

Delegation of Software Projects in Software Production Corporations: A Paradox for Delegation of IT Projects

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Abstract

Delegation enables managers to focus on their main business activities and assign support and minor jobs to experts outside their organization. Providing IT services and technical support and updating them are also other parts of an organization's responsibilities but if the organization pays too much attention to these areas it is possible that the focus will shift from main activities to minor ones. This research has restricted its analysis to delegation of software projects in software production corporations and the results reveal that delegation, although advantageous, creates problems as well such as security, support, etc.

Keywords

Personality, Software, Teamwork, IT Projects

I. Introduction

Many management approaches and strategies have been offered around the world with advantages as well as disadvantages. But the important point is managers select the better ones. One of these strategies is delegation (Glassman, 2000). Delegation is one of the important strategies in the world and it has passed its test in several countries. In a simple definition, assignment of some of an organization's operations and activities to another organization is called delegation. A manager will decide to delegate an operation, provided that he is aware of an operation's cost and output and is sure that delegation will reduce the cost and time consumption and promote the quality. Delegation has been in action as one of the most important strategies in different countries like the United States. Delegation can be applied to various areas of activity. One of these areas that has been promoted and expanded during recent years is the delegation of IT projects. This idea was first introduced in 1990 (Glassman, 2000). This strategy has produced many benefits for organizations.

II. Delegation of IT Projects

IT services have become very important for organizations. Delegation is one of the strategies for using IT services that in computer jargon is known as a way of reducing IT costs (Reich, 2000). Contractors of IT services claim that they can reduce the costs of IT services by 10 to 50 percent. Although in reality figures and statistics might not approve this, delegation of IT operations does reduce the costs in the short run.

ICTPRESS reports that contractors can reduce the cost of using a utility program for their customers by making use of the necessary expertise and up-to-date programs. Because customers have to pay the price of promotion, implementation, support, and updating of the utility program and contractors reduce this price by using the 'gain in scale' policy. In this approach, the contractor pays the price of purchasing, support, and updating and by sharing it with a set of customers divides the costs between them.

Customers can avoid heavy investments can maintain their financial state by paying the price of using a program for each use or transaction. The customer has access to all IT services by

paying a fixed amount without having to pay all the costs himself. And it is possible that the customer might not get the desired results in a case of direct investment. Therefore, the customer reduces the risk involved in utilization of IT services. In other words, the customer benefits from the contractor's guaranteed services and the contractor pays the price of this guarantee. Responsibilities concerning technical shortcomings are also shouldered by the contractor.

Delegation enables managers to focus on their main business activities and assign support and minor jobs to experts outside their organization. Providing IT services and technical support and updating them are also other parts of an organization's responsibilities but if the organization pays too much attention to these areas it is possible that the focus will shift from main activities to minor ones (Report, 2011). The rapid developments in communication and information technologies have caused the products to have a very short lifespan and new services require dedication of the organization's resources and constant investments.

Delegation of Software Projects in Software Production Corporations

In this part we will deal with the delegation of software projects in software production corporations. In most software corporations several working teams, standards, and software development methods exist and each corporation depending on the type of expertise, projects, and their characteristics start the methodology for software development (R.S. Pressman, 2011). But as you know, software engineering is the process of analyzing and coding which has its own standards. However, most corporations do not abide by this and cause possible self-damages especially in delegation of projects.

Software engineering project are delegated either in analysis or coding stage. At first glance this might look useful but it can cause problems for the corporation after a while. These problems are as follows:

A. Security

One of the biggest issues of delegation is security. When a corporation works on a program it must take the security issues into consideration because during production and delegation many other people get involved. Therefore, this delegation itself must be studied for possible security issues. This study will be deeper than the usual ones and, as a result, will require more cost. In addition, other sections of the project will be handled by others and this can have security implications for the corporation.

B. System Analysis and Design

Workforce is usually considered as one of the software production requirements (R.S. Pressman, 2011). But if these requirements have a closer cooperation they can manage the project better. However, delegation can create gaps between different workgroups and eliminate informal relationships, whereas formal relationships are of vital importance in software engineering. According to

a study conducted by one of the leading software companies, majority of programmers' problems have been solved during their coffee breaks.

C. System Support

One of the very important stages in software engineering is system support which happens after the system starts to work. But this feature might need to be changed after a system is delivered (R.S. Pressman ,2011). Can these changes be easily applied to delegated projects or do they require the same cost as those projects which have been delegated to agents outside the organization? Although we know that configuration management is useful here, these changes increase the costs.

Although these problems can be solved by standardization and some other approaches, they can also be costly for both the contractor and the employer. For example, we can set a standard and code our project based on that but if this standard is the corporation's, it will increase the contractor's costs and therefore, delegation will be worthless. And if the standard is the contractor's, it will be costly for the employer. The next section shows the results of delegation of software projects.

III. Delegation of Software Projects

There are many IT corporations around the world each of which with its specific activities. The important thing here is that most of the IT projects have been delegated by other organizations. In this research we will analyze the effects of delegation of software projects on software production corporations. The other aim of this research is to see if delegation is used and how it is used or what problems it can cause for the corporation in the future.

IV. Analysis Method

In order to determine the analysis method three concepts have been defined in the first place:

Software: a branch of software engineering which attempts to execute or calculate something using different algorithms.

Small and Average Industries: software production companies with less than 50 programmers.

Delegation: in a simple definition, assignment of some of an organization's operations and activities to another organization is called delegation (David Glassman ,2000).

Our research is causal or 'after the event' which attempts to answer the question of whether delegation of software projects causes problems for the employer in small and average industries or not. In other words, is the use of IT in small and average industries profitable or detrimental?

To answer this question, using the Morgan table and the fact that most of Iran's software production industries are small and average, 180 companies were chosen. To increase the credibility of the research, 200 companies were chosen randomly.

The tool for gathering data is the questionnaires devised by the researcher. The criteria required for the measurement of delegation have been taken from the name of a research conducted to evaluate the role of delegation in IT projects in which 30 members of the statistical society were chosen and given the questionnaire. After the questionnaires were collected, the data was typed into SPSS program and the questionnaires' stability was calculated using the alpha-crobakh method. Since the calculated alpha rate was more than 60%, no question was removed.

The questionnaire was emailed to the companies and after collecting and analyzing them, 175 questionnaires were accepted. The questions were coded and typed into SPSS17.

The normality test for the data was executed using the kolmof-asminof method in order to select a suitable statistical test for accepting or denying the problematics of delegation of software projects in small and average industries and it turned out that the data are normal. Therefore, descriptive statistics were used in the hypotheses tests.

The SPSS outputs for variables are as following:
Table 1 Main indexes and dispersal distribution

Tanle 1: One-sample

One-Sample Statistics				
Average norm error	Norm deviation	Average	Quantity	
.0510	.7041	4.37	175	Delegation

For hypothesis test we assume that if the average of questionnaire data is 4 or more, then the hypothesis cannot be rejected .

Assumption H0: $0 = 4 - \mu$

Assumption H1: $0 \neq 4 - \mu$

Table 2: Effect of Delegation of Software Projects

One-Sample Test						
Test Value = 4						
%95 Certainty space		Average difference	Amount of P in both sides	Freedom degree	Value of t	
Upper limit	Lower limit					
.47	.31	.49	.000	175	9.628	Delegation

As depicted in Table 1 and Table 2, according to participants' responses, the average effect of delegation of software projects is substantially more than the mean (mean = 4) and t (t = 0.05) is more than p (p = 0).

V. Conclusion

Delegation is one of the management strategies to reduce the workload and system clashes in organizations and it can facilitate management a lot. One example is the delegation of IT projects in organizations which has proven advantageous so far. In this research the attempt has been to work on the basis of the hypothesis that delegation of software engineering projects in organizations causes problems for software production companies. Gathered information and analyses justify this hypothesis. In other words, delegation sometimes not only does not have any benefit, but also causes problems for the programming teams. Theses problems include security, support, etc. However, approaches for dealing with theses problems like standardization or outside-the-organization delegation can be studied extensively in the future. Also, other issues like "technicality of an area of activity and the meager effect of delegation on its development" can be introduced and studied deeply in the future.

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