

An Integrated IT Governance model: A way toward the success of the IT projects.

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Abstract. IT and the way it is used in organizations has always been a main obsession for managers. There have appeared diverse management models and methodologies in organizations for the success of IT projects. [3][7][12][13]. Using management reference models, we are to present a model to improve IT projects and their practicality. In this regard, we used management models and concepts along with IT Governance approach. We came to prove that many factors which can cause a project come to failure can indeed be corrected via using the concepts and methodologies of IT Governance. The proposed model presents the overall processes of a project in three categories: planning, operating and evaluating. Such categories are based on IT Governance. On the other hand, the proposed model presents the processes of a project in four layers: PreProject, Project (divided to 2 layers) and PostProject. Such categorization is formed by means of the project life cycle. To prove the practicality of the proposed model we devised questionnaires based on the principles emphasized in the model and we have asked about the managers' and reporters' ideas about the proposed model. In the next step, based on the comparison of the received feedbacks and answers we analyzed different subject matters such as the effect of the projects on the organization and vice versa, the expected value evaluating the practicality and how such practicality should come to realization. At the end, the findings proved that the proposed model based on IT Governance approach has the capacity to present the key and effective issues. The model has also the capacity to have an integrative approach on the whole processes of pre-project, project and post-project.

Keywords: IT Governance, Project Management, Integrated ITG Model, Value Governance Life Cycle.

1. Background

One of the most important and frequently cited problems in IT in organizations is deploying IT projects and improving their success. Different methodologies of project management have always tried to increase the success of the projects [1][14][18]. However, a series of activities in an organization, whether these activities are done before project or after it, cause the failure or success of a project. In this study we are going to find management methodologies to improve the deployment and effectiveness of projects in organizations. In this regard, we will use different models of management and IT Governance[1][2][14]. We are going to prove that many factors which bring a project to failure can be managed via using the concepts and methodologies of IT Governance.

1.1. Project Management

Regardless of success or failure, one of the most important challenges of doing an IT project is defining the project based on the priorities of the organization, goals and purposes.

The most important problem is lack of attention to output Governance versus the performance and completion of a project. It is crucial to bear in mind that in many cases when the project is terminated, the outputs disappear or lose their efficiency [9]. Here the problem is not the outputs but the problem is that the organization has not been ready to deploy. In this study we focus on the problems that may occur either during the early stages or those which may happen during the final phases.

1.2. IT Governance and Project Management

The efficiency of IT projects depends on attention to key aspects of IT Governance[19]. By efficiency we mean the capability to derive the desired outcomes from the project while making sure that the project is

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in line with organization's priorities regarding business strategies. To find out the problems that may occur when a project is under deployment, a series of analytical and statistical studies have taken place[16]. In this research we will study key axis of IT Governance as a way to solve such problems .

1.3. Value Governance Life Cycle

.We will use the value governance life cycle to form the layers of the proposed model. Life cycle of Governance in an organization is consisted of three parts[1][9]:

- Pre-project: Ideas are received, evaluated, described and prioritized based on the expected value.
- Project: A team project design, develop and deploy a system.
- Post-project: The defined values are achieved and an evaluation will take place to compare the achieved values versus business case.

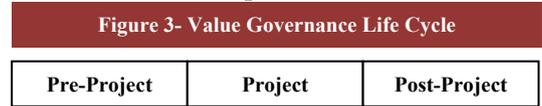


Figure1: Value Governance Life Cycle in PM

1.4. The Details of Deployment

We will make use of IT Governance Development Framework as a base for our research [1]. Based on this framework, deployment plan takes place in three stages [1]. 1) The first stage is planning for Governance including the goals of business progress, executive policies, the sponsors, targets, goals, and the standards of judgment. 2) The second stage concerns deployment Governance Including the organization of Governance Committee and the related processes. And the last stage is the control of Governance Including the deployment of functions, continuous support of governance processes, and trying to overcome the problems and improve performance. This 3 layers will help us to categorize the factors that lead a project to success. And also this 3 layers will help us to study every group of activities separately. This categorization considers all project activity and increases the comprehensiveness of the research model.

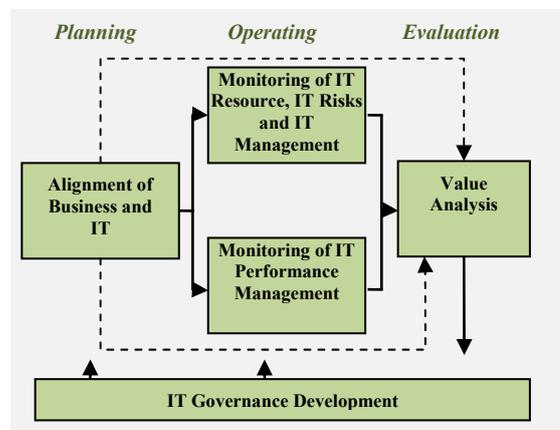


Figure 2: The development of an integrated IT Governance

2. Research Model

Previous researches have to a great extent focused on projects' failures with regard to deployment process. And in this regard the problems regarding the internal planning of the project, technology, installation, training and supporting system have come under close study. To propose a solution based on IT Governance we have made use of IT Governance Development Framework in this research. In the based model, three categories of operations were defined on Governance. In the model which is proposed in the current research we extend these three categories of operations on four layers.

These layers are defined in accordance with Project Governance Life Cycle. It is crucial to note that based on the standard of project management PMBOK[1], there are two general

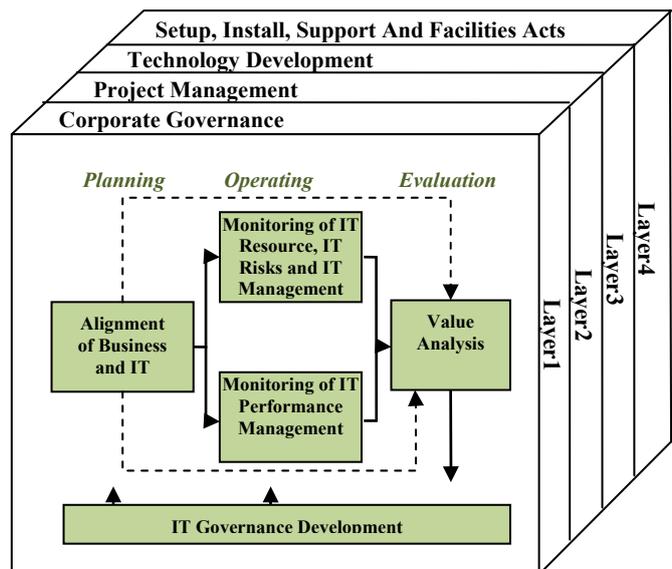


Figure3: Research model- The Integrated IT Governance model necessary for the success of the project

procedures in the project which involve 1) The procedures related to project management and 2)The procedures related to develop of final product. So we divided the layer Project to these two different sorts of activities. You can find the research model in figure 3.

In this section, the details of the models will be explained:

2.1. IT Governance Development

As you may notice in the model, generally, three sorts of measurement take place: planning, operation and control. In the proposed model we have made use of all these three measurements in all layers. Based on IT Governance approach, IT projects need to be in line with the organization. Moreover it may involve the alignment of strategies, policies and principles, plans and planned activities, Governance structures and roles, business and IT architectures, business and IT needs, and other alignment needs[17].

2.2. Research Layers

The proposed model in this research has developed the aforementioned procedures on four layers of activities during the project[1]. In the following figure the responsibility in accordance with project management as well as Cobit is illustrated[5][6]. These duties and responsibilities are just related to the deployment of IT Governance [20][21].

Table1: Duties& Responsibilities Based on Cobit on PM Layers.

<u>Laver1:</u>	<u>Laver2</u>	<u>Laver3</u>	<u>Laver4</u>
<ul style="list-style-type: none"> - IT Strategic Plan - Business Alignment - Value Definition - Resource Planning - Risks Issuing - Idea Submission - Opportunity Qualification - Business Case Assessment - Total Scheduling 	<ul style="list-style-type: none"> - Resource Management - Project Initiation - Scope Definition - Cost Allocation - Project Execution - Manage Quality - IT Project Processes, Organization and Relationships - Risk Control 	<ul style="list-style-type: none"> - Service Level Agreement Definition - Technology Direction - Value Controlling - Acquire and maintain application software. - Acquire and maintain technology infrastructure. - Enable operation and use. 	<ul style="list-style-type: none"> - Educate and train users Value Delivery - Benefits Harvesting - Benefits Reconciliation - Ensure regulatory compliance. - Provide IT Governance. - Board and Executive Reporting
Pre-Project	Project		Post-Project

In this research we intend to propose some effective solutions to decrease these problems. It is to say that we are going to propose some solutions to realize the goal of aligning the outcomes of the projects with the strategies of the organizations, realization of the expectations and the defined values in the organization as well as the deployment of the outputs of the projects in the line of the progress of the organizations.

3. To Prove the Research Model

In this section we are going to show the efficiency of the model in the scope of IT project management and the improvement of such projects. This based on previous studies and researches, first we review the causes of the failures and next based on IT Governance concepts we analyze the proposed model. At the end, the outcomes of this project have focused on two important issues.

- 1) Model's capacity to cover the causes of failure and
- 2) Model's efficiency in improving IT projects

3.1. The Questionnaire

This research focuses on the axes of IT Governance [7] and some questionnaires were prepared and submitted to executive managers and project managers. The questions were prepared based on model elements [1] and their resources [8][10][11][15][19]. The purpose was to recognize the issues which affect the success of pre-project (formation), project and post-project from the viewpoint of IT Governance.

3.2. The Efficiency of the Research Model

We have categorized the causes which may lead to the failure of projects in four layers to prove and study how such causes can be removed via using the current model. In order to study the possibility of the occurrence of these problems more accurately, we place the discovered problems within the diverse layers.

With regard to the above diagram first the outcomes were analyzed in each layer. To recognize the axes of IT Governance in each layer, the score of each cause was calculated according to the following formula.

$$A = \text{The score of each cause} \quad \sum d = \text{The sum of key axes} \quad P = \text{The priority of each cause}$$

And the formula is as the following : $A = \sum d \times P$

And next the sum of all these causes was calculated for each layer:

Table2: Scores of causes for each Layers.

Layers:	A	V	M	R	P
Corporate Governance	43	47	6	5	28
Project Management	13	19	33	38	59
Technology Development	16	21	22	16	34
Setup, Install, Support And Facilities Acts	28	36	14	23	43

A: Strategy Alignment
V: Value Delivery
M: Resource Management
R: Risk Management
P: Performance Measurement

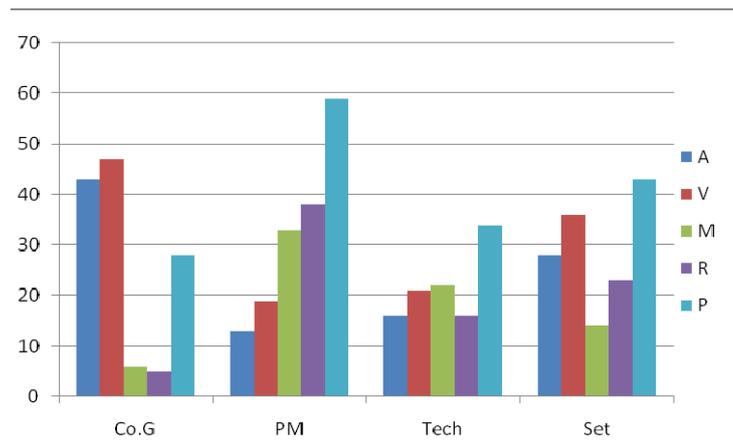


Diagram1- the scores of different layers based on the effects of ITG

4. Analytical Results

Based on higher scores of causes, we express the results in the form of the factors that lead to the success of the project.

The Results Related to Layer number one:

- Set priorities to achieve the goals of the organization in definition, formation and planning.
- Clear determination and definition of the expectant values of the organization.
- Special attention to the priorities of the organization in the initiation and definition of the projects.
- Particular focus on appropriate design of the in (Pre-Project)
- In this layer there is no need to have extra focus on resource management and the consequent risks.

The Results Related to Layer number 2

- Special attention to resource management, risks and above all supervision.
- Particular care to realize the values and expectancies of the project
- Management capability as a high-level factor which can increase success.
- Special requirements of the deployment plan and also monitoring project progress.

The Results Related to Layer number 3

- Aligning the technologies of an organization.
- Technological and qualitative supervision on technologies.
- Urgent need to use progressive technological models and the supporting documents, standards and methodologies.

The results related to layer four

- Urgent need to transmit the outcomes of a project.
- Urgent need to have a clear planning to deploy the outcomes of the project and monitor their installation.
- It is to remember that the realization of values and their deployment demands the support of stakeholders of an organization.
- The outcomes of a project need to align with an organization.

5. Analyzing the Axis of IT Governance in Project Management

In addition to analyzing the layers of the model, the outcomes of the research also show the impact of the five IT Governance axes in each layer. In this section we intend to highlight those aspects of the projects which are usually overlooked while indeed they have crucial importance in the success of a project. The following is the related diagram:

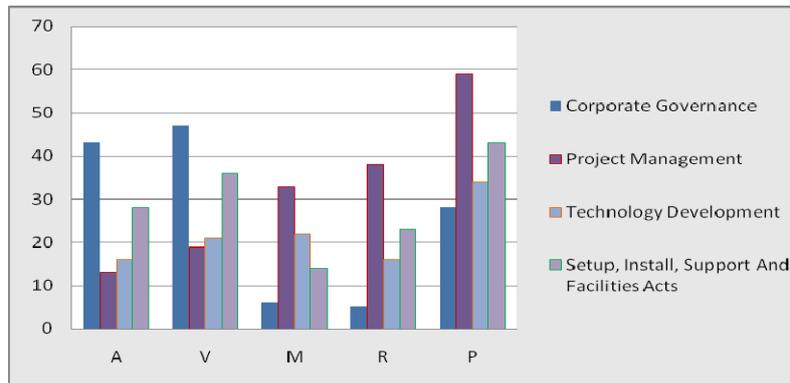


Diagram 2: The Impact of Governance Axes in each layer

It is evident that the evaluation and subsequent value creation have acquired the highest score. The very point proves the importance of two axes. The main Results of each layer are here:

Table3: The Main Results of each layer of Model

Strategic alignment	<ul style="list-style-type: none"> - The importance of such alignment in <i>Pre-Project</i> stage - Making sure of the realization of alignment in the <i>Post-Project</i> stage - Making sure of the alignment of technologies and low-level supervisions during <i>Project</i> stage
Value Creation	<ul style="list-style-type: none"> - The necessity of the realization of the values of a project based on the organization's priorities - Make sure that the expectations of the project are recognized - Make sure that the expectations of an IT project are precisely defined in Business - Modify clearly the process that leads to success and the realization of expectations - Generalize the defined <i>Value</i> on the process of progress
Resource Management	<ul style="list-style-type: none"> - Utmost attention must be paid to resource management in the layer of <i>Project</i> and by project management team - Project management team must supervise the resources during the process of technical development - Upon starting to work on the projects resource management should replace the evaluation of the outcomes - The necessity of resource management even after the completion of the project - The necessity of an overall estimation of the required budget and resources
Risk Management	<ul style="list-style-type: none"> - The necessity of Risk Management in all layers - The key role of management team in facing Risks - Reducing technical risks - Close attention to risks of <i>Pre-Project</i> stage - The necessity of paying attention to risks management is more critical in this layer
Performance Management	<ul style="list-style-type: none"> - Evaluation of the effectively of the most important axes in comparison with other axis - During the development process, the management team is responsible to supervise the project - The managers who deliver the project are responsible to control the realization of defined values

6. Conclusion

It is very important that the explication of obligations, urgencies, priorities and successful factor, become meaningful only when the four layers coexist. Otherwise, the aforementioned standards and causes will move, alter and come to have different positions and importance.

So the model should be integrated in all layers. In essence, based on the experts' ideas which took into account the requirements of the model it became clear that the model has high capacity to spot down the key success factors as well as presenting a proper categorization. IT is noteworthy to indicate that the basic elements which were presented in this model were also confirmed by the experts. This shows that the proposed model has a appropriate performance in project management. Moreover, it proves the accuracy of the chosen frameworks. The other important point in this model is that key elements exist along with their priorities during the deployment processes. In fact, both the elements and the way these elements should be used are crucially studied.

In general, it is proved that the performance evaluation and value creation are two issues with first priority, while these issues have been hardly noticed. One of the reasons is the focus on the developing

product or service. In the model proposed in this research, these two axes gain a high confidence for being operated via resorting to supporting processes of the model.

6.1. Upcoming Efforts

Following the present research it is necessary to define the roles and responsibilities of key people in each layer. The way the values are to be realized, the key elements in this regard and supervising factors should also be taken into account. The model should practically be deployed and the outcomes should be analyzed and the accordance of these outcomes with experts' ideas need to be studied.

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