

The Impact of IT Outsourcing on Labor Productivity of Kashan Education Department

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Received: December 1, 2016

Accepted: January 10, 2017

Online Published: January 16, 2017

Abstract

This study examined the impact of IT outsourcing on labor productivity of Kashan education department. The population of this research included 160 employees of the Kashan Education Department and to determine sample size, 113 subjects were randomly selected based on Morgan table (1972). To assess IT outsourcing, the 19 items questionnaire of Yoon and Shin (2000) and organizational productivity standard questionnaire (1980) were used. Linear regression analysis was used to analyze the collected data using spss version 18. The results showed that IT outsourcing is able to predict 48% of labor productivity and secondary hypotheses test results showed that the project features, supplier features, required technological features, organization features and cost of project affect labor productivity of education department.

Keywords: Outsourcing, Information Technology, Human Resources Productivity, Required Technological Features

1. Introduction

Today, organizations are living in a world where the dynamics, changes and the complexity are among its main elements and to seize the opportunities in the fleeting present, they had to create a flexible structure and use resources outside the organization. In this regard, the reduction of government activities and move toward downsizing, re-engineering, privatization, outsourcing and contract works are the predominant methods. Other organizations do not try to do all their required activities; each organization reserves one or two key activities with competitive advantage and value creation, and outsources other activities. Many small and large organizations adopted outsourcing as an effective strategy to reduce costs and increase revenue, because via this policy, the organization can focus only on its main and specific activities. However, in many countries, governments reform the economy and administrative systems through privatization of administrative, financial and legal processes (Torabian, Nima, 2004). With the advent of information technology in recent decades and its rapid growth in recent years, information technology has been one of the tools that organizations have used extensively and its use is increasing rapidly. In order to appropriate deployment of IT solutions, most organizations have established a unit called IT or similar names that are responsible for identifying business requirements in the field on information technology. With the rapid growth in the field of information technology, if all these functions fulfill within the IT unit, the unit will grow too large and cause disintegration the organization. In this regard, organizations are trying as

much as possible to outsource many of these functions to use the capacity and capabilities of organizations that are active in the IT field, in addition to preventing the mentioned problems (Sedghiani, Afaq et al., 2003). Modification of business processes, organizing and efficient using of office supplies and educational spaces, buildings and equipment, using of new energies, educating the culture and indicators of resistance economy to staff, teachers, students and parents, collaborating with other executive agencies for promoting the legality and the development and practice of citizenship rights, time management and leisure of students, development of public participation, outsourcing of vocational training services in conservatories and revising programs and textbooks are among the outsourcing activities of education department. The literature shows that over the past two decades, the field of outsourcing has been expanded from technical and production activities to the prefecture, consultation and in the newest form, to the education (Sarrafizadeh, Asghar; Alipour, Samaneh, 2009). Outsourcing means transferring some repetitive and internal activities as well as decision-making authorities, to the external contractors in the form of contract or agreement (Mostafavi, Seyed Mahmoud, 2005). Naturally, that part of the activities that are not part of the core activities and are non-strategic and marginal, are outsourced. Over the past decade, outsourcing has become the common phenomenon in educational activities and expected that this trend will intensify in the future. Given the importance of using information technology in today's competitive environment, organizations must choose the best way to meet these needs, to reduce the financial costs to minimum, in addition to the benefits of information technology. One way of meeting the needs of information technology in organizations is benefitting from resources outside the organization (Ashgarizadeh E., Murthy D. N. P., 2000). The purpose of IT in education is to create new educational systems to enhance learning efficacy and therefore, emphasizing on learning. Attracting the students' attention, efficient use of educational technology in teaching and learning can make the education process more realistic and more practical and even by enrichment of the quality of teaching and learning, can enhance the performance of education. The purpose of educational technology is to design, implementation and evaluation of the teaching - learning activities that facilitate the learning process. Given the fact that technology education is essential alongside with science education, and according to the characteristics and properties of IT systems, particularly given the rapid developments that are happening in technology, Many IT education needs are resolved by computer assisted instruction system and those features of technology that create ambiguity in education, including the ability of educational systems to change, are consistent with computational capabilities. Thus, the system can be desirably used in this type of education even more than scientific educations. Since the use of educational technology in teaching - learning in the education system is essential, therefore, considering the importance of the issue and the lack of human resources, the partnership strategy, i.e. the use of free human resources, is considered as the best administrative practices in small schools (with fewer than 7 students) of the country and according to ministerial guidelines, advantages and disadvantages of this approach were evaluated and the results showed that all outsourcing in education, if is necessary and defined strategically, can be effective in development of education and release of energy and resources. However, today, the substrate is not quite ready to apply this strategy and if the conditions governing the organization and factors affecting the organizational goals are more considered, the goals of organization will be achieved. According to previous studies, this research, according to its title, definitions and theoretical foundations, as well as a review of literature, is trying to provide a conceptual model based on the following assumptions.

2. The Main Hypothesis

Implementation of outsourcing IT services is effective in labor productivity of Kashsn education department.

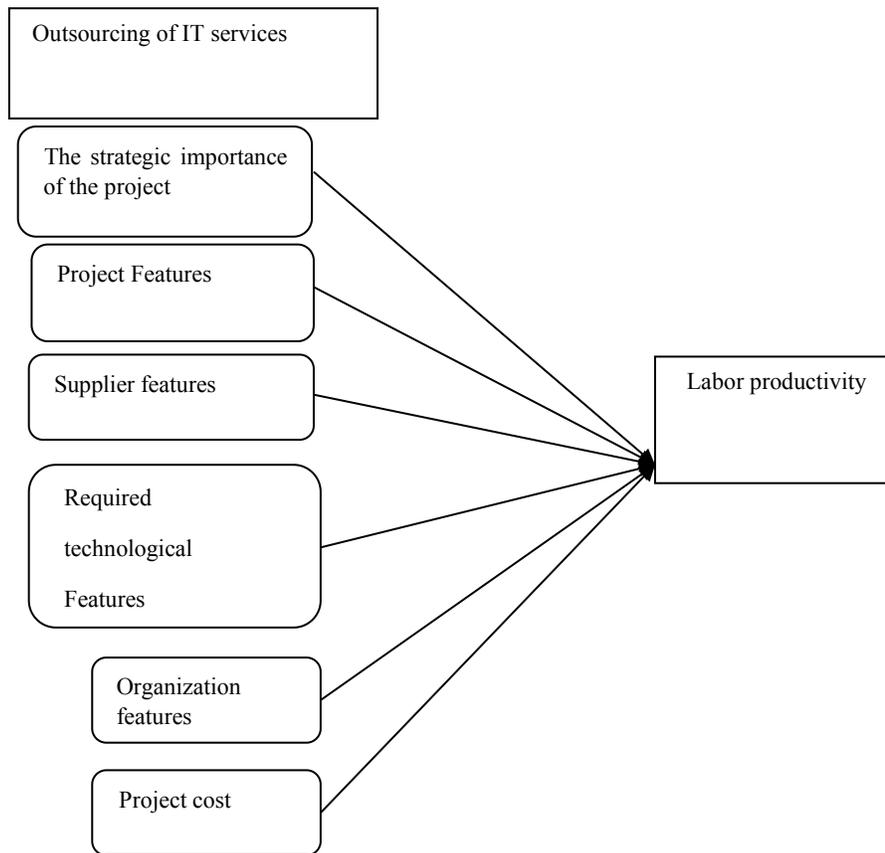


Fig 1. Proposed Research Model

3. Methodology

This study is a Basic/Fundamental Pure Research and in terms of data collection, is descriptive- survey and correlational. The population of this study included 160 employees of the Kashan education department. The sample is a small subset of the population that their survey results can be generalized to the entire population. Given the population size, according to Morgan table (1972), 113 people were selected as the sample and the questionnaires were distributed among them. After gathering information through questionnaires and their classification, statistical methods were used for data analysis. The statistical methods used in this study included descriptive statistical techniques (including frequency tables, Likert scale and ...) and inferential statistical techniques including linear regression. SPSS software was used for data analysis.

4. Results

In the study, Cronbach's alpha for the 19-questions IT outsourcing questionnaire was 0.933 and was above 0.70, which indicated very high reliability of the questionnaire.

Table 1. Cronbach's alpha coefficient for IT outsourcing services questionnaire.

Cronbach's alpha coefficient	Number of questions
933/0	19

Cronbach's alpha coefficient for the 26-questions labor productivity questionnaire was 917/0, which showed the high reliability of the questionnaire.

Table 2. Cronbach's alpha coefficient for labor productivity questionnaire.

Cronbach's alpha coefficient	Number of questions
917/0	26

5. Data Analysis

After gathering information through questionnaires and their classification, to analyze the data, the statistical methods are used. The statistical methods used in this study included descriptive statistical techniques (including frequency tables, mean, cumulative percentage) and inferential statistics including stepwise regression techniques using SPSS statistical software version 18.

6. Testing the Assumption of Normality of Variables

To determine the type of test, especially in comparison tests, is necessary to ensure normality of variables. If the variable is normal, the use of parametric tests is recommended and otherwise, equivalent non-parametric tests will be considered. The assumptions are as follows:

Null hypothesis: the variable is distributed normally

Alternative hypothesis: the variable is not distributed normally

Table 3. Distribution of IT variable normal distribution (Kolmogorov-Smirnov test)

The level of significance	Kolmogorov-Smirnov Z statistic	Variables
590/0	772/0	Strategic importance
503/0	826/0	Project Features
129/0	171/1	Technological features
462/0	852/0	Organization features
123/0	541/0	Supplier features
824/0	629/0	Project cost
128/0	453/0	Productivity

Since the variables assessed in this study, were scale-ordinal variables and also using Kolmogorov--Smirnov test (Table 3), significant levels of independent and dependent variables were all higher than 05/0, Due to the larger meaningful level of H0, Normal distribution was not rejected and distribution of the data were normal. Thus, a linear regression model was used to analyze the interactions between variables.

Stepwise regression test was used to determine which of the outsourced IT services components are able to predict labor productivity and the results are shown in the table below.

Table 4. Stepwise regression testing results

The level of significance	F statistic	Adjustment coefficient	Durbin-Watson statistic	
000/0	966/48	343/0	2	
The level of significance	T statistic	Coefficient	Model	
000/0	998/6	553/0	Organization features	11
002/0	139/3	351/0	Organization features	22
014/0	496/2	279/0	Project cost	

As can be seen in Table 4, the results of multiple regression analysis shows that from the six outsourcing predicting variables, only the organization features and project cost variables tend to significantly change weights in predicting the performance of labor productivity, and the IT outsourcing organization features variable was most important in labor productivity.

The results can be summarized as the following table:

Table 5. Results of hypotheses testing

Reject / accept	B Coefficient	The level of significance	Components of IT outsourcing
accept	489/.	000/0	IT outsourcing (the main hypothesis)
Reject	122/0	199/0	Strategic importance
accept	324/0	000/0	Project features
accept	489/0	000/0	Supplier features
accept	312/0	001/0	Required technological features
accept	553/0	000/0	Organization features
accept	533/0	000/0	Project cost

As seen in Table 5, the strategic importance of the project had no significant effect on labor productivity, however, the project features, supplier features, required technological features, and project cost had significant impacts on labor productivity of the education department. In addition, outsourcing IT services had significant impact on labor productivity of the Department of Education.

7. Conclusion

Turbulent and dynamic environment of today's business world arena has narrowed the field for organizations that are activating in various fields of business, more than ever and intense competition is in progress, gets harder every moment, and restricts the circle of peace for organizations (Green, C.M. ,2004). Time and space constraints related to research in all fields of humanities and social sciences in general and in particular in the field of management has led the research findings being difference, despite some similarities in variables and methods (Hui E. Y.Y., Tsang

A.H.C. ,2004). According to time and place, localization required to use the results is necessary to verified and correct application of the results. As shown in the history of research, using outsourcing strategies are significantly associated with increased quality of service and satisfaction of the stakeholders (Harkins Ph. ,1995). The results of this study has been mostly consistent with the results of other studies. Depending on the method used in this study and its results, it could be concluded that necessary conditions to truly implement this strategy in the department of education is not provided and as pointed out in the background session, in the absence of proper attention to the conditions and relations governing the organization and the lack of recognition of the need for outsourcing, the organization would not be successful in this field.

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