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The Effects of Organizational Citizenship Behaviors on Enterprise Resource Planning System in Telecommunication Company of Iran

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ABSTRACT: Purpose – The purpose of this paper is to examine the effects of organizational citizenship behavior on enterprise resource planning system in Telecommunication Company of Iran. Design/methodology/approach – The papers develops a research model based on current literature and then test this model in Telecommunication Company. Statistics society consists of 202 experts include personnel affairs and welfare and domestic payments department, deputy of personnel affair, and department of organization and methods. The sample size provided based on "Cohan- Morgan- Korjsay" is 202 persons which has been determined with descriptive methods. To analyze the statistical data, descriptive statistics techniques (including: mean, standard deviation) and inferential (Kolmogorov-Smirnov's Test, Structural Equation Modeling) have been used. Findings – The results indicate that we found that there are positive effects between organizational citizenship behavior and enterprise resource planning system. Research limitations/implications – This study could benefit from a large sample from public sector and replication in more organizations. Practical implications – The paper offers practical suggestions to the public sector and management in general on how to manage the organizational citizenship behavior effects on enterprise resource planning system. Originality/value – This paper has tried to provide an inclusive understanding about the effects of organizational citizenship behavior on enterprise resource planning system in Telecommunication Company of Iran. Since there was a lack of such research in an Iranian context, this paper can provide theoretical basis for future researches as well as practical implications for managers and the professionals.

Keyword**:** Organizational Citizenship Behavior, Enterprise Resource Planning, Iran.

INTRODUCTION

According to Sloat (1999) governmental organizations are often seen as strong and non-profitable institutions. The organizations are now demanding employees who are “good citizens”--individuals willing to extend themselves to help employers. In order to be competitive, this organizations need to ensure that their employees are sensitive, thoughtful, and effective when carrying out their work. They need to be encouraged to show their fullest potential. Managers cannot foresee all contingencies or fully anticipate the activities that they may desire or need employees to perform (Katz & Kahn, 1978; Organ, 1988a). Work behavior that goes beyond the reach of organizational measures of job performance holds promise for long-term organizational success (Van Dyne, Graham, & Dienesch, 1994) because they are purported to improve organizational efficiency, effectiveness, productivity, and adaptability (Organ, 1988a). Doing jobs beyond what is required without expecting to be rewarded is referred to in this study as "Organizational Citizenship Behavior" (OCB).

According to Shih (2006) "Enterprise Resource Planning" (ERP) system is a packaged software system that provides a totally integrated solution to information-processing needs, enabling executives to manage resources efficiently and effectively. Currently, many companies have implemented an ERP system not only to survive but also to achieve strategic advantages in an increasingly competitive business environment (Glover, Prawitt, & Romney, 1999). The ERP system has subsequently become the backbone of the information system

of the company (Kalakota & Robinson, 2000). Moreover, recently ERP systems have become the typical information system in most companies. Consequently, we choose the ERP system as information system representative, and we will attempt to explore the effects of OCBs on ERP system in this study.

Although there have been many studies of OCB in organizations, no known studies have examined the effects of OCB on ERP system in Iran. Given this lack of information, attempts are made to answer one question. Does OCB influence his or her ERP system?

Review of Literature

Organizational Citizenship Behavior

In recent years, much importance in OCB has been shown. OCB has been said to enhance organizational performance because they lubricate the social machinery of the organization, reduce friction, and increase efficiency (Bateman & Organ, 1983; Smith, Organ, & Near, 1983). OCB represents individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization (Organ, 1988a). Most OCB actions, taken singly, would not make a dent in the overall performance of the organization (Organ, 1988b). The effect will be seen with the aggregate summation of OCB performed across time and across persons in the group, department, and organization. The most critical element is that these behaviors are defined at face value. OCB are behaviors that are clearly observable by peers, supervisors, or researchers.

Organ (1988a) identified five categories of OCB, namely: altruism, conscientiousness, courtesy, sportsmanship, and civic virtue. Williams and Anderson (1991) suggested that the interpretation of OCB has been troublesome because it has failed to clearly differentiate between OCB and in-role performance (Moorman, Niehoff & Organ, 1993). In-role behaviors involve supporting the technical core of the business in the organizations whereas OCB does not. Contrary to these confusions, we will adopt the perspective taken from the voluminous theoretical and empirical work on OCB which gives the impression that the boundary between in-role and OCB is agreed upon and clearly defined and that OCB is the same for all employees (Niehoff & Moorman, 1993; Organ, 1988a; Podsakoff, MacKenzie, Moorman & Fetter, 1990).

Enterprise Resource Planning System

ERP system integrate internal and external management information across an entire organization, embracing finance/accounting, manufacturing, sales and service, customer relationship management, etc. ERP system automates this activity with an integrated software application. Their purpose is to facilitate the flow of information between all business functions inside the boundaries of the organization and manage the connections to outside stakeholders (Bidgoli, 2004).

According to Cheolho Yoon (2009) ERP systems not only change an information system environment but also affect business process and employee behaviors at a firm-wide level. Thus, it is desirable for ERP system success variables to include the measurements reflecting information system quality, effectiveness of business process, and employee behaviors. Markus and Tanis (2000) stress that the outcome of ERP implementation is a dynamic concept, consisting of multiple dimensions: (1) business index (ROI, better decision making, etc); (2) operational metrics (labor costs, orders shipped without errors, cycle times, inventory levels, etc); (3) information capability (information quality, effective use of information, user satisfaction with information, etc.). Gable, Sedera, and Chan (2003) identified an Enterprise System success model composed of system quality, information quality, system use, user satisfaction, individual impact, and organization impact based on DeLone and McLean's (1992) IS success model. Taking the Markus and Tanis (2000) assertion and the Gable et al.'s (2003) enterprise system success model into consideration, information system quality, effectiveness of operational process and financial performance are regarded as the factors of ERP system success. When an ERP system is implemented in an organization, organizational knowledge such as best practices and process design techniques based on information technologies are also transferred (Lee & Lee, 2004b), thus increasing the innovative capacity of employees. Therefore, innovative behaviors of employees may be an important measurement of ERP system success. Therefore, information quality, work efficiency, intention of IT innovation representing information system quality, effectiveness of operational process, and innovative behaviors of employees respectively were proposed as ERP System variables in this study. (System quality and information quality are quite different constructs, but because this study doesn't deal with implementation success for ERP system, we excluded system quality as an ERP system success value.) While measuring financial performance must be an important variable to measure ERP system, in information system literature, it has been argued that financial performance cannot be used as a measurement since it is difficult to measure financial performance affected only by information systems.

Proposed Research Model and Hypotheses

In light of the above, Figure No. 1 presents a detailed framework for the examination of the impact of OCB on ERP in Telecommunication Company of Iran.

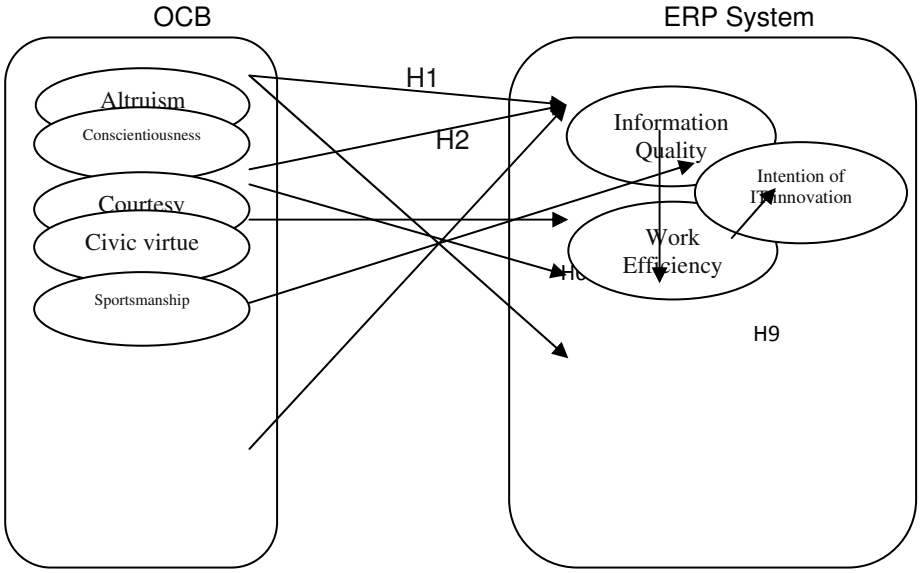

Figure1. No Proposed Research Model

Therefore, the hypothesized is that

Has a positive impact on the information quality of an ERP system.
Altruism has a positive impact on the work efficiency by an ERP system.
Conscientiousness has a positive impact on the information quality of an ERP system.
Courtesy has a positive impact on work efficiency in an ERP system.
Civic virtue has a positive impact on the work efficiency of an ERP system.
Civic virtue has a positive impact on intention of IT innovation.
Sportsmanship has a positive impact on the information quality of an ERP system.
Information quality of an ERP system has a positive impact on work efficiency.
Work efficiency by ERP system has a positive impact on intention of IT innovation.

The variables of this study are also OCB (altruism, conscientiousness, courtesy, civic virtue, and sportsmanship) is the independent variable and ERP system (information quality, intention of IT innovation, and work efficiency) is dependent variable.

METHODOLOGY

Sample and *Data Collection*

All of the Telecommunication Company involved in the study is located in Lorestan which is one of large province in Iran and plays a vital role in the social/economic development of the country. A list of all Telecommunication Company was compiled from the following sources: personnel affairs and welfare and domestic payments department, deputy of personnel affair, and department of organization and methods.

The sample size provided based on "Cohan- Morgan- Korjsay" is 202 persons which has been determined with descriptive methods.

To analyze the statistical data, descriptive statistics techniques (including: mean, standard deviation) and inferential (Kolmogorov-Smirnov's Test, Structural Equation Modeling) have been used.

The Procedure and Measure

The research instrument is questionnaire, which contained two parts. The first part seeks demographic information. The second part was measured on a five point Likert- type scale, measuring two concepts: OCB and ERP system.

Validity and Reliability

The reliability analysis is summarized in Table 1. The Cronbach's alphas for all variables (dependent and independent) were above the minimum of 0.5 (indicating that these measures were reliable).

Table1. Reliability Analysis

Variable	Cronbach's Alpha	Number of Items
OCB		
Altruism	0.779	4
Conscientiousness	0.876	3
Courtesy	0.862	3
Civic Virtue	0.773	3
Sportsmanship	0.862	3
ERP system		
Information Quality	0.846	3
Intention of IT Innovation	0.832	2
Work Efficiency	0.879	3

Measures

OCB

The measurement for OCB was adapted from Bell and Menguc's (2002) study. The questionnaire contains five items, each representing one of the five sub variables (altruism, conscientiousness, courtesy, civic virtue, and sportsmanship) which describe the OCB profiles. Employees were asked to indicate on five-point scales, ranging from 1 = "strongly disagree" to 5 = "strongly agree", the degree of importance they attached to each of five OCB dimensions. The respondents were further asked to indicate the extent of their importance with their OCB along each of the five OCB dimensions.

ERP System

The measurements for information quality on ERP systems were adapted from the Sedera and Gable's (2004) study. The questionnaire contains three items, each representing one of the three sub variables (information quality, intention of IT innovation, and work efficiency) which describe the ERP system profiles. Employees were asked to indicate on five-point scales, ranging from 1 = "strongly disagree" to 5 = "strongly agree", the degree of importance they attached to each of three ERP system dimensions. The respondents were further asked to indicate the extent of their importance with their ERP system along each of the three ERP system dimensions.

ANALYSIS AND RESULTS

Demographic Characteristics of the Respondents

Detailed descriptive statistics relating to the respondents' characteristics (gender, marital status, education certificate, age, and length of service) are shown in Table No. 2. Also descriptive data are shown in Table 3.

Table 2. Descriptive Statistics of Respondents' Characteristics

Gender	Males 174 (86.1%)			Females 28 (13.9%)		
Marital Status	Married 195(96.5%)			Un-Married 7(3.5%)		
Education Certificate	Diplomas 56 (27.7%)		Post diplomas 69 (34.2%)	Bachelor 58 (28.7%)		Master 19 (9.4%)
Age (years)	20-30 old 7 (3.5%)		30-40 old 85 (42.1%)	40-50 old 102(50.5%)		Above 50 old 8 (4.0%)
Length of Service (years)	5-10 old 9 (4.5%)	10-15 old 16 (7.9%)	15-20 old 21 (10.4%)	20-25 old 94 (46.5%)	25-30 old 57 (28.2%)	Above 30 old 5 (2.5%)

Table 3.Descriptive Statistics of Data

Construct	Mean of Construct	Std. Deviation of Construct
OCB		
Altruism	15.47	3.20
Conscientiousness	10.74	2.43
Courtesy	11.43	1.90
Civic Virtue	9.62	1.50
Sportsmanship	9.98	2.24
ERP system		
Information Quality	9.20	2.03
Intention of IT Innovation	6.32	1.43
Work Efficiency	9.60	1.65

Inference Statistics

Kolmogorov-Smirnov's Test

In analyzing the inferential data, first the normalization of data with Kolmogorov-Smirnov's test was examined. The results of which are shown in Table No.4.

Table4

variables	Kolmogorov-Smirnov's (Z)	Level of significance
OCB	0.784	0.587
ERP system	0.658	0.658

Given the results of table No. 4 and the level of significance, it can be said that obtained sample data from normal distribution has the probability of 95% certainty.

Structural Equation Modeling

The structural model, we examined the coefficients of the causal relationships between constructs, which would validate the hypothesized effects. The coefficients and their t-value on the structural model, and the coefficients of determination (R2) for each dependent construct are shown in Table 5. Based on the structure model, we performed hypotheses testing.

Based on Table 5, the results demonstrate that all hypothesized OCBs' constructs (altruism, conscientiousness, sportsmanship) on information quality have a significant impact with a = 0.05. In the issue of work efficiency, OCBs' constructs (altruism, courtesy, civic virtue) has a significant impact on the construct. Also, civic virtue construct has a significant impact on intention of IT innovation. In the hypotheses testing among the ERP system variables, information quality effects on work efficiency, and work efficiency have a significant impact on intention of IT innovation with a = 0.05, so the hypotheses were supported.

Almost 47% of the variance of information quality is explained by OCBs (R2 = 0.469), and about 59% of the variance of work efficiency by information quality (R2 = 0.591), above 52% of the variance of intention of IT innovation by OCBs and work efficiency (R2 = 0.518). Table 5 shows more detail of the results of the hypotheses testing.

Table5. Hypothesis Testing Results

Hypothesis	Path	Path Coefficient	t-value	Result
H1	Altruism → Information Quality	0.184	2.741	Accept
H2	Altruism → Work Efficiency	0.147	2.139	Accept
H3	Conscientiousness → Information Quality	0.395	4.239	Accept
H4	Courtesy → Work Efficiency	0.323	4.011	Accept
H5	Civic Virtue → Work Efficiency	0.246	3.152	Accept
H6	Civic Virtue → Intention of IT Innovation	0.507	6.051	Accept
H7	Sportsmanship → Information Quality	0.322	4.010	Accept
H8	Information Quality → Work Efficiency	0.699	10.935	Accept
H9	Work Efficiency → Intention of IT Innovation	0.293	3.380	Accept

Information Quality R2: 0.469
Work Efficiency R2: 0.591
Intention of IT Innovation R2: 0.518
Significant at the 0.05 Level

Figure2. illustrates the paths and their significance on the structural model.

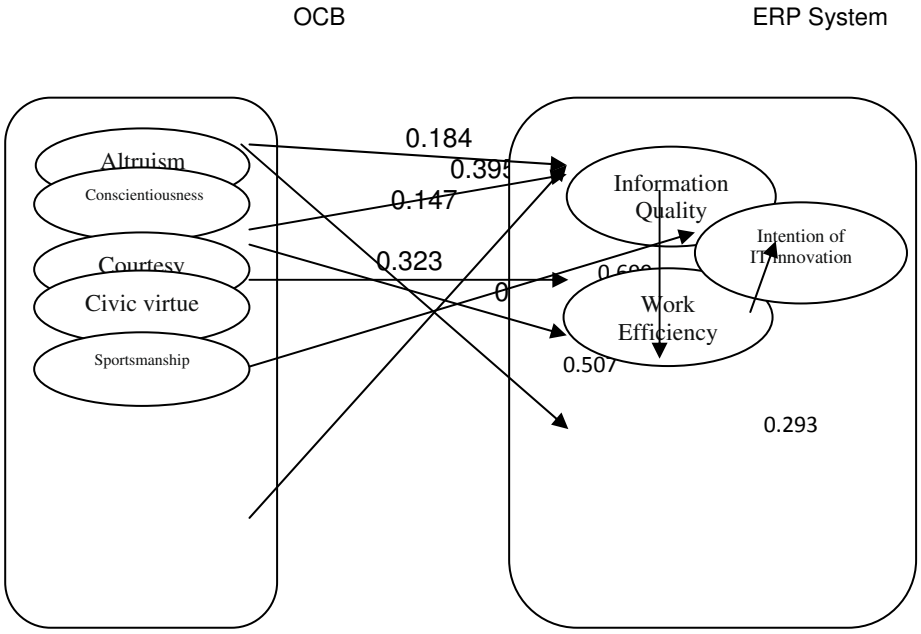

Figure2. Path Diagram for Research Model

DISCUSSION AND CONCLUSION

The first hypothesis examined altruism has a positive impact on the information quality of an ERP system. According to the obtained results from the Table No. 5, this was investigated using structural equation model. Path coefficient between altruism and information quality of an ERP system was 0.184 with t- value 2.741. Thus, altruism has a positive impact on the information quality; and the researcher accept the H^1 hypothesis that altruism has a positive impact on the information quality of an ERP system. The current research finding are contrary to those of Podsakoff and MacKenzie (1997) who argued that helping behaviors (altruism) had a positive impact on productivity and product quality due to helping coworkers ‘‘learn the ropes” to become more productive employees faster. ERP system data created by employees who are new or who are inexperienced in using an ERP system can be inaccurate and incomplete. Helping behaviors toward them may make the data of an ERP system more accurate and complete through teaching ERP system operations, and help to spread ‘‘best practices” in using an ERP system.

The second hypothesis sought to identify altruism has a positive impact on the work efficiency by an ERP system. Path coefficient between altruism and work efficiency was 0.147 with t- value 2.139. As the above results indicate a positive impact at the .005 level, the researcher accept the H^1 hypothesis that altruism has a positive impact on the work efficiency by an ERP system. Therefore, the conclusion is that altruism has a positive impact on the work efficiency by an ERP system. The current research finding is contrary to those of Organ (1988) research.

The third hypothesis seek to recognize the conscientiousness has a positive impact on the information quality of an ERP system. Path coefficient between conscientiousness and information quality was 0.395 with t-value 4.239. The evidence of the above tests clearly favours the accept of the third hypothesis that the conscientiousness has a positive impact on the information quality of an ERP system. The above research supports the findings of Farh, Earley, & Lin (1997) who argued that conscientious behaviors such as observing company regulations and procedures in using an ERP system, and performing ERP system transactions in time or even after working time will create timely information in using the ERP system. Therefore, conscientious behaviors are expected to have a positive influence on the information quality of an ERP system.

The fourth hypothesis examined courtesy has a positive impact on work efficiency in an ERP system. Path coefficient between courtesy and work efficiency was 0.323 with t- value 4.011. As the above results indicate a positive impact at the .005 level, the researcher accept the H^1 hypothesis that courtesy has a positive impact on the work efficiency by an ERP system. Therefore, the conclusion is that courtesy has a positive impact on the work efficiency by an ERP system. The above research supports the findings of Podsakoff & MacKenzie, (1997) who argued that the courtesy may serve as an effective means of coordinating activities between team members and across work groups. Courtesy by ‘‘touching base” with other team members, or members of other functional groups in the organization, reduces the likelihood of the occurrence of problems that would otherwise

take time and effort to resolve. Therefore, it is expected that courtesy behaviors preventing a problem from occurring in using an ERP system, or taking steps in advance to mitigate the problem will enhance work efficiency through promoting the cooperation of business units.

The fifth hypothesis sought to identify civic virtue has a positive impact on the work efficiency of an ERP system. Path coefficient between civic virtue and work efficiency was 0.246 with t- value 3.152. As the above results indicate a positive impact at the .005 level, the researcher accept the H^1 hypothesis that civic virtue has a positive impact on the work efficiency by an ERP system. Therefore, the conclusion is that civic virtue has a positive impact on the work efficiency by an ERP system. The above research supports the findings of Organ (1988); and Podsakoff & MacKenzie, (1997) who argued that the civic virtue by voluntarily attending and actively participating in work unit meetings help the coordination of effort among team members, thus potentially increasing the group's effectiveness and efficiency. Also, civic virtue behaviors involving support for the administrative functions of the organization will also enhance work efficiency through promoting the cooperation of business units.

The sixth hypothesis investigates whether civic virtue has a positive impact on intention of IT innovation. Path coefficient between civic virtue and intention of IT innovation was 0.507 with t- value 6.051. As the above results indicate a positive impact at the .005 level, the researcher accept the H^1 hypothesis that civic virtue has a positive impact on the intention of IT innovation. Therefore, the conclusion is that civic virtue has a positive impact on the intention of IT innovation. The researcher concludes that civic virtue has a positive impact on intention of IT innovation; a finding which do supports the research of Podsakoff & MacKenzie (1997) and Organ (1988) which reported that employees who attend and actively participate in meetings aid the dissemination of information in an organization, thus enhancing its responsiveness. In addition, civic virtue behaviors such as following company policies or business strategies, and participating to meet process improvement goals will also have a strong positive effect on the innovation of an organization.

The seventh hypothesis sought to identify a sportsmanship has a positive impact on the information quality of an ERP system. Path coefficient between sportsmanship and information quality was 0.322 with t- value 4.010. As the above results indicate a positive impact at the .005 level, the researcher accept the H^1 hypothesis that sportsmanship has a positive impact on the information quality. Therefore, the conclusion is that sportsmanship has a positive impact on information quality. The above research supports the findings of Podsakoff and MacKenzie (1997) who argued that employees, who exhibit sportsmanship, by demonstrating a willingness to take on new responsibilities or learn new skills, enhance the organization's ability to adapt to changes in its environment. Sportsmanship behaviors such as being willing to accept new information technologies will contribute to an ERP system being successfully adapted into the organization, and thus will ultimately have a positive effect on the information quality of an ERP system.

The eighth hypothesis seeks to recognize information quality of an ERP system has a positive impact on work efficiency. Path coefficient between information quality and work efficiency was 0.699 with t- value 10.935. As the above results indicate a positive impact at the .005 level, the researcher accept the H^1 hypothesis that information quality has a positive impact on the work efficiency. Therefore, the conclusion is that information quality has a positive impact on work efficiency. The above research supports the findings of DeLone & McLean (1992) who argued that the fact that the quality of information has a positive impact on work efficiency is grounded on theoretical rationale and empirical cases. Thus, it is noted that the quality of information generated by an ERP system affects work efficiency positively.

The ninth hypothesis seek to recognize work efficiency by ERP system has a positive impact on intention of IT innovation. Path coefficient between work efficiency and intention of IT innovation was 0.293 with t- value 3.380. As the above results indicate a positive impact at the .005 level, the researcher accept the H^1 hypothesis that work efficiency has a positive impact on the intention of IT innovation. Therefore, the conclusion is that work efficiency has a positive impact on intention of IT innovation. The above research supports the findings of Amabile (1988); Draft (1978); Ching & Niehoff (2003) who argued that the generally, innovation is defined as the development and successful implementation of new and creative ideas. The propensity toward adopting the innovation lies in the perceived benefits.

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