

A framework for implementing Portfolio Management System by using EPM solution within the Holding Companies

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Abstract: A number of holding and project-oriented companies have attached great importance to this subject recently that given the constraints and resources, we have to choose and manage our projects with awareness, while they take some other items like goals, strategies, added-value and the risk of portfolio investment & capabilities into consideration. these companies come across with a great deal of challenges to plan and control the above items in order to achieve the goals of holding ,since holding companies are working in different businesses and deal with assorted types of units and processes . So, to this aim, we take the design and implementation of the portfolio and enterprise project management into granted as a big step and strategy being taken to manage the holding companies. Here in this paper, we study the portfolio management by using the enterprise project management (EPM) solution from a holding company view point.

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1. Introduction

Given the changes made in the world of business, the traditional methods can no longer meet the needs and obligations of organizations to achieve their goals. that's why the project-oriented organizations are on the rise daily, so that they need newer methods for project management in order to compete in the commercial markets and earn more money and finally reaching the social and economical development .since the project-oriented companies are considered as the strategic option for achieving the goals, so it is of great importance to select the suitable projects in these companies .one of the most important problems that the managers of these companies are facing whether these projects are in line with the organization strategy or not and the importance of it has been stressed due to sources shortfall on one side and competitiveness and survival on the other side.

According to Cooper (2001), the advantages of implementing the portfolio management are as follows:

- It can economically increase the return on investments and the productivity in the organization as much as possible
- It focuses on the resources of all projects and it is an universal-oriented event
- It shows the priority standards and is considered the best for the organization to select the suitable projects
- It makes the investments better oriented in different parts of an organization

- Given the project data collected and analyzed ,it leads to understand the function of an organization as a whole

According to Rajegopal et al (2007), the most important advantages of portfolio management can be defined as a better categorization and management of different parts of an organization, closely connected with the strategic goals of an organization as well as achieving the maximum value of portfolio while keeping the best ones , increasing the transparency and simplifying the process of decision making and a better use of organization resources and, finally investing on the big projects.

The institutions and companies turn to use the enterprise project management (EPM) through using a set of processes, methods and application software so as to make the management, scanning and evaluation of projects much more easiers.

EPM, as a matter of fact, is regarded as the enterprise look at the project management activities and how can the activities lead to the success of a organization and confirms the linkage among the idea, mission, objectives and strategies hierarchically so as to assure the organization that the project resources would be allocated on the expected time and applying the application and central controlling tools to the projects is viewed as an universal-oriented concept .the organization implements EPM as a strategic decision to change the methods of decision makings as well as allocating the resources to the projects, the selected projects and completing them.

2. History

1950: Emergence of Portfolio: Harry Markowitz, the Chicago university economist, studied the portfolio as infinite and published a paper on the "portfolio selection". he also studied the effects of risks, correlations and miscellaneous properties on the expected outputs of portfolio .he added that portfolio seems to be a better probability for different investments to minimize the risks and achieve the higher efficiency rather than the individual investments .therefore, investors invested in the miscellaneous properties to minimize the eventual risks and focused on the investment portfolio rather than an individual property.

1969: the portfolio application increased due to successful techniques of portfolio management used to meet the basic cost management requirements and time and quality of projects as well as the companies registered to address the way the projects are managed in this way such as American Portfolio Management institute.

1980: some reasons like increasing number of project-oriented companies , the continuing changes made over the business world , International narrow competitiveness and the complexities of new technologies and communication development gradually shed light on the weakness and failures of portfolio knowledge being used within the big project managements .the growing changes in the world of business made it necessary for the project-oriented organizations and entities to use an effective approach so as to achieve their goals and objectives. Moris Wahaag shows in a book entitled as " Anatomy of Big Projects " that project management is not able to solve all kinds of problems related to the big projects .so there is need for other macro-management concepts such as "strategy Management " to be discussed in project managements. From this time on, the way was paved for strategy management to be discussed in the project planning and management, while taking the macro project management into granted .therefore it was the duty of top-level managers for the companies and entities to introduce and make the strategy clear.

From 1990 on: portfolio management knowledge emerges on late 90s and came into force through models presented by Graham (1999), Archer & Ghasem zadeh (1999) and Cooper (2000). Finally, American project management institute brought together a given standard for portfolio management to complete its PMBOK.

Microsoft Corporation presented its first version of Enterprise project management (EPM) software on 2002 and the next versions came into market on years 2003,2007and 2010 and through these years , Microsoft Corporation upgraded the enterprise project management software.

3. Holding Company & portfolio management

Holding company is a company that owns a number of main shares for other companies; it means that it has a member within the board of directors of those companies. So, the holding company is entitled to vote and can control and manage the companies in this way and, consequently, benefits the profits earned through the different business by these companies.

These companies are referred to, sometimes, as mother companies and the holding includes processes like planning, controlling, supervising and supporting. The affiliated companies (the strategic business units) are those factories and units that directly provide services and products and are directly related with the customer.

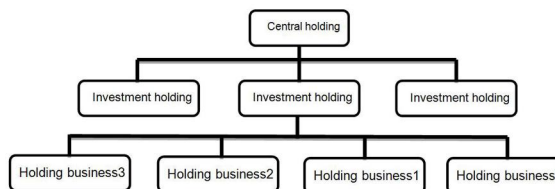


Figure 1. schematic plan of implementing EPM within holding organizations

Project portfolio management is an approach derived from the project management science and its main objective is to design and implement projects which make it possible for the project organization to achieve its strategic objectives more easily and the main theoretical bases for this system can be regarded as selecting the suitable projects, limited organization resources allocation and making secure organizational relations for project managers.

3-1. Project

It is a temporary effort to assume the responsibility of providing products, services to achieve the unique results .in other words; it is a set of activities that shall be implemented in due time with given costs and quality in order to achieve the main objectives.

3-2. Program

A group of projects by which the benefits and results cannot be achieved through individual management, so there is need for their management to be coordinated

3-3. Portfolio (Project portfolio)

It is a set of projects working together within a trading unit and of common strategic objectives. Portfolio management is defined as a harmonized management of portfolio works to achieve a given organizational objective. The portfolio project management can also be referred to as "an art and science to apply a set of sciences, skills, tools and techniques to a group of projects to meet the needs and the expected organizational investment strategy".

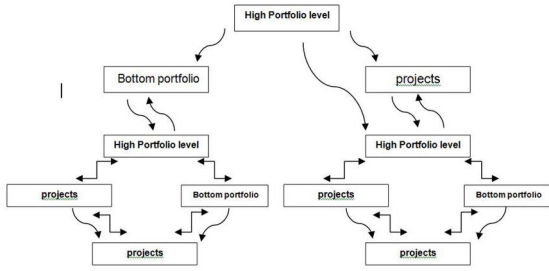


Figure 2. portfolio and its parts (portfolio, program and project) interactions

4. What is enterprise project management (EPM)?

EPM is defined as an organizational development that helps the organizations to manage in a unique way and apply them to the changes over a period of time .EPM is a kind of idea, communication and work that is supported by an information system and organizes the resources directly closed with leadership, idea, mission, solution and objectives which make the organization go further or in a simple way, EPM provides a wider or 360 degree perspective on the organizational efforts. The EPM information technology has been specifically used in recent years. So that, it has been stressed within the unit portfolio management on late 90s and a more focus would be maintained on this reality next decade that a project is not probably the only one.

EPM can be viewed from different perspectives and define it as the given parts of an organizational behavior .an approach is that EPM is a software tool helps the planning and implementing of all projects in an organization and the other aspect is that the projects are selected, planned and controlled by a centre which stresses that all projects report their progress to a given centre and none of these approaches are wrong. There is a project along with other ones in a trading institution that could be part of a program or more programs and can use the common resources for other projects .so, this could be made possible by a set of EPM processes that facilitate controlling, management, supervising and evaluating all projects in a trading institution.

EPM developed in a way recently that not only can trace and plan a set of available projects but also can form a portfolio (based on the budget rate , job calendar , budget year and etc.) of available and future projects and can be studied exactly like equities that which should be added to the shares (for its foreseen value) and which should be omitted (for it cannot have the output that have been calculated at first) , when there was a deal made on the shares content . So, the individual projects shall be controlled continuously in terms of quality, cost and planning.

The EPM tool box implementation requires the development of project management, methodologies, processes and controlling structures which have been applied so far and there are a number of organizations that can support such applications.

5. A model supporting EPM

EPM is a structure that changes the job directions through projects; figure 2 shows an enterprise structure that confirms the idea of EPM.

The functions and details being shown in the following model indicating the linkage between the key areas.



Figure 3. the strategic design elements for EPM

6. Elements needed for strategic design

6-1-IDEA

It is a picture or impression for the future situation of organization in mind (subjective). this picture may include the objectives according to the customer ‘s income or other job factors .as it is shown in figure 3 that idea is like a cloud or being put at the top and has not any physical features.

6-2- Mission

It indicates the entity of an organization and focuses on the products or service being presented. The income and bulk of organization is related to the mission unless there are a number of products or services being presented. So, each part of an organization may define the mission itself.

6-3- Objectives

It is a description of mission subset that gives us a wider insight into the parts of mission.

6-4- goals

It is a measurable aim that indicates an activity being performed or a product and the goal is developed from organizational objective regarding the organization. The goals are specifically stressed, since they can be objectives.

6-5-Strategies

It means that how something could be attainable and indicate the tools by which the ultimate aims could be achieved. The strategies can be implemented and developed at the organization, projects and other activities levels.

6-6- programs

Programs are defined as the categorized activities producing a product over a given period of time.

6-7- projects

Projects are defined as a group of activities that are in need of a given resource and implemented through planning and controlling which produce the best possible results while making the changes. Projects are in line with the objectives and goals of an organization, until they make the mission come true.

6-8- Operational instructions & Plans

It leads an organization for what is going to do or how is it being done. So, the plans make it possible for what is going to be done within an organization. Instructions define the way the activity is going to be done. Therefore, the instructions and plans are regarded as comprehensive policies which provide the organization with the stability and firmness.

6-9- Organizational Design

It means the organizational configuration in a way that makes the responsibilities possible so as to the mission and strategies are materialized.

7. EPM within organizations

EPM implementation within organizations helps us to achieve the following items:

- 1- Demand management
- 2- Selecting and analyzing of portfolio project management
- 3- Resource management
- 4- Scheduling management
- 5- Activity & time management
- 6- Team working
- 7- Risk management
- 8- Analyzing and reporting
- 9- Program management

8. EPM implementation

It is a new subject to apply and implement the enterprise project management solution within an organization. This new organizational structure along with new activities shall be transferred to the involved personnel, employers and other important investors.

The personnel are in real need of learning the new knowledge and skills and the leaders need to change the methods of organizational motivation for leading planning and manpower controlling.

The top-level managers have to clearly show their support for any change and transfer in this regard and this is the top-level management's duty or board of directors to study and analyze the advantages of changing the organization into EPM and they can look at the available projects whether the process of selection is enough or the available projects are less flourishing in terms of profit risk with relative to strategy and organization or not and consider other activity related factors as well.

When the decision was made and announced that the organization is going to change its properties into EPM program.

So, a strategy shall be defined for changing the functions into the new organization. This might be achieved over a period of time and will be introduced in stages or is completed in due time or a given period of time. Both these methods have their own advantages and disadvantages.

Before any change, it is necessary to bring the changing advantages to the notice of investors and it should be noted that some parts of the organizational functions cannot be turned into project such as "Enterprise resource management", "Financial management" and "Support management".

But, they could be changed in a way that meet the needs of the new organization. This change may cause the personnel to increase or decrease or require them to learn the new instructions & plans.

9. Developed enterprise project management stages within an organization

The developed enterprise project management is mainly connected with project management and its organizational & cultural development. Table 1 shows the levels of EPM development within an organization:

Table 1. Steps for enterprise project management development

Level 1	Less developed project management /shortage of EPM
	Executive management support Expert PMO Standard development of enterprise project management Managerial program of organizational change
Level 2	EPM tools, processes and trainings Project claim system Training & Processes resource management tools Company reporting Enterprise project management training program Enterprise project management standards & methods
Level 3	EPM council Advanced enterprise project management concepts PMO program responsibility
Level 4	Enterprise project management confirmation program Upper developed enterprise project management Equities Management
Level 5	Excellent Function

10. EPM and its overall software application:

Table 2. Software applications used for enterprise project management

Application	Name of Software
Project Planning & Controlling	MS Project professional 2010
Project data processing	MS Project Server 2010
Accessible through Information network	MS Project Web APP 2010
Enterprise project management cooperation	MS SharePoint Server 2010
Information Database & on time analytical reporting	MS SQL Server and analysis services 2008
Portfolio management	MS project Server : Portfolio management

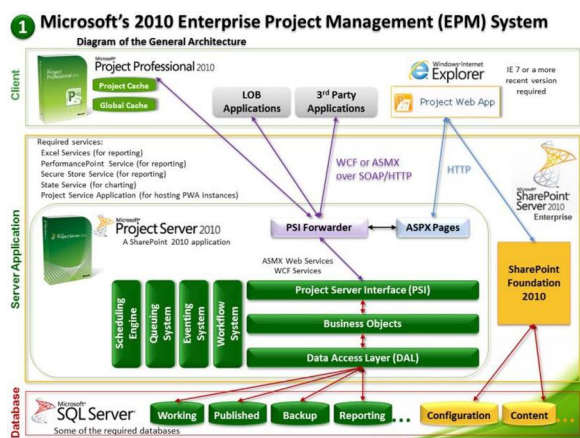


Figure 4. Overall Software structure EPM

11. Results

One of advantages of changing into EPM system is that the projects as their main function try to achieve the objectives and goals of organization successfully and enjoy more advantages and profits within the organizations. Some of organizations encountered with a number of problems because they did not find the suitable standards for selecting the projects. Sometimes a project with less priority helps the organization to achieve its aims more frequently rather than the available projects. It is a costly process to change into EPM and has to reach a state of balance at the time of implementation as quickly as possible, if the process of change is made with success. So, decreasing or omitting the projects with less profitability or negative one is regarded as one of the other areas for cost- savings. It is profitable to allocate the resources to the suitable projects that help the

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products of project come out as early as possible. The holding companies, who are the main beneficiaries for a number of projects, are required to apply the harmonized processes and methods to the enterprise project management, programs and portfolio so as to achieve their strategic goals and objectives. Enterprise project management make it possible for holding organizations to do their investments according to the objectives and goals, while using the portfolio management solution for the first time and it will collect a group of information for all projects, prioritize the organization's strategies in terms of their importance attached by the senior managers as well as organization's projects in terms of their strategic effects on the organization, selects the suitable portfolio from potential projects and the continuous supervision over the organization portfolio at best and done in a relative short space of time.

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