

Using of Six Sigma in Adopting Business Excellence Model in Indian Context

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Received: February 24, 2011 Accepted: April 15, 2011 Published: October 1, 2011

doi:10.5539/ijbm.v6n10p273 URL: <http://dx.doi.org/10.5539/ijbm.v6n10p273>

Abstract

Ever since Confederations of Indian Industries (CII) has launched CII-EXIM Bank Business Excellence Award, adapted from EFQM Model, many organizations are challenging this award every year. Some organizations are also practicing Six sigma along with the Business excellence model. Six sigma approach has got many features that support Excellence model criteria. In fact, if both are harnessed together then proper synergy takes place resulting rich dividend. The objective of this paper is to highlight as to how Six sigma will support organization's endeavor in adopting Excellence model, so that more organizations are motivated to pursue both in tandem. The paper presents the criteria of the Award model those are better served by Six sigma process.

Keywords: Business excellence, Six sigma, EFQM model

1. Introduction

Of all the Organizational Excellence models, EFQM Award is the most popular one. In India CII and EXIM Bank jointly instituted CII-EXIM Bank Award for Business Excellence in 1994. This award is based on EFQM model (CII, 2010). This award has proved to be a catalyst in promoting the Business Excellence model in India. Initially the lead was taken by multinational companies - "In the Indian scenario, it is mainly the MNCs, driven by their global processes that are driving business excellence. The same culture needs to be cultivated by the Indian companies be they large or medium ones." Suresh Rajpal et.al (2003). It is encouraging to note that many Indian companies including the SMEs are also now showing more interest and CII has launched separate Business Excellence Award for SMEs since 2009.

The author was involved in implementing this model as an in-house resource person and was also involved in a couple of external assessments. Experience suggests that mostly in the first assessment the organizations try to fit its existing processes in the model and as it matures it designs processes to adopt the model. It has also been experienced that those organizations who have implemented Six sigma, find easy to match the model's requirements and also find it convenient to address certain model requirement in their submission document better.

The objective of this paper is to highlight the requirements of the model those are better served by the approach of six sigma implementation and to motivate decision makers to go for six sigma for better adaptation to the Excellence model. This is not a research article but an article articulated from the practitioner's point of view. Though the discussion is in reference to CII-EXIM Bank Award scheme but the points/suggestions made are equally applicable to other Excellence models in general and EFQM Model in particular as most of the models have many criteria in common.

2. European Quality Award (EFQM Model)

European Foundation for Quality Management (EFQM) is a non-profit organization that has been established in 1988 by fourteen well known European companies (Bosch, Renault, Fiat, BT, Boll, Electrolux, KLM, Nestle, Olivetti, Philips, Solzer, Volkswagen, Razalet, Siba) with a mission to promote performance excellence, and to create organizational competitiveness in Europe as well as in European organizations throughout the world (Arash Shahin, 2011). The European Quality Prizes and the European Quality Award (EQA) were launched in 1991 by the EFQM, with the support of the EOQ and the European Commission. The EFQM is responsible for

their management and funding. Since 2001 this award was introduced as EFQM model. The award achieved a much needed requirement, i.e. to have visibility of Top Management involvement in the Quality Management activity.

The model was periodically reviewed and the most significant changes were introduced in 2003 and in 2010. The model is based on 8 Fundamental Concepts of Excellence that are retrieved from 8 Principles of quality Management and Total Quality Management. These are- achieving Balanced results, Adding Value for Customers, Leading with Vision, Inspiration & Integrity, Managing by Process, Succeeding through People, Nurturing creativity & Innovation, Building Partnerships and Taking Responsibility for a Sustainable Future. Though meeting these concepts is quite difficult but these are not negotiable. In other words no organization can claim exception to any criteria related to any of the fundamental concepts.

The EFQM model comprised of nine major criteria in two categories- Enablers and Results. The first five criteria are regarded as 'enablers'. These are- Leadership, People, Strategy, Partnerships & Resources and Processes, Products & Services. The next four criteria are known as "Results". These are- People results, Customer Results, Society Results and Key Results (EFQM, 2010).

In order to make the criteria comprehensible and actionable each criterion is divided in to several sub criteria. There are in total 32 sub criteria. An organization is supposed to address, either explicitly or implicitly each sub criteria in their submission document and also the assessors are required to ask questions with respect to the sub criteria while assessing the status of any organization.

'Enablers' criteria cover whatever an organization does, and result criteria include what an organization achieves. It is through performing the enabler criteria an organization achieves results. In this respect enabler criteria are causes and the results are effects. A study carried out by Maria Leticia Santos-Vijande and Luis I. Alvarez-, Gonzalez et. al. has shown that there exists a positive causal relationship between the EFQM's Enablers and firms' Results (Maria Leticia Santos-Vijande et. al, 2007). This also evidenced by the study carried out by Eskildsen, Kristensen and Juhl through a survey of 750 Danish companies (Eskildsen et. al, 2000). An organization is supposed to improve its way of performing the enablers from the feedback from the results. Both the Enablers and the Results are given equal weights of 50% each. The total score is 1000. No such evidence is available on the maximum score achieved by any organization. However a study carried out by J Moeller revealed that the best score obtained in an Industrial setting was between 650-750 (J Moeller, 2001).

The model suggests a measurement system known as RADR. It consists of four elements: Results, Approach, Deployment, Assessment and Refinement. The result criteria are scored for Scope and Relevance, Integrity, Segmentation, Trends, Targets, Comparison and Causes (whether or not they are caused by approach). The enabler criteria are rated on Approach, Deployment, Assessment and Refinement (EFQM, 2010). There are two outputs from the Assessment process: score, an indicator of level of success for each criterion and the total where the highest score obtained by any organization in the year of assessment is also indicated and a Feedback report, which gives the strengths and Opportunity for improvement.

3. Features of Six sigma

Started with the concept of variation reduction and targeting a performance goal of achieving 3.4 ppm in 1987 at Motorola over the passage of time it has encompassed larger issues, both strategic and tactical. Edgeman has said (Edgeman, 2000) "Six Sigma is an effective means towards operational excellence, which in turn is necessary for achieving performance improvement, financial effectiveness, customer orientation and organizational excellence." Six Sigma concept helps enterprises to formulate, integrate and realize the vision, mission and goals, and therefore to sustain and grow in the environment with growing customers' requirements and intensive competition (Marija Andjelkovic Pesic, et al., 2010)

There is hardly any difference between six sigma and other quality management approach so far philosophy and tools/techniques are concerned. The real difference lies in the approach for its implementation, which differs from organization to organization but having a common underlying pattern.

Six Sigma Methodology follows a structured process, which can be summarized to three inclusive concepts (Su et al., 2005) as:

1) Continuous improvement in a series of sequential steps, which is recognized as the cycle of Define-Measure-Analyze-Improve-Control (DMAIC). The objectives of different phases are defined below.

- Define: In this step, improvement project is defined according to the strategic objectives of the organization that will include customers' priorities and needs.

- Measure: The aim of this step is to measure the process performance, and to collect data for problem solving
- Analysis: This step includes analyzing collected data and process map to identify cause of errors and recognizing opportunities for improvement.
- Improve: The aim of this step is to decrease, and if possible eliminate errors and deficiencies in order to increase quality and improving process performance
- Control: The aim of this step is to maintain improvements made in the previous steps by continuous control of the process performance

2) Combining human resources and processes, by using Belts symbol. Different belts denote people who implement Six Sigma who are divided mainly into three groups as Champions, Black Belts, and Green Belts.

3) Monitoring the obtained results and maintaining and empowering them continuously and permanently

While, DMAIC methodology is used for improving existing business processes, PIDOV (plan, identify, design, optimize, verify) methodology is used for creating new product designs or process designs in such a way that it results in a more predictable, mature and defect free performance (Marija Andjelkovic Pesic, et al. 2010).

Schroeder.R.G.et al. has presented a basic definition of six sigma (Schroeder.R.G.et al, 2007):

“Six Sigma is an organized, parallel-meso structure to reduce variation in organizational processes by using improvement specialists, a structured method, and performance metrics with the aim of achieving strategic objectives.”

Generally Six sigma project is led by Black belts, carried out by Green belts and supported by Champions. Thus six sigma implementation follow a parallel structure without conflicting with the usual organizational hierarchy. Concerned process owner play the role of Champions, who facilitates and review the progress of the projects. Champions also approve the project charter and acts as a gate keeper as the project progress through different stages. A senior level person having the necessary training and skill on statistical techniques, six sigma methodology and also have the concerned functional knowledge becomes a Black Belt who guides/mentors the Green belts in carrying out the problem solving following a structured approach. Six sigma follows a structured approach in selecting problems. Depending on the size of the organization, appropriate senior level executives are involved in this phase and ensure that the selected project has financial and strategic implications. In this sense six sigma is a strategy deployment tool. As various levels of management gets involved in the process, six sigma help achieve leadership engagement. The Black belts and the Green belts undergo through structured training programmes. During the project the whole team is trained to get a big picture view of the problem on hand. Thus it is a great people development activity. The problem solving is carried out by DMAIC (Define, Measure, Analyze, Improve and Control) approach. Hence it is a process oriented approach. The result achieved is generally audited by the finance department and the results are monitored for quite a long period during Control phase before the project is formally closed. For each project completed, respective project document is prepared, which is an important input to Knowledge management.

The areas that have experienced the greatest benefits are reduction in process variability, reduction in COPQ (costs of poor quality), increase in profitability, reduction of operational costs, increase of productivity, etc. (Gosnik D et.al 2010). Gosnik et.al. have identified following eleven success factors for implementation of six sigma(Gosnik D et.al 2010):

- (1) linking Six sigma to customers;
- (2) linking Six sigma to business strategy,
- (3) linking Six sigma to employees,
- (4) linking Six sigma to suppliers,
- (5) Management involvement and participation,
- (6) organizational Infrastructure,
- (7) understanding of Six sigma methodology,
- (8) project management skills,
- (9) project prioritization and selection,
- (10) training and
- (11) cultural change.

4. Alignment of Sixsigma approach to CII-EXIM Bank Award Criteria

In the following paragraphs the requirements of the Award model those are directly benefited from the implementation of Six sigma are discussed.

4.1 Leadership

In criteria 1d, the model expects “Leaders reinforce a culture of excellence with the organization’s people”. In Six sigma approach, the project champions through the respective Black belt infuse the culture of excellence by demanding project specific achieving stretch goal, which is again relevant to the organization’s strategy, as six sigma projects must be having direct link with organization’s strategic objectives. By doing so the six sigma approach makes the leaders fulfill all the guiding points relevant to this requirement, like inspiring people,

develop ownership, empowerment with accountability, help create partnership within the inter functional peer group, etc.

In criteria 1e, the model expects “Leaders ensure that the organization is flexible and manages effectively”. By adopting six sigma approach an organization creates flexibility through implementing six sigma meso-structure as mentioned in Para 3. By taking strategy related projects, six sigma ensures both short and long term concern of the organization and thus help mobilize long term resource allocation, which is one of the guide lines relevant to this requirement. By involving people it help implement and manage changes effectively.

4.2 Strategy

In criteria 2d, the model expects “Strategy and supporting policies are communicated, implemented and monitored”. Project selection in Six sigma, involves senior management to filter out Six Sigma projects that do not have financial or strategic implications (Schroeder.R.G.et al, 2007). From this perspective the decision rights to initiate a project are allocated to senior management. Thus Six sigma help achieve strategy deployment in a great way by selecting strategy related projects. While defining the project charter extensive discussions takes place between top and other levels of management-like Black and Green belts. Thus it helps also in communicating the strategy. During the define phase the group derive technical ‘Y’ from business ‘Y’ and in target setting it considers bench marked figures, best achieved figures and competitors’ performance, etc.

4.3 People

In criteria 3b, the model expects “People’s knowledge and capabilities are developed”. As mentioned in Para 3, six sigma demands structured in depth training on problem solving, project management, statistical techniques. Thus makes people more competent. And through the parallel structure it empowers people to exercise their knowledge in practical field.

In criteria 3c, the model expects “People are aligned, involved and empowered”. By taking projects related to Strategy people are aligned with the organization’s goals and objectives, by creating a six sigma meso-structure people are empowered and involved.

4.4 Partnership and Resources

In criteria 4a, the model expects “Partners and suppliers are managed for sustainable benefit”. Many a time a Six sigma project requires working with the suppliers. At a matured stage an organization extends its expertise in six sigma to their suppliers for mutual benefit, thus strengthening the partnership. As for example, a Ferro Alloy company took up a six sigma project of increasing the load Factor of induction Furnaces where they worked with the supplier for improving the Electro Paste casing development. This was appreciated by the Award assessors.

In criteria 4e, the model expects “Information and knowledge are managed to support effective decision making and to build the organizational capability”. Systematic implementations of Six sigma demands maintaining a project file for each project. Each project file maintains the key aspects of each project, thus each project file is a source of knowledge. The organization those are working with six sigma philosophy uploads key learning from each project, which facilitates knowledge sharing. Thus it also helps increase organizational capability.

4.5 Processes, Products and Services

In criteria 5a, the model expects “Processes are designed and managed to optimize stakeholder value”. Systematic implementation of six sigma demands identification of key processes and the process owners. Identification of key performance parameters having linked with strategy of each key process needs to be identified. Organization wide deployment of six sigma demands key process sigma levels to be determined and improvement plans are to be chalked out wherever required. Author’s experience suggests that many organizations while going for six sigma ,identifies key processes but generally do not go for process wise sigma level assessment, thus are not able to disseminate six sigma culture across the organization and achieving a common goal/target level.

In criteria 5b, the model expects “Product and services are developed to create optimum value for customers”. During the project selection phase (Define Phase) the team examines all aspects of critical to business including design of product and services. Thus six sigma help achieve this criteria of excellence model.

In criteria 5d, the model expects “Products and Services are produced, delivered and managed”. All these are key processes and six sigma does examine the scope of optimizations of these processes through appropriate project selection.

In criteria 5d, the model expects “Customer relationships are managed and enhanced”. CTS (Critical to services) is one of the major factor in project selection and it goes without much argument that six sigma plays a major

role in enhancing quality of customer relationship. Projects related to customer complaints and improvement in relationship with customers is the most favored projects in all six sigma practicing organizations.

It may also be mentioned that only the enabling criteria are mentioned in the table as these are actionable from the organization's point. It is obvious that by implementing six sigma an organization will reap benefit in almost all the result criteria, particularly in Customer results, People results and Key results.

5. Conclusion

From the above discussion it may be concluded that in out of twenty four sub criteria in the enabling category an organization get benefited directly in eleven sub criteria. Apart from this an organization will get rich benefit in realizing good performance in almost all the result criteria too. Definitely it is worthwhile to go for six sigma while institutionalizing Business Excellence Model.

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