

The Impact of Enterprise Resource Planning System of Human Resources on the Employees' Performance Appraisal in Jordan

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Abstract: - The aim of this study is to determine the impact of Enterprise Resource Planning System of human resources on the employees' performance Appraisal in Jordan. It investigates the relationship between System Quality, Information Quality, Service Quality, User Satisfaction; and Performance Appraisal. The study was motivated because most of the literature about ERP systems in Jordan has focused on the success and failure factors of the ERP systems. Jordanian National Electric Power Company (NEPCO) was chosen to conduct the study because it has implemented a new electronic performance appraisal system based on the ERP system. Data were collected via questionnaires from 98 managers and department heads working at Jordanian National Electric Power Company (NEPCO). The results of this study revealed that there is a significant effect of System Quality, Information Quality and User Satisfaction of Enterprise Resource Planning System on Performance Appraisal, while Service Quality has no effect on Performance Appraisal. Therefore, the important recommendation is to improve the service quality of the system and to bring encouragement and confident to the users towards the success of the system.

Key-Words: - ERP System, System Quality, Service Quality, Information Quality, User Satisfaction, Performance Appraisal, Jordan, NEPCO.

Received: October 31, 2021. Revised: April 1, 2021. Accepted: April 7, 2021. Published: April 14, 2021.

1 Introduction

Organizations seek to improve the quality of the services provided and to add value through their resources. Human resources are one of the most valuable resources in the organization. The subject of evaluating the performance of employees has received great attention and many researches have been done to find solutions to its problems. Several methods have been used to evaluate the performance of employees in order to improve performance and raise the level of work to match the work components and achieve the objectives of the organization [1]. Performance appraisal refers to "the methods and processes used by organizations to assess the level of performance of their employees and to provide them with a feedback" [2].

The organization can achieve a range of benefits by assessing the performance of its employees. The results provide a feedback on the performance of each employee in the organization where each employee knows the fact of his positive or negative performance and thus generate a motive to improve his performance, Contributes to motivating employees when they realize that their efforts in carrying out their duties are appreciated by

the organization, Contributes to the improvement of the supervision and direction of the managers and heads [3]. Effective performance evaluation must have a set of characteristics to achieve its desired objectives and the most important are: it should be periodic and continuous to compare previous and current results, the principles and mechanisms governing the evaluation process should be clear, depends on sufficient, accurate and up-to-date information.

Therefore, the importance of the information required to evaluate the performance of employees has emerged. Information systems and communication technology has significantly improved the quality of human resources management and services [4]. Enterprise Resource Planning Systems (ERP) has an important impact on increasing the effectiveness of organizations through the preparation of the plans and strategies of the organization, the prediction of human resources needs, career planning and promotions, the preparation of reports on human resources [5]. Thus, it is relevant to determine the impact of ERP system of human resources on the employees' performance Appraisal in Jordanian context.

2 Literature Review

2.1 ERP Systems

Many organizations have used ERP systems to optimize the coordination between the various functions in the organization and to facilitate communication and processing of all processes. ERP systems are "organization-wide and integrated information systems that can be used to manage and coordinate all the resources, information, and functions of a business from shared data stores" [6]. ERP systems is smooth and flexible, providing many solutions to manage all the organization's resources including procurement, sales, accounting, storage, warehousing and human resources [7]. ERP systems contribute to improving the performance of the organization in the technical, operational and strategic aspects. The integration of processes into a single application helps the company to raise the level of work efficiency throughout the company, improve the productivity, work flexibility and customer response [8].

2.1 Performance Appraisal

The organization has many resources to improve the performance levels, including human resources, which is one of the pillars of the progress and growth of the organization. The process of evaluating the performance of employees is one of the important operations exercised by human resources. Through the process of assessing the performance of staff, the organization is able to judge the policies of recruitment, training programs, development and follow-up of human resources [9]. Performance appraisal helps to achieve satisfaction among employees and enhances their trust in the organization and work towards achieving its goals [10]. The evaluation process helps to find a variety of ways to develop employee's behavior and develop their functional environment. The evaluation process contributes to the adoption of many decisions related to promotion, transfer, salaries, wages, recruitment, and planning of human resources [11].

2.2 ERP Systems & Performance Appraisal

ERP Systems have facilitated human resource processes and increased decision-making efficiency [12]. The organizational impact of ERP Systems has a significant effect on human resources productivity and innovation [13]. [6]

Investigated the role of ERP Systems in management control systems and firm performance. The results reveal that the use of ERP Systems supports the organization performance. [14] Focused on the impact of ERP Systems on job performance. The researcher found that ERP Systems have a positive relationship with task productivity and innovation, management control and customer satisfaction. The interaction of ERP Systems with management control has a significant effect on the organization performance [15].

A case study from a transition economy in Romania revealed that the interaction between context variables (organizational strategy, organizational structure, organizational control system, people and business environment) with ERP Systems has a significant impact on organizational performance [16]. [17] focused in his study on the effect of ERP Systems implementation on the firm long-term performance. The use of the Human Resources Information System (HRIS) leads to improve the planning of human resources and for more effective identification of training needs of staff [18]. Employees' performance can be improved through the use of ERP Systems by improving computer self-efficacy, organizational support, and training [19]. [20] Presented a conceptual framework for examine the impact of ERP Systems on the end user satisfaction. The researcher found that the content, accuracy, ease use, format, and timelines as the independent variables of the ERP have positive impact on user satisfaction.

ERP Systems provides many benefits to enterprises, some of these enterprises have been able to take advantage of the advantages of these systems, while some others faced challenges in obtaining the benefits of the system. For example, many manufacturing companies got the benefits of the ERP Systems by redesigning the job processes and increasing the employees' satisfaction, while others have faced some challenges in benefiting from the implementation of the system [11].

2.2 ERP Systems in Jordan

Many researchers have examined the use of ERP systems in Jordan. [21] Examined the

managers' satisfaction of the ERP systems use in Jordan. The study revealed that perceived usefulness, perceived ease of use; operational improvements, system quality, and information quality were significantly related to managers' satisfaction. ERP systems can play a great role in the accounting practices in Jordanian companies [22]. Human resources as a part of ERP systems have a real level of usage in Jordanian public industrial firms [23].

The success in the implementation of ERP systems has some critical factors. In order to explore the critical success factors for ERP systems implementation in Jordan, [24] found that top management support, user training, interdepartmental communication and interdepartmental cooperation are the most important success factors for ERP systems implementation. On the other side, [25] in his study about the ERP systems implementation failure revealed that Poor project management effectiveness, unclear concept of the use of ERP systems and users' resistance to change are the main failure factors for ERP systems implementation in Jordan.

Organizational factors (organizational objectives and services, organization culture, business process) and technological factors (technological infrastructure and network and communication technology) have a significant correlation with the success implementation of ERP systems [26]. Other studies have been conducted about the success and failure factors of ERP systems in Jordan [27-32].

Much ERP literature has pointed out the importance and the benefits of these systems in facilitating and improving the organizational and individual performance [13, 14]. Limited researches have been conducted on the impact of ERP systems on the performance evaluation [11]. Most of the literature about ERP systems in Jordan has focused on the success and failure factors of the ERP systems [24-26]. This paper examines the impact of ERP systems on the employees' performance evaluation using a case of Jordan National Power Company (NEPCO). This paper aims to answer specific questions on what is the effect of ERP systems on the employees' performance evaluation and

how NEPCO can improve the process of performance evaluation.

2.5 Research Model and Research Instrument

The research model is based on Delone and McLean (2003) IS success Model. [33] Is considered the most validated and simple model used to measure IS success [34-39]. Figure 1 shows the components of Delone and McLean (2003) IS success Model. The proposed research model is shown in figure 2.

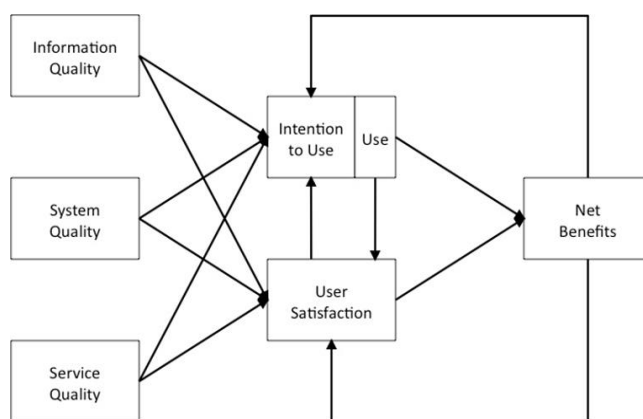


Figure1 DeLone and McLean (2003) IS Success Model

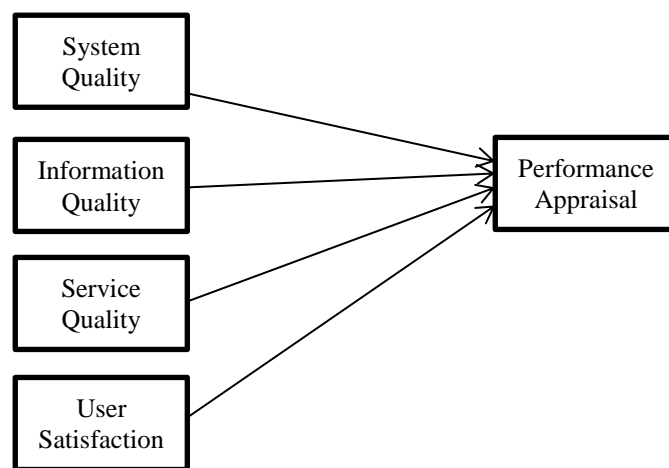


Figure 2 The Research Model

Based on the research model, the following hypotheses are formulated:

- H1: ERP System Quality will have positive effect on Performance Appraisal.
- H2: ERP Service Quality will have positive effect on Performance Appraisal.

H3: ERP Information Quality will have positive effect on Performance Appraisal.

H4: ERP User Satisfaction will have positive effect on Performance Appraisal.

A survey questionnaire was developed and the research targets were all managers and department's head that perform the performance appraisal process based on the ERP system. The questionnaire of this study was prepared in English language, but it was translated into Arabic, where the study is applied in Jordan and the official language in Jordan is Arabic language and the participants in the study may not have the ability to correctly understand the questionnaire in English language. As this research is carried out using questionnaire, 5 point Likert scale was used in this research to explore the respondent's perceptions on a wide range of cause and effect relationships. NEPCO was chosen for this study because it has implemented a new electronic performance appraisal system based on the ERP system. In order to get precise subjects for the study and obtaining data relevant to ERP system and performance appraisal, the Purposive sampling was used to collect data in this study. A total of 108 questionnaires were distributed, 103 were returned, and 98 were valid.

The measurement of the research proposed model is defined based on the dimensions and measures used in relevant identified literature. Table 1 shows the measurement of the collected information.

Table 1 Measurement of the collected information

Variables	Measurement Items	Main Source/s
System Quality	Ease to Use, Reliability, Flexibility, Accessibility, Searchability, and Interaction.	[33] [40-43]
Information Quality	Accuracy, Consistency, Reliable, Objective and believable, Useful and helpful, Up to date, Understandable and clear, and Secure.	[40] [44-47]
Service Quality	(Reliability (REL), Responsiveness (RES), Communications (COMM), Empathy	[41] [48-51]

(EMP), and Attitude/Commitment to user involvement (ATT), Competence (COM).

Users' Satisfaction	The system meets and exceeds user needs and expectations, the system helps user to do his job with minimal time and effort, the system is effective and useful for user, in general the user is satisfied with the system.	[41] [52-54]
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3 Results

To inspect the relationship between study constructs, Correlation analysis was conducted using Pearson correlation analysis. The results are shown in table 2 that the correlation coefficients are between .683 and .814 which means that there is a positive correlation among variables. Table 2 summarizes the means, standard deviations and alpha coefficients for all study variables.

	SQ	IQ	Srv_Q	SAT	PA	Mean	standard deviation
SQ	1	.683**	.752**	.764**	.771**	4.20	.624
IQ		1	.748**	.787**	.774**	4.16	.647
Srv_Q			1	.725**	.715**	4.12	.471
SAT				1	.814**	4.17	.652
PA					1	4.11	.478

** $p \leq 0.01$ (correlation is significant at the 0.01 level (2-tailed))

3.1 Factor Analysis

All variables were examined for validity testing; KMO and Bartlett's test of sphericity were used. The results prove valid and thus found appropriate to start the factor analysis. Table 3 presents the measure of sampling adequacy.

Table 3 KMO and Bartlett's test

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy	0.828
Bartlett's Test of Sphericity	439.867
Approx. Chi-Square	

df	55
Sig.	0.000

To maximize the variable-factor correlation, principle components analysis and varimax rotation methods were used to analyze 39 items. The results show well-defined communality values, with all items exceeding 0.679. The internal consistency of 39 items for this study exceeds 0.7 as a signal of a good Cronbach's alpha coefficient. Table 4 illustrates the reliability statistics-Cronbach's Alpha for the reliability statistics.

Table 4. Reliability Statistics-Cronbach's Alpha

Variable	Number of Items	Cronbach's Alpha
SQ	6	0.870
IQ	8	0.829
Srv-Q	11	0.789
SAT	4	0.872

3.2 Multiple Regression

Multiple regression analysis was used to investigate the proposed model by analyze the relationships between System Quality, Information Quality, Service Quality, User satisfaction, as the independent variables with Performance Appraisal as the dependent variable. The ANOVA summary is presented in table 5.

Table 5. The results of ANOVA test

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	2.217	4	0.721	3.372	0.000
Residual	20.407	94	0.206		
Total	22.624	98			

It is clear from the Table 6 that system quality, information quality and user satisfaction have significant impacts at $\alpha \leq 0.05$ on the performance appraisal. On the other hand, the multiple regression clearly show that service quality is not positively associated with performance appraisal. Table 6 shows the results of Multiple Regression Analysis.

Table 6 Results of Multiple Regression Analysis

Dependent Variable	Independent Variable	Adjusted R2	Beta (β)	Sig.	Supported Hypotheses
SQ	PA	0.703	0.345	0.000	H1: Supp.
Srv-Q	PA	0.504	0.241	0.197	H2: Un Supp.
IQ	PA	0.601	0.415	0.000	H3: Supp.
SAT	PA	0.631	0.496	0.000	H4: Supp.

4 Discussion

The objective of this study was to investigate the impact of ERP system on Performance Appraisal. The results show that there was a significant effect of System Quality on Performance Appraisal. Results show that accessibility and flexibility dimensions explain the most part of variance in performance appraisal. This result appears to be rational since users will be more satisfied with system, if they can access the system easily and the system can accommodate changes according to users' needs. If the system is easy to use and there are not any difficulties to use it, then the users will be more willing to use the system. These results were consistent with [13, 20, 26].

While on the other hand, service quality has no effect on Performance Appraisal. These results were consistent with [41, 55]. This finding could be explained in terms of that employees tend to have good knowledge of IT and computer aspects. In addition, the higher level of service quality in the dimensions of (IT staff normally provide quality services that do not need corrections later on and IS staff understands user specific needs and interests) may lead that employees not depend heavily on IS department staff for help and assistance in dealing with IS.

The results show that there was a significant effect of Information Quality on Performance Appraisal. The system must present information in such a way that it is interpretable, easy to understand, easy to manipulate, and is represented concisely and consistently [41]. Users will be more willing to use the system, if they feel that the information is consistent and remains the same any time. These results were consistent with [14, 17, 56]. Finally, the user satisfaction has a direct effect on Performance Appraisal. Results show that user satisfaction exercise the higher explanatory and

predictive power related to performance appraisal. The quality of information and the quality of the system may increase user satisfaction with system which leads to increase their productivity and improve the quality of work. This result is consistent with literature such as [13, 19, 22].

5 Conclusion

This study was aimed to investigate the effect of ERP system on Performance Appraisal. Data was taken from 98 managers and department heads at NEPCO. In summary, this study addresses the importance of understanding the effect of ERP system on Performance Appraisal. Therefore, it is important to understand factors that could determine Performance Appraisal of employees from the viewpoints of managers and department heads in order to improve employees' work performance and enhance the services provided which helps to achieve the goals and policies of the company.

The results indicated an important role for system quality, information quality, and user satisfaction on performance appraisal. On the other hand, the results indicated that service quality has no effect on performance appraisal. A contribution of this paper is to provide a useful conception into the role of ERP systems in improving the employees' performance evaluation process. This study is particularly important especially in developing countries that facing some difficulties in the performance evaluation process. Therefore, this study provides guidelines for organizations to improve their performance evaluation process and achieve employees' satisfaction through the use of ERP systems. The findings of this paper will enhance the probability of ERP systems success and the human resources department will increase the benefits gained from their ERP systems.

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