and Selection (Cont.)

| **Recruitment and Selection** | Factor Load | Core value | Variance Explanat. Rate *(%)* | Cronbach Alfa | Average | KMO value |
|---|---|---|---|---|---|---|
| The information technology enables the university in recruiting enough qualified staff | 0.808 | 1.925 | 64.153 | 0.715 | 3.76 | 0.657 |
| enables the university in choosing and hiring the most qualified; testing and interviewing employees among other | 0.845 | | | | 3.76 | |
| enables the university in effectively using both internal and external recruitment methods | 0.747 | | | | 3.58 | |



Tablo 1. The Managing Employee Relations (Cont.)

| **The Managing Employee Relations** | Factor Load | Core value | Variance Explanat. Rate *(%)* | Cronbach Alfa | Average | KMO value |
|---|---|---|---|---|---|---|
| information technology improves the relationships between the employees | .886 | 2.167 | 72.241 | 0.795 | 3.58 | 0.695 |
| enables the university in achieving the interaction and integratio namong the different departments and employees. | .839 | | | | 3.97 | |
| promotes a healthy and balanced relation between the employees and the university | .824 | | | | 3.58 | |

**Anova Findings**

R- Squared ($R^2$) and ANOVA *F* as shown in Table2.

Table 2. Findings of Regression Analysis

| Independent variable | Dependent variable: Employment |
|---|---|
| Availability of information Technology | -0.002 |
| Utilization of the Contribution of information Technology | 0.684** |
| $R^2$ | 0.467 |
| ANOVA *F* | 115.389** |
| Independent variable | Dependent variable: Training and Development |
| Availability of information Technology | 0.041 |
| Utilization of the Contribution of information Technology | 0.593** |
| $R^2$ | 0.365 |
| ANOVA *F* | 75.470** |
| Independent variable | Dependent variable: Motivation |
| Availability of information Technology | 0.0.056 |
| Utilization of the Contribution of information Technology | 0.433** |
| $R^2$ | 0.201 |
| ANOVA *F* | 33.175** |
| Independent variable | Dependent variable: Selection |
| Availability of information Technology | 0.087 |
| Utilization of the Contribution of information Technology | 0.384** |
| $R^2$ | 0.170 |
| ANOVA *F* | 26.939** |
| Independent variable | Dependent variable: Managing Employee Relations |
| Availability of information Technology | 0.090 |
| Utilization of the Contribution of information Technology | 0.301** |
| $R^2$ | 0.111 |
| ANOVA *F* | 16.396** |
| *ve** Standardized Coefficient is significant at the 0.05 level 0.01 level, n=266 | |

In this section, the regression analysis was used to show the impact of technology on the human resource management practices. Before testing all hypotheses, the five regression models were evaluated by the R- Squared ($R^2$) and ANOVA *F* as shown inTable2.

It can be seen that the value of R Squared of the five regression models ($R^2$=0.0.467, 0.365, 0.201, 0.170 and 0.111 respectively), as $R^2$ designates that approximates 47%, 37%, 20%, 17% and 11% of changes in the value of the employment, training and development, motivation, selection and managing employee relationscan be attributable to availability of information technology and utilization of the contribution of information technology.

The above percentages show that there is a good Goodness-of-Fit for the five regression models of the five hypotheses. The results of the five R-Squared (s)are supported by the values of ANOVA *F*, which are (*F* =115.389, 75.470, 33.175, 26.939 and 16.396 respectively), as all values are significant at the 0.01 level. Consequently, there is a good Goodness-of-Fit for the five regression models of the five hypotheses.



**So acceqpted all ofg hypothesis.**

Based on Table 2, the second hypothesis is almost completely supported, as the Standardized Coefficient (β) of utilization of the contribution of information technology is significant (β=0.684, p<0.01). While, the Standardized Coefficients (β) ofavailability of information technology is insignificant at 0.01 level or 0.05 level. That is, only utilization of the contribution of information technologyhave positive impacts on the employment. In addition, the second hypothesis is almost completely supported, as the Standardized Coefficient (β) of utilization of the contribution of information technology is significant (β=0.593, p<0.01).

While, the Standardized Coefficients (β) ofavailability of information technology is insignificant at 0.01 level or 0.05 level. That is, only utilization of the contribution of information technologyhave positive impacts on the training and development. Furthermore, the third hypothesis is almost completely supported, as the Standardized Coefficient (β) of utilization of the contribution of information technology is significant (β=0.433, p<0.01). While, the Standardized Coefficients (β) ofavailability of information technology is insignificant at 0.01 level or 0.05 level. That is, only utilization of the

contribution of information technologyhave positive impacts on the motivation.

According to Table 2, the fourth hypothesis is almost completely supported, as the Standardized Coefficient (β) of utilization of the contribution of information technology is significant (β=0.384, p<0.01). While, the Standardized Coefficients (β) ofavailability of information technology is insignificant at 0.01 level or 0.05 level. That is, only utilization of the contribution of information technologyhave positive impacts on the selection. Moreover, the fifth hypothesis is almost completely supported, as the Standardized Coefficient (β) of utilization of the contribution of information technology is significant (β=0.301, p<0.01).

While, the Standardized Coefficients (β) ofavailability of information technology is insignificant at 0.01 level or 0.05 level. That is, only utilization of the contribution of information technology have positive impacts on the managing employee relations.In general, it is clear that the current university of the study shows the ability to effectively to utilize the information technology applications. This can be by the positive impact of the utilization of the contribution of information technology on the human resource management practices including employment, training and development, motivation, selection and managing employee relations.



**8. Discussion**

First of all, the current study demonstrated that the effect of utilization of the contribution of information technology on the employmentissignificant. While, the effect of information technology is insignificant at 0.01 level or 0.05 level. That is, only utilization of the contribution of information technology have positive impacts on the employment. This finding is similar to that found in (O'Brien, 2004; Orlikowski & Baroudi, 1991) who found out that the information technology or computerization has an impact on the job skills and employment practices.

Several studies have shown that the information technology has an impact on the employment via improving the opportunity of employment and even employment practices in the organizations. In addition, other studies (Shaw, 2002) have shown that information technology (IT) has an impact on the employment practices. As the technology is a likely cause for rising wage inequality and decreasing employment levels for less-educated (or less-skilled)

employees (Shaw, 2002).

In the other side, the current findings revealed that only utilization of the contribution of information technology has positive impacts on the training and development. The result in this investigation is similar to that used by other researchers. For example, it has been shown that the information technology plays a role in designing and providing in-depth knowledge about the training and development programs of the human resource.

Goldstein and Ford (2002) provided details about the use of computer technology and the Web to conduct training and development programs, as they argue that the information technology has a positive impact on the training and development through facilitating the design training programs. In addition, The current findings are in line with the findings of Al-Alwani (2005) who provided an evidence that shows that employees who received training programs utilized IT significantly more often than those who did not receive any training programs.

Furthermore, the current results show that the effect of utilization of the contribution of information technology is significant. While, the effectofavailability of information technology is insignificant at 0.01 level or 0.05 level.These results are similar to those reported by (Bondarouk & Ruël, 2008; Ghazzawi et al., 2014) that have revealed that there is no enough details about the role of information technology in the motivation.



The current findings are in line with the results ofGhazzawi et al. (2014) who have provided results regarding the role of information technology, as they revealed that HRM system for IT implementation has directly and indirectly impact ontheemployees' motivation to perform or achieve their activities by providing incentivesand rewards, as well as the information technology applications play a role in encourage (motivation)employees to work with the IT.

Moreover, the current results show that the effect of utilization of the contribution of information technology is significant. While, the effectofavailability of information technology is insignificant at 0.01 level or 0.05 level. That is, only utilization of the contribution of information technology have positive impacts on the selection. Indeed, the current findings agree with the previous studies as they showed the information technology has an impact on the recruitment and selection practices.

Several studies forexample (Anderson, 2003; Soliman &Spooner, 2000) have shown that the information technology plays a role in building the knowledge management database about the recruitment and selection procedures andpractices.

Finally, the current results demonstrated that the effect of utilization of the contribution of information technology is significant. While, the effectofavailability of information technology is insignificant at 0.01 level or 0.05 level. That is, only utilization of the contribution of information technology have positive impacts on the managing employee relations. That is to say, the current findings are inconsistent with the relevant literature has not provided in-depth details about the impact of information technology on the employees' relations (Fulmer, Gerhart, & Scott, 2003); nevertheless, some important studies(Collins & Smith, 2006; Fulmer et al., 2003) revealed that positive employee relations has a positive impact on the organizational performance in high-technology firms by creating positive employee attitudes.

**9. Results**

The current findings show that utilizing the information technology applications plays a role in human resource management function. This can be seen by the positive impact of the utilization of the contribution of information technology on the human resource management performance's indicators including employment, training and development, motivation, selection and managing employee relations.



The current study demonstrated that the effect of utilization of the contribution of information technology on the employment is significant. While, the effect of information technology is insignificant at 0.01 level or 0.05 level. That is, only utilization of the contribution of information technology have positive impacts on the employment.

the current findings revealed that only utilization of the contribution of information technology has positive impacts on the training and development.

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The current results demonstrated that the effect of utilization of the contribution of information technology is significant. While, the effect ofavailability of information technology is insignificant at 0.01 level or 0.05 level. That is, only utilization of the contribution of information technology have positive impacts on the managing employee relations.

**10. Suggestions**

*It is recommendedthat the study's organization needs to design training programs to train its employees about using the information technology for improving human resources management performance

*It is recommendedthat the study's organization needs to buy the information technology equipment to may play a role in improving the human resources management performance

*It is recommendedthat the study's organization needs to improve the performance of the human resource management practices (employment, training and development, motivation, recruitment and selection, managing employee relations) via improving the utilization of the contribution of information technology and utilization of the contribution of information technology.



*It is recommendedthat the Zitouna University needs to develop email, text and messaging apps that plays a role in helping the Human Resource staff to stay in touch with the rest of the departments of the Zitouna university. Forexample, when a manager of a scientific research department wants to share a new schedule with a scientific project team, as one email with an attachment can share data with many people at once. In addition, with a reply all icon, everyone can ask questions and hear the answers from others.

*It is recommended that the Zitouna University needs to utilize the Technology for gathering and breaking down data about employees' performance to get an overall picture regarding best performance of the employees. For example, electronic records of the employees' performance can help in showing if the employees meet all the goals by comparing their last year's performance assessments.

*It is recommendedthat the Zitouna University needs to utilize job

portals on the internet to search for the best employees or candidates for anacademic or non-academic position. The process can be made effectively with the use of the Job-seeking internet as many candidates come to know of the offer and hence increases the probability of hiring efficient candidates.

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