



Does Information Technology affect Improvement of Human Resources Directorate’s Performance in a Selected Organization in the Kingdom of Bahrain?

Abdul Rahman Ismaeel Al Hosani^{[a],*}; Ahmed Mohammed Arbab^[a]; Ahmed Azzam Elmasri^[a]

^[a]Ministry of Finance, Manama, Kingdom of Bahrain

^[b]Department of Business Administration, Applied Science University, Manama, Kingdom of Bahrain.

^[c]Department of Computer Science, Applied Science University, Manama, Kingdom of Bahrain.

*Corresponding author.

Received 20 June 2017; accepted 17 August 2017

Published online 26 August 2017

Abdul Rahman Ismaeel Al Hosani, Ahmed Mohammed Arbab, Ahmed Azzam Elmasri (2017). Does Information Technology affect Improvement of Human Resources Directorate’s Performance in a Selected Organization in the Kingdom of Bahrain?. *International Business and Management*, 15(1), 1-7. Available from: <http://www.cscanada.net/index.php/ibm/article/view/9750> DOI: <http://dx.doi.org/10.3968/9750>

Abstract

The study aimed to identify the impact of information technology on performance of the human resources directorate in a Selected Organization in the Kingdom of Bahrain through the identification of a workflow system. The study population sample consisted of 175 employees representing 54.7% of total population. The researcher built a study tool consisting of 56 items covering four dimensions: a convenient and scalable electronic workflow system; personnel qualified to use the system; updated infrastructure, and higher management’s role in keeping up with technological developments. The study used descriptive and analytical approaches. The results indicated that the performance of the human resources directorate in the Selected Organization improved significantly by 75.9%. This performance developed through the application of electronic workflows by 76.0%, via the up to date infrastructure by 78.5%, and via higher management’s role in keeping up with technological developments by 80.5% (a significant increase). Based on the results of the study, these recommendations were presented: a) the need to use an up to date electronic workflow system. b), training sessions for staff on ways to employ electronic workflow systems (workflow) to enhance the performance of human resources.

Key words: Information technology; Human resources; eHRM; Workflow; Performance improvement; Green Policy; Selected organization.

INTRODUCTION

Advances in technology are one of the main phenomena of the 21st century. These advances have facilitated movement and communication as well as all work related procedures, which have had a significant impact on the performance of organization functions in the Kingdom of Bahrain. The Selected Organization has witnessed a shift towards using green methods by using electronic procedures in human resources.

This study focuses on the electronic procedures carried out at the Directorate of Human Resources by looking at the services provided to the Organization and other directorates’ staff. It also measures the impact of IT on the performance of the human resources directorate by limiting the use of paper-based procedures, improving efficiency and the speed with which the work is completed. In addition, it looks at the impact of information technology in facilitating procedures, providing exceptional service, improving the quality of completed work, improving privacy measures, as well as efficient transfer of information and ease of accessing this information.

The Selected Organization has achieved considerable progress in IT by implementing its plan to become a paperless, electronic based entity.

1. LITERATURE REVIEW

1.1 The Concept of Information Technology

Information technology is a wide range of integrated hardware and software used in dealing with information and data in terms of storing, organizing, processing and retrieving information and making it available for the organization when needed. This means that it is all the advanced technologies used to transfer data in its various forms to information of various kinds. Wenger (2007) and Al Alaq (2008) confirm this view.

Others such as Laudon & Laudon (2006) and Alter (2002) argue that information technology is a subsidiary system of a total and comprehensive system for management information which selects, collects, runs, and analyzes data, and produces information and sends it to decision-making centers according to their needs with respect to quantity, quality and the timing to obtain it. This means all approved computer-based information systems used by organizations and their basic techniques, which involve the use of computers, and means of effective communication, and software capable of accomplishing and achieving the objectives of different organizations.

The main objective of human resource information systems is to maintain accurate, complete and renewable data, which can be used when needed for preparing reports, records, tasks and procedures. This indicates that human resources information systems are designed for providing information to beneficiaries, which contribute to decisions by the human resources department in the organization. Gara (2001) and Kanthawongs, Penjira (2002), confirm this view. Laudon (2006) claims that a human resource information system keeps employees' records (tracing skills, work performance and training) and supports planning for employee compensation and career development.

1.2 Concept of Human Resources

Human resource management is one of the main directorates and functions in an organization. It carries out everything related to work affairs. We can say that it is a chain of decisions related to work affairs that affect the efficiency of an organization and its staff. Moreover, it is a group of programs, roles and activities designed to maximize both the individual's and the organization's objectives. This means that it is a process of bringing the workforce to its maximum potential in terms of qualifications and coordination. In order to achieve the desired objectives in the most cost efficient way and in a short time, this process allows for efficient use of resources. Alsalmi (2009), Al-Otaibi (2010) and Al Selmi (2007) support these views.

Human resources management can also be described a managerial activity related to the identification of project's needs in terms of workforce and a response to these needs by providing the appropriate workforce within

the numbers and qualifications that correspond to the project's needs, and using these resources in an efficient way to achieve productivity. Moreover, it can be seen as a process of paying attention to everything related to human resources that is needed by any organization to achieve its objectives, starting from recruiting, supervising, maintaining and retaining staff and then directing them towards achieving the company's objectives.

In addition, Gary Desler (2012) and Kafi (2014) claim that human resource management is a group of practices and policies that are needed to implement various activities. Through them, management carries out its function to the best of its capabilities.

The importance of the directorate of human resources in achieving the organization's goals lies in viewing it as an important function and recognizing its role in developing individuals in an organization to improve his or her efficiency and its impact on the life of individual, organization and society.

From the above, the concept of human resources can be summarized as a number of processes, policies and activities that are practiced by a separate directorate within an organization, which deals with all staff affairs, and the organization's directorates in order to develop their skills and respond to their needs. In addition, it has a chain of processes and principles that aim to organize individuals to achieve the best possible benefit from human resources and to extract their best potential through planning and acquiring, selection, appointment, training, as well as via financial and moral incentives.

The researcher sees that the objectives of a modern human resource department are to maximize the benefit of both the institution and the staff working on it. This is achieved via the planning of human resource needs, acquisition of resources, training, performance evaluation and financial incentives for the people working in the organization. This should fall within a framework that maximizes the value of the institution and the individual's benefits, which cannot be achieved – in the opinion of the researchers – without the use of modern technology.

1.3 The Human Resources System

Carroll & Wagar (2010, p25),

the adoption of technology in delivering human resource (HR) practices due to the digital revolution in the world is such a tool that organizations can employ to manipulate the performance and behavior of the people on whom they rely on to achieve business success.

The researchers agree with Carroll and Wagar (2010) that the benefits of introducing information technology in the human resources directorate has an immediate impact on decision making which increases productivity and reduces costs. In addition, it reduces bureaucracy, which leads to improved performance and the achievement of objectives of the human resources department. Moreover, the use of computers has contributed effectively to

the work of human resource departments to define information systems used in registries management, selection, appointment, and training as well as staff performance evaluations.

1.4 The Relationship Between Information Technology and the Improvement of the Human Resources Performance according to Preceding Studies

Daraj (2013), Kasasbeh (2007), Ruel et.al (2007) and Parry et.al (2007) confirm that information technology improves human resources management procedures. This means that the transformation process to electronic human resources management requires a change in both the skills of HR staff and managers.

Mutairi (2012) indicated that there is an existence of a positive significant correlation between the software level used and decision making, while Hong (2011) argues that the adoption of both information technology and a virtual organizational structure have a positive impact on organizational creativity. The researchers agree that information technology enhances the transformation processes of creativity and innovation in organizations and build and maintain competitive advantages. In contract, Carroll and Wagar (2010) argue that the adoption rate of information technology differed significantly between small and medium-sized businesses with regard to workload, re-organizational structures, and investment in human resources management.

2. PROBLEM OF THE STUDY

One of the most important reasons that led the Human Resources Directorate in the Selected Organization to use electronic human resources management (eHRM) was to shift the HR rules, regulations and forms to paperless procedures. Modern techniques in networking further lead to the establishment of rules and data warehouses and will replace humans role who deal with significant paperwork and archiving. Using automated interaction reduces paperwork and brings artificial intelligence instead of human intelligence.

The Selected Organization is worried about the need for continued and sustained work in implementing tasks assigned to it. Objectives of the Selected Organization can not be achieved without improving and developing human resource performance. This required development of employees' skills and the introduction of modern methods that help them cope with the changes and challenges. One of the main challenges faced in recent years has been the need to develop technology and the use of information systems to overcome a range of challenges such as the flow of a large number of concurrent procedures within a short period via the electronic workflow system. Despite the awareness of senior management regarding the importance of developing information technologies in

the Selected Organization, the current infrastructure of information technology is unable to handle the flow of a large number of procedures. This is coupled with the staff's inability to cope with the continuing advancement in the electronic systems. Therefore, this study attempts to answer the following question: What is the Impact of Information Technology on the Improvement of Human Resources Directorate's Performance in the Selected Organization?

2.1 Importance of the Study

The importance of this study stems from the key role of information technology in electronic workflow system to facilitate performance in the Selected Organization as well as creating an accurate database for all actions taken by the administration.

2.2 Objectives of Study:

- a) To know the impact of information technology on human resources directorate's performance in the Selected Organization in the Kingdom of Bahrain.
- b) To know the reality of information technology in the Selected Organization in the Kingdom of Bahrain.
- c) To know the reality of the performance of human resources directorate in the Selected Organization in the Kingdom of Bahrain.

3. RESEARCH METHODOLOGY

In this research, descriptive and analytical approaches were used for describing, diagnosing and analyzing data regarding the views of respondents on the role of information technology in improvement of human resources directorate's performance of the Selected Organization.

3.1 Hypotheses Development

Based on the objectives of the study and the problem stated above, the researchers formulated the following hypotheses.

- a) A convenient and scalable electronic workflow system contributes to the improvement of human resources directorate's performance of the Selected Organization.
- b) Personnel qualified to use the system contributes to the improvement of human resources directorate's performance of the Selected Organization.
- c) Up to date infrastructure contributes to the improvement of human Resources directorate's performance of the Selected Organization.
- d) Higher management's role in keeping up with technological developments contributes to the improvement of human resources directorate's performance of the Selected Organization.

3.2 Theoretical Framework

Based on the objectives of study, the following question was raised: What is the impact of information technology on the improvement of human resources directorate's

performance in the Selected Organization? To address this issue, the study utilized Parry et.al's (2010) conceptual framework to identify the information technology dimensions as in following theoretical framework:

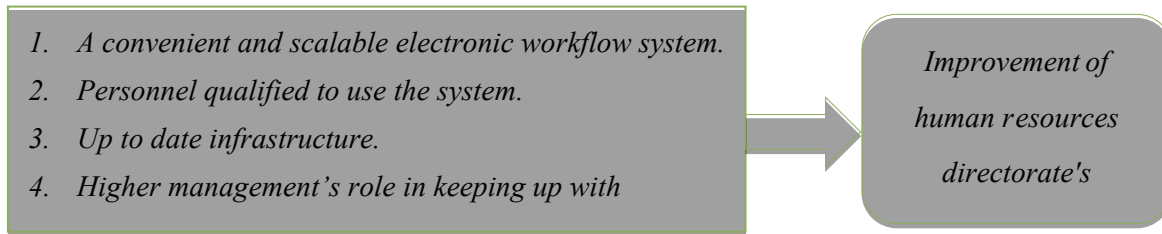


Figure 1
The Theoretical Model of the Study

3.3 Population of the Study

All staff of the human resources directorate of the Selected Organization. This number is about 320 individuals.

3.4 Sample Size:

According to Krejcie & Morgan's (1970) sampling model, the sample size was 175, representing 54.7% of the population. In total, 175 questionnaires were distributed to individuals representing operational management (staff), supervisory management (heads of section and units) and middle management (heads of departments). 105 questionnaires were received back, indicating a response rate of 32.8% of the population.

3.5 Data Collection

Data was collected using a structured questionnaire that consisted of two parts. The first part dealt with demographic information and the second part of the measurement of variables proposed in the theoretical

framework. Apart from demographic variables, all the other variables were measured using a five-point Likert type scale, where "strongly agree" was given five and "strongly disagree" one.

4. ANALYSIS AND DISCUSSION OF THE RESULTS

Data was analyzed using the Statistical Package for Social Science (SPSS) Version 21. Certain techniques were used such as Cronbach alpha, correlation coefficient, simple regression, averages and standard deviation.

4.1 Reliability and Validity Test

To confirm the reliability and validity of the questionnaire, Cronbach's alpha coefficient and correlation coefficient was calculated for of the information technology dimensions as shown in Table 1 below.

Table 1
Cronbach Alpha and Correlation Coefficient of Questionnaire Dimensions

Dimensions of questionnaire	Cronbach Alpha	Correlation coefficient	Level of sig.
A convenient and scalable electronic workflow system.	0.89	0.85	0.01
Personnel qualified to use the system.	0.92	0.87	0.01
Up to date infrastructure.	0.88	0.85	0.01
Higher management's role in keeping up with technological developments.	0.91	0.86	0.01

It can be seen from Table 1, all values of Cronbach's alpha coefficient and correlation coefficient are more than 0.7, which considered being high, thus confirming the measurements used in this study had high reliability and validity as stated by Iacobucci and Duhachek (2003). All values of Cronbach's alpha coefficient and correlation coefficient were significant at level 1%.

4.2 Discussion of Research Question

To answer the research question, which states: "What is the impact of information technology on the improvement

of human resources directorate's performance of the Selected Organization?" The averages, standard deviations, coefficient of variation, relative importance, ranking and level of the study sample have been calculated for the questionnaire dimensions as shown in table 2 below. Levels are determined based on the value of the averages. High level when value of the average is between (3.67-5.00). Intermediate level if the value of the average is between (2.34-3.66). Low level when value of the average is between (1.00-2.33).

Table 2
Averages, Standard Deviations, Coefficient of Variation, Relative Importance, Ranking and Levels of the Questionnaire Dimensions

No	Dimensions of questionnaire	Averages	Standard deviation	Coefficient of variation	Relative importance	Ranking according to averages	level according to averages
1	A convenient and scalable electronic workflow system contributes to the improvement of human resources directorate's performance of the Selected Organization.	3.794	0.522	13.8%	75.9%	4	High
2	Personnel qualified to use the system contributes to the improvement of human resources directorate's performance of the Selected Organization.	3.798	0.580	15.3%	76.0%	3	High
3	Up to date infrastructure contributes to the improvement of human resources directorate's performance of the Selected Organization.	3.925	0.556	14.2%	78.5%	2	High
4	Higher management's role in keeping up with technological developments contributes to the improvement of human resources directorate's performance of the Selected Organization.	4.023	0.604	15.0%	80.5%	1	High

Table 2 shows that overall mean of each of the four dimensions of questionnaire obtained high level with averages ranging between (4.023 and 3.794). Dimensions no. (4), has obtained high average (4.023), while dimensions no. (1), has obtained the lowest average (3.794). Generally, all four dimensions of questionnaire contributes to the improvement of human resources

directorate's performance of the Selected Organization.

4.3 Testing the Research Hypotheses

To validate the hypotheses, *t*-test value was calculated to know the significance of differences between calculated average and assumed average for the responses of the sample on each dimension as shown in the following tables.

Table 3
Significance of Differences Between the Calculated Average and Assumed Average Regarding of the Level Contribution of a Convenient and Scalable Electronic Workflow System in Improvement of Human Resources Directorate's Performance.

Averages	Calculated averages	Standard deviations	Differences in averages	<i>t</i> -test value	Degree of freedom	Level of sig
Calculated average	3.794	0.522	0.794	15.583	104	0.001
Assumed average	3					

Table 3 indicates the existence of statistically significant (0.001) differences between the calculated average and assumed average regarding of the level contribution of a convenient and scalable electronic workflow system in improvement of human resources directorate's performance in the Selected Organization. The differences in averages for the benefit of the

calculated average of the responses of the sample with the value (3.794). Based on this result revealed above, the first hypothesis was accepted which states that; A convenient and scalable electronic workflow system contributes to the improvement of human resources directorate's performance of the Selected Organization.

Table 4
Significance of Differences Between the Calculated Average and Assumed Average Regarding of the Level Contribution of Personnel Qualified to Use the System in Improvement of Human Resources Directorate's Performance

Averages	Calculated averages	Standard deviations	Differences in averages	t-test value	Degree of freedom	Level of sig
Calculated Average	3.798	0.580	0.798	14.105	104	0.001
Assumed Average	3					

Table 4 showed that the existence of statistically significant (0.001) differences between the calculated average and assumed average regarding of the level contribution of personnel qualified to use the system in improvement of human resources directorate's performance through the application of the electronic workflow system in the Selected Organization. The

differences in averages for the benefit of the calculated average of the responses of the sample with the value (3.798). Thus, these revealed results, the second hypothesis was accepted which states that; Personnel qualified to use the system contributes to the improvement of human resources directorate's performance of the Selected Organization.

Table 5
Significance of Differences Between the Calculated Average and Assumed Average Regarding of the Level Contribution of Up to Date Infrastructure in Improvement of Human Resources Directorate's Performance

Averages	Calculated averages	Standard deviations	Differences in averages	t-test value	Degree of freedom	Level of sig
Calculated Average	3.925	0.556	0.925	17.049	104	0.001
Assumed Average	3					

Table 5 explained that the existence of statistically significant (0.001) differences between the calculated average and assumed average regarding of the level contribution of up to date infrastructure in improvement of human resources directorate's performance in the Selected Organization. The differences in averages for the benefit

of the calculated average of the responses of the sample with the value (3.925). Accordingly, these revealed results, the third hypothesis was accepted which states that; Up to date infrastructure contributes to the improvement of human resources directorate's performance of the Selected Organization.

Table 6
Significance of Differences Between the Calculated Average and Assumed Average Regarding of the Level Contribution of Higher Management's Role in Keeping Up With Technological Developments in Improvement of Human Resources Directorate's Performance

Averages	Calculated averages	Standard deviations	Differences in averages	t-test value	Degree of freedom	Level of sig
Calculated average	4.023	0.604	1.023	17.343	104	0.001
Assumed average	3					

Table 6 indicates that the existence of statistically significant (0.001) differences between the calculated average and assumed average regarding of the level contribution of higher management's role in keeping up with technological developments in improvement of human resources directorate's performance in the Selected Organization. The differences in averages for the benefit of the calculated average of the responses of the sample with the value (4.023). Thus, these revealed results, the forth hypothesis was accepted which states that; Higher management's role in keeping up with technological developments contributes to the improvement of human resources directorate's performance of the Selected Organization.

system contributes in improvement of human resources directorate's performance of the Selected Organization with a high level (75.9%) according to Average. These findings are supported by Emma, (2015), Tiina, (2015), and Ahmad and Ibrahim (2015).

(b) Personnel qualified to use the system contributes in improvements of human resources directorate's performance of the Selected Organization with a high level (76.0%) according to Average. These significant results comply with Bülbül (2015), Sharif, (2014), and Crawford, (2005).

(c) Up to date infrastructure contributes in improvements of human resources directorate's performance of the Selected Organization with a high level (78.5%) according to Average. These findings are supported by Emma, (2015), Tiina, (2015), and Ahmad and Ibrahim (2015).

CONCLUSION

(a) Convenient and scalable electronic workflow

(d) The presence of higher management's role in keeping up with technological developments contributes in improvements of human resources directorate's performance of the Selected Organization with a high level (80.5%) according to Average. These significant results comply with Bülbül (2015), Sharif, (2014), and Crawford, (2005).

(e) Information technology contribute in the improvement of human resources directorate's performance in the Selected Organization. These findings are supported by Emma, (2015), Tiina, (2015), and Ahmad and Ibrahim (2015).

RECOMMENDATIONS

Based on these findings the researchers recommend the following:

- (a) The need to use an up to date electronic workflow system to ensure continued development of information technology.
- (b) Training sessions for staff on ways to employ electronic workflow systems to enhance the performance of human resources in the Selected Organization.
- (c) Consideration should be given to views of electronic workflow system users regarding development of services provided to them.
- (d) Smart phone technology should be introduced and to be connected with the electronic workflow system to allow use of service outside of working hours and beyond the Selected Organization building.
- (e) The application of the green environmental policy of the Selected Organization should be expanded through the conversion of all paperwork it into electronic workflow system and entirely dispense paper-based transactions.

The researchers recommend following future studies:

- (a) The relationship between quality of performance and application of information technology in public sector companies in the Kingdom of Bahrain.
- (b) The impact using of social media and smartphones on implementation of job tasks for government units in the Kingdom of Bahrain.

REFERENCES

Al Selmi, A. (2007). *Human resources management*. Dar Greeb for Printing and Publishing, Cairo, Egypt

- Al-Mutairi, N. (2012). *The impact of the use of information technology on management decision-making in the ministry of health, state Kuwait: An empirical study* (Unpublished MA Thesis). Delmon University for Science and Technology, Kingdom of Bahrain.
- Al-Otaibi, A. A.-R. (2010). *The impact of the use of information technology on the performance of human resources: A field study in the Australian international academy*. The British Arab Academy for Graduate Studies. Amman, Jordan.
- Alsalmi, A. A. R. (2002). *Information technology* (2nd ed.). Dar Al-Manahig for Publishing and Distribution. Amman, Jordan.
- Alter, S. (2002). *Information systems*. Prentice Hall, New Jersey.
- Kafi, M. Y. (2014). *Human resources management from an administrative- development- technology- global perspective*. Arab Community Bookstore for Publishing and Distribution, Amman, Jordan.
- Carroll & Wagar. (2010). Is there a relationship between the adoption of information technology and human resources management? *Journal of Human Resources*, 6(2).
- Daraj, A. A. (2013). *The role of information technology in improving human resources management procedures, an applied study in bahrain the civil service bureau* (Unpublished MA Thesis). Applied Science University, the Kingdom of Bahrain.
- Gara, S. J. (2001). *How an HRIS can impact HR: A complete paradigm shift for the 21st century*, SHRM Website.
- Gary, D. (2012). *Human resources management* (M. Abdel Metaal & others, Trans.). Dar Marekh, Riyadh, Saudi Arabia.
- Hong, Y. (2011). Electronic human resources management and organizational creativity: ITS roles and virtual organizational structure. *An International Business Journal*, 5(1).
- Kasasbeh, W. A. K. (2007). *The role of information technology in improving the efficiency of corporate performance: A case study in the jordanian free zones corporation* (Unpublished PhD thesis). Amman Arab University for Graduate Studies, Amman, Jordan.
- Laudon, K. C., & Laudon, J. P. (2006). *Management information systems*, Ninth edition, Prentice Hall, New Jersey.
- Parry, et al. (2007). The human resources and technology: Impacts and benefits. *Journal of Information Technology*, 8(4).
- Ruel, et al. (2007). The contribution of electronic human resources management in the effectiveness human resources management: A quantitative study in the dutch ministry. *Journal of Management Theory & Practice*.
- Wenger, A. (2007). *Three essays on the influence of information technology in the organization of firm*. DAL/A60-01.