

## Study of the Role of Implementing Information Technology at the Success of Outsourcing Projects in Esfehan's Municipality

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**Abstract:** The purpose of the present study is to determine the relation of implementing information technology at the success of outsourcing projects in Esfehan's municipality. The present study is descriptive correlation in terms of applied research type. It can also be considered as an applied research type. To collect data and required information a researcher prepared questionnaire was applied. Research population in this research consists of experts, managers, contractors in contract with Esfehan municipality. The number of these experts, managers and contractors on the basis of the estimate presented by the public relation office of Esfehan municipality amounts to 360 people. Sample mass was selected on the basis of Kukran formula. Total 84 experts and responsible managers in terms of outsourcing in Esfehan's municipality were selected. Data collection instrument was the researcher made questionnaire whose reliability was estimated by the use of content validity and its reliability was estimated by the use of Cronbach's alpha coefficient. Deductive and descriptive statistics methods were implemented to analyze and examine the data. Research results showed that there is significant relation in between applying information technology at service planning stage and the success of outsourcing projects in Esfehan's municipality.

**Key words:** Outsourcing, Esfehan municipality, information technology, budgeting, data collection

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### INTRODUCTION

The term, information technology was used in late 1970s for the use of computer technology to work with information (Hayati, 2006). Scott Morton considers this technology as very comprehensive which includes all types of computer, both software and hardware and also inter personal computer networks up to largest networks (Rahmani, 1999). Moaffagh (2007), defines information technology as remote computer and communication related technologies as automatic instruments to work with information. Now a days, organizations are faced with an abundant mass of knowledge and data whose apposite management and utility has become the main concern for such organizations. But, the only successful organizations are those which take advantage of created opportunities by the use of management and modern technology (Shahraki, 2008).

The managers of knowledge-oriented organizations apply information technology as a propelling force and an influential factor in development and knowledge management success and victory over challenges. What has facilitated knowledge management process and converted it into a competitive advantage, is the supportive role of the information technology. Information technology as the most important enabling

factor in knowledge management with high speed and precision has considerably improved management knowledge process.

Outsourcing is a communicational process which on one side is the outsourcer organization (employer or buyer or service deliverer) and on the other side is the supplier (contractor or service provider) and the mediator ring in between these two is the intended activity to be assigned (Chashmberah, 2007).

Outsourcing is the main feature of organizational structure revision which has considerably changed the traditional borders in organizations. Outsourcing can be named as the largest structural translocations of organizations and industry in the current century (Parvizian, 2007). Outsourcing methodology in envisaging the apposite way for managerial decisions is very valuable. Making a decision concerning outsourcing requires an apposite managerial process, a methodology which includes phases such as assessment, programming and set of decisions activation (Monshi, 2010).

Municipalities deal with different issues as service supplier organizations to citizens through different constructive, social and developmental projects and plans. Studies show that rise of outsourcing by the

condition of apposite management can lead to reduction of expenses in municipality and has an important role in company performance and delivering high quality services and reduces investment in terms of facilities, equipments and human resources.

Outsourcing in municipal activities have been present more or less in the last years but what remains ambiguous is the lack of willingness from managers to apply information technology in analyzing and interpreting related processes to outsourcing and studying the corresponding impacts. Since, deciding on the type and scale of outsourcing services in municipality depends on the opinion of managers with attention towards the main goals of the organization and this decision and strategy type can influence at all organizational structure levels, one of the most important issues and outcomes from this decision making will depend on company performance and achieving the intended goals, respectively. Therefore, determining the rate of success requires implementing an apposite and strategic programming. Esfahan municipality in order to enhance rate of success in administering outsourcing projects has signed contracts with companies which apply information technology at different stages of planning, administration, supervision and assessment. But, the lack of coordination in between present technologies with that of project types and identity of outsourcing projects is the main problem.

Therefore, the problem under the analysis of the present study is that whether there is a significant relation in between implementing information technology and success of outsourcing projects In Esfahan's municipality?

Quick development of knowledge and technology is the considerable feature of today's business and job. If organizations fail to adapt themselves with the speed of today's science they will be pushed out of the circle. Performing outsourcing in municipalities as a way of offering services is an essential way of achieving higher efficiency, service quality and cost reduction in urban management, hence to reach this goal, it is necessary to do planning, prioritizing activities and studying the risks on the way of administration. Contractors and counselors as the administrative sources of outsourcing program need to renew their structure to reach an apposite structure to offer services and one of the most important responsibilities of the municipalities is to enable them to offer apposite services. Each year several projects, constructive plans, research, educational and different services by companies and contract parties are performed in Esfahan's municipality. Certainty of the project success and its timely termination of the project is an ongoing concern among managers of the organization. Therefore,

the significance of the research originates from the fact that by identifying the relation between information technology and the success of outsourcing, they can be assigned to private sector to retain the energy and strength of the organization for supervision and quality control of the activities. Besides that the significance of the research arises from the fact that outsourcing theories and perspectives can be localized in Esfahan's municipality. Also, the results and findings of the research can provide apposite opportunities for managers and planners of Esfahan's municipality to provide required activities and processes for successful outsourcing.

## **MATERIALS AND METHODS**

### **Research hypotheses:**

- $H_1$ : there is significant relation in between applying information technology at service planning stage and the success of outsourcing projects in Esfahan's municipality
- $H_2$ : there is significant relation in between applying information technology at project performance stage and the success of outsourcing projects in Esfahan's municipality
- $H_3$ : there is significant relation in between applying information technology at budgeting stage and the success of outsourcing projects in Esfahan's municipality
- $H_4$ : there is significant relation in between applying information technology at evaluation stage and the success of outsourcing projects in Esfahan's municipality

The present study is descriptive correlation in terms of applied research type. Research population in this research consists of experts, managers, contractors in contract with Esfahan's municipality. The number of these experts, managers and contractors on the basis of the estimate presented by the public relation office of Esfahan's municipality amounts to 360 people. Sample mass was selected on the basis of Kukran formula.

Sampling style at present study is a purposeful type. In purposeful research subject selection is carried out by the researcher on the basis of research purpose and the surrounding environment of the research population in order to collect data for research.

To estimated sample mass at each research steps may be taken by considering the research facilities as well as research type. In the present study, in order to select the right number of subjects which can represent the research population the following method was implemented.

To estimate sample mass the following formula (Koktan formula) might be used. The formula in which N is the size of the research population which equals 360 persons, Z = t is the variable size in natural distribution which equals 1/96, p is the characteristic distribution percentage which equals 5% as intended, q is the percentage of individuals without the characteristic which has been intended equal to 5%, d is the difference over actual characteristic in society which = 5% as intended.

Therefore, by putting the above mentioned numbers in formula the following estimation happens. In this research, the theoretical bases and review of literature is carried out by means of applying a Documentary-Library Method of data collection in a field survey approach and by the use of research-made questionnaire. This questionnaire consists of 2 parts. In the first part, this questionnaire, demographic features of experts and administrative managers of outsourcing projects in Esfehan's municipality is presented. In this part, questions such as age, economic activities background, rate of familiarity with outsourcing, education, educational field and the same questions are put forward. The second part of the questionnaire appertains to the relation between applying information technology and the success of outsourcing in Esfehan municipality. Questions are in Lykrit spectrum method and answered at five degree spectrum format.

**Findings**

**First hypothesis:**

- H<sub>0</sub>: there is no significant relation in between applying information technology at service planning stage and the success of outsourcing projects in Esfehan's municipality
- H<sub>1</sub>: there is significant relation in between applying information technology at service planning stage and the success of outsourcing projects in Esfehan's municipality

Table 1 mentioned data show that since estimated correlation coefficient = 0/883 and the reported significance level equals sig. = 0/000 therefore, with 99% certainty we can state that H<sub>1</sub> is confirmed and that there is a significant relation in between applying information technology at service planning stage and the success of outsourcing projects in Esfehan's municipality.

In order to estimated the significance between two above mentioned variables Chi-square test has been implemented. According to the data presented at Table 2 and 3 it can be stated that since the estimated value by  $\chi^2 > 4$  and the value of sig. < 0.01, we can reject H<sub>0</sub> with 99% certainty and confirm H<sub>1</sub>.

**Second hypothesis:**

- H<sub>0</sub>: there is no significant relation in between applying information technology at service administration stage and the success of outsourcing projects in Esfehan's municipality
- H<sub>1</sub>: there is significant relation in between applying information technology at service administration stage and the success of outsourcing projects in Esfehan's municipality

In Table 4 mentioned data show that since estimated correlation coefficient equals 0/343 and the reported significance level equals sig. = 0/004 therefore, with 99% certainty, we can state that H<sub>1</sub> is confirmed and that there is a significant relation in between applying information technology at service administration stage and the success of outsourcing projects in Esfehan's municipality.

In order to estimated the significance between two above mentioned variables Chi-square 5 and 6 test has been implemented. According to the data presented at

Table 1: Correlation coefficient test results between applying information technology at service planning stage and the success of outsourcing projects

Statistic index variable	Applying information technology at service planning stage	Success of outsourcing projects
Spearman correlation	1	883/0
Significance level	000/0	000/0
Number	84	84

Table 2: Correlation coefficient test results between applying information technology at service planning stage and the success of outsourcing projects in spearman

Parameters	Models	Outsourcing success	Service planning
<b>Spearman</b>			
Service planning	Correlation coefficient	1000	883/0
	Significance level	0	000/0
	Number	84	84
Outsourcing success	Correlation coefficient	883/0	1000
	Significance level	000/0	0
	Number	84	84

Table 3: Chi-square test result to estimate the significance of tow estimated variables

Variables	Chi-square	df	Significance level	Mean difference	The 95% distance between certainty and difference	
					Up	Down
Statistics	611/23	83	000/0	7761/1	2211/1	8933/1
Value = 4						

Table 5 and 6, it can be stated that since, the estimated value by Chi-square >4 and the value of sig. <0.01, we can reject H<sub>0</sub> with 99% certainty and confirm H<sub>1</sub>.

**Third hypothesis:**

- H<sub>0</sub>: there is no significant relation in between applying information technology at budgeting stage and the success of outsourcing projects in Esfehan's municipality
- H<sub>1</sub>: There is significant relation in between applying information technology at budgeting stage and the success of outsourcing projects in Esfehan's municipality

In Table 7, data show that since estimated correlation coefficient equals 0/786 and the reported significance level equals sig. = 0/001 therefore, with 99% certainty we can state that H<sub>1</sub> is confirmed and that there is a

Table 4: Correlation coefficient test results between applying information technology at service administration stage and the success of outsourcing projects

Statistic index variables	Applying information technology at service administration stage	Success of outsourcing projects
Spearman correlation	1	343/0
Significance	004/0	004/0
Number	84	84

Table 6: Chi-square test result to estimate the significance of tow estimated variables

Statistics index	Chi-square	df	Significance level	Mean difference	At 95% distance between certainty and difference	
					Up	Down
Statistics	780/26	83	000/0	43333/1	3281/1	5386/1

Value = 4

Table 7: Correlation coefficient test results between applying information technology at budgeting stage and the success of outsourcing projects in Esfehan's municipality

Statistics index variables	Applying information technology at budgeting stage	Success of outsourcing
Spearman correlation	1	786/0
Significance level	001/0	001/0
Number	84	84

Table 8: Correlation coefficient test results between applying information technology at budgeting stage and the success of outsourcing projects in Esfehan's municipality

Parameters	Models	Budgeting	Outsourcing success
<b>Spearman</b> Budgeting	Correlation coefficient	1	883/0
	Significance level	000/0	001/0
	Number	84	84
Outsourcing success	Correlation coefficient	786/0	1000
	Significance level	001/0	000/0
	Number	84	84

Table 9: Chi-square test result to estimate the significance of tow estimated variables

Statistics index	Chi-square	df	Significance level	Mean difference	At 95% distance between certainty and difference	
					Up	Down
Statistics	440/21	83	001/0	6789/1	3771/1	5889/1

Value = 4

significant relation in between applying information technology at budgeting stage and the success of outsourcing projects in Esfehan's municipality.

In order to estimated the significance between two above mentioned variables Chi-square test has been implemented. According to the data presented at Table 7-9 it can be stated that since the estimated value by Chi-square >4 and the value of sig. <0.01, we can reject H<sub>0</sub> with 99% certainty and confirm H<sub>1</sub>.

**Fourth hypothesis:**

- H<sub>0</sub>: There is no significant relation in between applying information technology at evaluation stage and the success of outsourcing projects in Esfehan's municipality

Table 5: Between applying information technology at service administration stage and the success of outsourcing projects in Esfehan's municipality

Parameters	Models	Success of outstanding	Project administration
<b>Spearman</b> Project administration	Correlation coefficient	1000	883/0
	Significance	0	000/0
	Number	84	84
Success of outsourcing	Correlation coefficient	343/0	1000
	Significance	004/0	0
	Number	84	84

Table 10: Correlation coefficient test results between applying information technology at evaluation stage and the success of outsourcing projects in Esfahan’s municipality

Statistics index variable	Applying information technology at evaluation stage	Success of outsourcing
Spearman correlation	1	671/0
Significance level	004/0	004/0
Number	84	84

Table 11: Correlation coefficient test results between applying information technology at evaluation stage and the success of outsourcing projects in Esfahan’s municipality

Paramerters	Models	Evaluation	Outsourcing success
<b>Spearman</b>			
Evaluation outsourcing success	Correlation coefficient	1	671/0
	Significance level	000/0	001/0
	Number	84	84
	Correlation coefficient	671/0	1000
	Significance level	004/0	000/0
	Number	84	84

Table 12: Chi-square test result to estimate the significance of tow estimated variables

Statistics index	Chi-square	df	Significance level	Mean difference	At 95% distance between certainty and difference	
					Up	Down
Statistics	440/21	83	001/0	6789/1	3771/1	5889/1

Value = 4

- $H_1$ : There is significant relation in between applying information technology at evaluation stage and the success of outsourcing projects in Esfahan’s municipality

In Table 10 mentioned data show that since estimated correlation coefficient equals 0/671 and the reported significance level equals sig. = 0/004 therefore, with 99% certainty we can state that  $H_1$  is confirmed and that there is a significant relation in between applying information technology at budgeting stage and the success of outsourcing projects in Esfahan’s municipality.

In order to estimate the significance between two above mentioned variables Chi-square test has been implemented. According to the data presented at Table 11 and 12 it can be stated that since the estimated value by Chi-square <4 and the value of sig. >0.01, we can reject  $H_0$  with 99% certainty and confirm  $H_1$ .

**RESULTS AND DISCUSSION**

**First hypothesis:** There is significant relation in between applying information technology at service planning stage and the success of outsourcing projects in Esfahan’s municipality.

This finding is in line with the results obtained by Karimi (2006). Karimi in his research entitled “study of the role of outsourcing in creating competitive advantage in Hamkaran System Company” has concluded that organizational managers can have a great impact on outsourcing tenders by employing the opposite human resources. Successful tender application has a

great role in developing outsourcing. This can facilitate the identification of costly and unnecessary processes and by eliminating such processes reduce human resources size. Karimi believes that some of the human resources secretly bring about costs on the organization. So, that their presence has no impact on production process and they can be easily transferred to other positions. Generally, speaking all regional water companies need to codify separate programs in advance to any sort of assignment.

**Second hypothesis:** There is significant relation in between applying information technology at service administration stage and the success of outsourcing projects in Esfahan’s municipality.

This finding is in line with the results obtained by Tangen (2004). Tangen in his research entitled, “the identification of transferable activities for private sector in regional water companies of Khorasan region” has concluded that benefiting from information technology on management part is very influential in terms of improving outsourcing projects’ success. He believes that management can besides making sure of the efficiency of companies demanding outsourcing can also find out about the assignment process and facilitate an opposite situation for demanding contractors’ programs. Outsourcing strategies will be able to bring about a new trend of control and supervision processes for the organization. In such outsourcing strategies assessment and supervision is carefully attended and the afore mention organization will be able to identify the most important obstacles and problems in the way of achieving

the intended purposes and improve the processes by implementing reengineering method. In defining this finding, we may state that information technology can provide a precise analysis to the ordering customer and also the contractors in apposite outsourcing program.

**Third hypothesis:** There is significant relation in between applying information technology at service administration stage and the success of budgeting projects in Esfehan's municipality (confirmed).

This finding is in line with the results obtained by Liebowitz (2000). Liebowitz Jay in his research entitled "strategic outsourcing and risk-flexible financing in value chain; second risky financing conference" has concluded that efficient human resources in case all strategic outsourcing conditions are fulfilled, gets reinforced and establish a type of organizational competition among such personnel as the management observes the efficiency as well as attempts made by the staff to improve the financial performance by offering bonus and gratifying their attempts to compensate their cooperation. And in this respect, apposite budgeting by processors originated from accurate analysis of the information technology data can facilitate real perspective along outsourcing projects administration.

**Fourth hypothesis:** There is significant relation in between applying information technology at service administration stage and the success of evaluation projects in Esfehan's municipality.

This finding is in line with the results obtained by Shahraki (2008). Shahraki in his research entitled "study of the role of outsourcing in creating competitive advantage in Hamkaran System Company" has concluded that reducing organizational cost along with improving service provision quality development and similarly identifying deficient processes, places the financial condition of the organization at a better level in comparison with that of rivals and provide a type of competition advantage for the organization.

Also this finding is in line with the research carried out by Tangen (2004). Tangen in his field surveys has found out that outsourcing activities provide managers and experts with required time and opportunity to evaluate and supervise activity processes as well as clear and transparent reports of the rate of overlooking, faults, cheatings and ambiguities in reports get reduced. Tangen (2004) believes that financial reports' quality in terms of honesty and being bereft of ambiguity get enhanced in outsourcing projects to a considerable level. He also believes that apposite payment conditions by the contractor are the most important factor to improve tenders administration. He believe that in case

organizational managers fail to provide the payments timely as contracted, the left over costs will increase which might affect all of the project and outsourcing tender obligations.

## CONCLUSION

Also results showed that there is a significant relation in between applying information technology at project administration and the success of outsourcing projects in Esfehan's municipality. Besides that the results showed that there is a significant relation in between applying information technology at budgeting stage and the success of outsourcing projects in Esfehan's municipality and also the findings showed that there is a significant relation in between applying information technology at evaluation stage and the success of outsourcing projects in Esfehan's municipality.

## RECOMMENDATION

Since, the results of the present research show that there is significant relation in between applying information technology at service planning stage and the success of outsourcing projects in Esfehan's municipality, it is suggested to the municipality, in order to make sure of outsourcing projects' success at planning stages and outsourcing phases make use of information technology. Also, it is necessary to make sure of the expertise among contractors' human resources. This assurance can be obtained through asking for engineers, working human resources resume and earlier history of last projects and also interviews with the working workforce in these tenders.

Since, the results of the present research show that there is significant relation in between applying information technology at service administration stage and the success of outsourcing projects in Esfehan's municipality, it is suggested to managers and municipality experts to supervise and monitor activities in Esfehan municipalities at outsourcing tenders with precision and attention and to be justified in terms of the importance of outsourcing and consider these assignments positively and cooperate with contractors all along the projects.

Since, the results of the present research show that there is significant relation in between applying information technology at budgeting stage and the success of outsourcing projects in Esfehan's municipality, it is suggested that before setting up outsourcing projects, make sure of the required investment is assigned and take action on the basis of the phase and programming any required activity.

It is suggested to provide electronic and internet education in terms of outsourcing activities and apprise the managers with its advantages and prepare the required conditions for outsourcing tenders to be administered.

Since, the results of the present research show that there is significant relation in between applying information technology at service administration stage and the success of outsourcing projects in Esfahan's municipality it is suggested that financial experts learn more about outsourcing tenders through administration process and financial reports delivery.

It is suggested to service organization managers to evaluate facilities and information technology equipment's of the applicant companies before outsourcing. It is suggested that information technology issue to be placed high on the agenda of the outsourcing contracts assignment committees.

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