Benchmarking: An Effective Tool in Improving Project Management Performance

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Abstract

The need for efficient project management is an important issue for organizations recently. Managers and decisions makers have put their efforts to find a way to increase the performance of project management to achieve goals effectively. Benchmarking became the tool to make this performance improvement. In this article, a review was done on benchmarking and its application in project management field. Previous researches conducted on benchmarking project management performance were explained. In addition, the merits and limitations of each model were summarized in table to avoid their weakness points in future work.

Keywords: Benchmarking, Project Management, Improvement

1. Introduction

Project management is considered as a successful approach to perform the operations within firms efficiently and effectively. It helps organizations to make changes if needed in projects and apply those using specific methods. In the last few years, many businesses have used project management to improve a competitive advantage, but projects sometimes do not work as planned (Grant & Pennypacker, 2006). Companies always try making this tool more effectively by looking for choices such as learn lessons from previous projects and other competitors' projects. This led to the use of benchmarking to assist companies in monitoring the project management performance in the industry (Ajelabi & Tang, 2010).

Benchmarking is a tool that helps decision makers to reach to ideas and performance to be as good as they can in the market. Benchmarking tries to look for suitable solutions to be implemented into action. It gives a choice to have an external checking to make sure the process goes well and the necessary internal actions to achieve goals are applied. It is used when firms realize that they may not be able to ask the right questions. Through benchmarking, organizations can compare its performance with others who perform with better results and then study the differences. The process includes development of strategies that will make the company improve its performance (Letts, Ryan, & Grossman, 1999).

Several researchers attempted to improve project management in industry by applying benchmarking to develop methods to accomplish that. In this paper, these methods will be discussed and limitations will be mentioned in each if there is any. This paper is organized in the following manner; Section I is the Introduction; section II is the Literature Review; section III is Related Works; section IV is Advantages and Limitations; while section V will be Conclusion and Future Work; section VI will be Acknowledgments and the final section will be the list of References which have been cited accordingly.

1. LITERATURE REVIEW

Benchmarking is a tool that is characterized by being well-organized and continuous evaluation, which compares the performance of company's business operations and the managers on them to gather information from several organizations around the world to implement it in order to improve performance (Clark, Hatch, & Melkers, 2005). Another definition of benchmarking is that it's a process of comparing a company's performance in terms of strategy, and operations with those of the top and best-in-class companies to reach excellence surpass competitors (Dragolea & Cotîrlea, 2009).

Benchmarking is a tool invented by Xerox Corporation in the late 70s. It has become one of the most common management tools during the last decades. It has been considered as a technique that causes a positive change to an organization's projects. Its changes include developing in the context of quality and productivity. Benchmarking is characterized as a continuous process, a time-consuming and labour-intensive process. It has several objectives such as determining performance measurement criterion for each function in the organization. It also aims to compare the performance between the company and its competitors and identify advantages and limitations; it tries to reduce the gap between the operations of the firm and others (Dey, 2002).

Benchmarking has five types which can be grouped under two terms, "what is compared?" and "whom it is compared against?" The first term contains three types of benchmarking. The first one is performance benchmarking which matches between companies in terms of performance to check how the company is doing against others in the market. The next one is process benchmarking where it compares in approaches and actions done by the companies to do processes and learn from the best to improve the organization's processes. The third type is strategic benchmarking in which strategic decisions and debates within competitors are analyzed for gathering data to help the company improve its strategy and guide to plan better than before (Rahimi, Tavassoli, & Mollaee, 2008). The last two types

are under the second term and they are internal and external benchmarking. In internal benchmarking, one department or functional section compares its achievement with other divisions and try to surpass them in the projects. Top management in any company also uses it through finding the best project team or project manager and see what plans, strategies and actions they did to finish their part in the project successfully and then use the findings to improve other teams and functions in the organization. External benchmarking is a competitive comparison between company and the best in class. It gives a chance to discover best actions and strategies done by others, help the company not focused internally and try to benefit by improving the project management process (Barber, 2004).

Benchmarking became dominant due to its ability to support making and sustaining of a competitive advantage. Much information can be obtained from this process which relates to identification of strengths and weakness points in an organization, identification of the current and potential advantages in relation to other participants in projects and assessment of level of risks that company may have by using alternative actions. It depends on specifying major factors for success which then be analyzed for best actions to apply for improvement. The process of benchmarking includes several points to be in consideration. It contains at a comparison of the company against best firms in criteria of activities, products, services, techniques and procedures for future planning development (Marković, Dutina, & Kovačević, 2011).

Benchmarking has many benefits for organizations such as preventing waste of resources by plan and make a good strategy for the project. It makes decision makers be innovative by thinking outside the box to bring new ideas and solutions to do the project efficiently. It gives an opportunity to know if any company has the same plans to avoid duplicate and come with better ideas (Kelessidis, 2000). Some believe that benchmarking is limited to be used in measuring the amount of loss in the organization rather than helping to determine the issues to gain good results. It must compare every detail in project to reach to better improve that it is important to focus and actions same as for workers (Hoetmer, Reiss, & Hoffman, 1999)

2. RELATED WORKS OF IMPROVING PMP

Some organizations run their projects with a belief that they manage them effectively while other organizations look for options to evaluate the performance in project management and try to benchmark in order to increase this performance and achieve goals successfully (Hillson, 2001). Many researchers suggested models that can help assess and develop project management performance.

One of attempts to improve performance was done by Luu, Kim, & Huynh (2008) by making framework started by determining key performance indicators (KPI) for projects related to construction purposes in three large companies in Vietnam. In this model, nine KPIs were specified that are concerned about time, cost, quality issues and customer satisfaction. This was done through the use of the first survey among several experts in construction projects. Then more data was collected to look for best practices to benchmark managing project performance by doing interviews with project managers and engineers to make sure that the nine KPI identified first are the main factors. The information is then

analyzed by observing the actions done by competitors under those KPIs and determines which is more significant and which has less effect.

Rehman, Usmani, & Al Ahmari (2012) proposed another model for project management performance assessment. A questionnaire was conducted among some firms in Saudi Arabia to get some information about the projects in each one of them. Through analyzing the results from this survey, there are seven factors that affect on project management. Six factors are independent in the model, they are leadership, staff, strategies, resources, life cycle, (KPI) and the last one is project management performance which is dependent. The model has the following equation:

$$PMP = Constant + F_1(L) + F_2(S) + F_3(PS) + F_4(PR) + F_5(LC) + F_6(KPI) \quad \ldots..(1)$$

Where:

F_1 (L): Leadership, F_2 (S): Staff, F_3 (PS): Policy and Strategy
F_4 (PR): Partnership and Resources,
F_5 (LC): Life Cycle
F_6 (KPI): Key Performance Indicators

This equation represents the relation between the independent factors to project management performance.

Jin, Deng, Li, & Skitmore (2013) developed a framework to benchmark the performance of project management in several construction companies using balanced scorecard. The model consists of three steps beginning developing a measurement framework through the conduct of surveys, interviews with specialist and previous researches and concluded to identifying 27 measures under six dimensions. The six dimensions include financial, market, customer reviews, academic reviews, stakeholders and knowledge about strategies. The balanced scorecard was reshaped to help in the measurement. The next stage is the each measure to know its importance and effect on performance through the development framework in the previous step. The last step is to validate this approach by applying it in a firm to see the difference of its performance against others and make any adjustment if needed.

Some researchers believed it is important to include target cost and attaining maximum profits terms in contracts when measuring the performance in organizing projects. Chan & Chan (2012) conducted four rounds of survey in Hong Kong using Delphi Method to get opinions from people in industry in terms of major performance key factors that can be used to develop the model. Seven measures were determined as high priority in performance issue which are trust within project members, time corresponding to performance, final cost of project versus company's target cost, amount of conflict in project management team, customer satisfaction, time to complete project and role of contractor in project planning. The Kendall analysis test indicated was applied to evaluate ranking of importance for each factor

from survey participants' opinion. The last step was to generate the equation for the model to compute performance measurement index which is the following:

Performance Measurement Index (PMI) = 0.176 x trust + 0.163 x final cost of project versus company's target cost + 0.158 x time performance + 0.136 x amount of conflicts + 0.131 x customer satisfaction + 0.120 x Time to complete project + 0.115 x role of contractor… .(2)

Crawford (2006) explained a model of project management to assess the capability of project management in any company. The model utilizes the nine area areas of knowledge based on the PMI Body of Knowledge. These areas include integration, scope, time, cost, quality, human resource, communications, risk and procurement. The model consists of five levels of maturity and uses the nine knowledge areas to test organization's performance. The five levels are initial process, structured process and standards, organizational standards and institutionalized process, managed process and optimizing process. Each one indicates to specific capability of the company according to the level characteristics. Kwak & Ibbs (2002) made advnaced model by including the the same nine knowledge areas used by Crawford with implementing to each of the 5 levels the project process which are initiating, planning, executing, controlling and closing.

Dey (2002) applied analytic hierarchy process (AHP) which is a multiple attribute decision-making technique to benchmark methods used in project management of Caribbean public sector organizations. The approach to accomplish benchmarking has five steps. The first step is to determine major factors to succeed in project management. These factors were chosen by project managers from various firms including characteristics of project, procedures and methods. The second step is to look for previous attempts for benchmarking project management by several companies to be used in analysis. The next step is to analyze performance by AHP approach to classify the factors based on its impact on the managing project. Then, best methods, models and strategies done by top companies must be defined to benefit from it in the improvement process. Finally, factors in terms of their strength and weakness must be specified for further study to achieve the aimed improvement.

3. ADVANTAGES AND DISADVANTAGES OF PREVIOUS WORKS

The effect of benchmarking is very important in improving PM performance. The following table (Table 1) concluded the summary the merits and the demerits of every researcher to help for future work.

Table 1

Author	Approach	Strengths	Limitations
Luu, Kim, & Huynh,	**Conceptual Framework**	Involving three typical large contractors in the study to for validation	The generalization for other similar

2008		Utilizing qualitative and quantitative measures to come up the scores of KPIs.	contractors may be impossible.
Rehman, Usmani, & Al Ahmari, 2012	**Assessment Model**	Provide Mathematical Model for PMP. Good Literature Study and details about the process.	No validation for the Model.
Jin, Deng, Li, & Skitmore, 2013	**Balanced Scorecard (BSC)**	Good Literature to gather data. New approach to revise the BSC.	Study was limited to large companies only.
Chan & Chan, 2012	**Delphi Method**	Use of several tools for better results. Factors concern of cost and profit	It is time consuming.
Crawford, 2006	**Maturity Model**	Setting direction for project and prioritize actions needed. Measure improvement and predict the next logical steps.	Possibility of error in performance assessment.
Kwak & Ibbs, 2002	**Maturity Model**	Advanced PM level. Based on academic and practical basis.	No case study or test for validation.
Dey, 2002	**Analytic Hierarchy Process (AHP)**	Deep study of PM weakness and issues. Simple and flexible method to solve problems and improve.	No evaluation or test for the steps done.

4. CONCLUSION AND FUTURE WORK

In conclusion there are many methods that give decisions makers an option to choose to apply in their organizations depending on criteria that have big impact on the project. Researchers have tested many factors using surveys, interviews and previous works to decide the major ones to be used in their models. Some of them made the models without testing which reduce their validations to be used in industry.

In future research, my hope is that there will be more factors to be included for better results and new methods to be adopted to obtain effective improvement for project management performance.

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