

## LEAN SIX SIGMA IN HUMAN RESOURCES

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### Abstract

*Six Sigma and Lean are frameworks for delivering high customer satisfaction, lowering operating costs, accelerating cycle time, enhancing quality, productivity and reducing risks. The companies have implemented operations strategies based on a relatively well-known management philosophy called Lean Six Sigma. The companies that have used this overall approach have established disciplined working environments focused on customer needs and detailed analysis. This concept has been very effectively used in all operational functions of management and in HRM as well. Key HR processes that can benefit from Lean six Sigma include creating and managing HR Planning, policy and strategies, developing, training and counselling, HR organization, managing employee information, payroll, recruitment, sourcing and selection, redeployment and retirement of employees and their rewards and retraining procedures.*

**Key words:** HRM, HR Professionals, Lean Manufacturing, Lean Six Sigma, Six Sigma.

### Introduction

Increased globalization, constant technological advances and other competitive pressures are accelerating the pace of change companies are facing during present times. The resulting opportunities and threats have placed innovation near the top of CEO's priority lists. The right operations strategy focused on efficiency and growth can serve as a foundation for innovation throughout an organization and help companies make innovation a regular occurrence. One such creation of innovating thoughts is the integration of two very famous and widely known concepts of Six Sigma and Lean, most effectively used in operations management, to form Lean Six Sigma. The companies have implemented operations strategies based on this relatively well-known management philosophy. The companies that have used this overall approach have established disciplined working environments focused on customer needs, data analysis and facts. This concept has been very effectively used in all operational functions of management and in the management of human resources as well.

### Six Sigma

Motorola, USA in 1986 developed a business management strategy called Six Sigma that is widely used in many sectors of industry. It uses statistical techniques to improve processes in both manufacturing and service industries.

Six Sigma improves the quality of process outputs by identifying and removing the causes of defects (errors) and minimizing deviations in manufacturing processes.

The quality management methods are used and a special infrastructure of people is created within the organizations who are experts in these methods.

#### **Six Sigma Stresses that**

- Stable and predictable results are important for business success through continuous efforts.
- Manufacturing and business processes can be easily measured, analyzed, improved and controlled.
- Top-level management support and commitment from the entire organization is needed for sustained quality improvement.

Six Sigma is a process improvement methodology which uses data to achieve stable and predictable process results thus reducing process variation and defects. Since (1999) defined it as: “a business strategy that seeks to identify and eliminate causes of errors or defects or failures in business processes by focusing on outputs that are critical to customers”.

#### **Lean Manufacturing**

Lean is the term used to describe the production systems and methods developed by the Toyota Company. Lean comes about by focusing on the reduction of the non-valued activities within the organization. Lean is all about achieving more value by applying fewer resources more effectively and efficiently through the continuous elimination of non-valued added activities or waste. It is a production practice that considers any expenditure of resources to be wasteful and can be eliminated, except for the one that creates value for the end customer.

#### **The five principles to be followed for Lean Manufacturing are-**

- To identify and understand what creates value for the organization
- To identify, understand and map all the processes required to satisfy the customer
- To make the value-added actions within the processes flow
- To only make and focus on what the customer wants
- To pursue perfection by bringing continuous improvement

Lean is a widely used methodology in manufacturing industry but can be easily applied to the whole organization's administrative functions as well as to the service sector.

While both Lean and Six Sigma have been used for many years, they were not integrated until the late 1990s and early 2000s (George, 2002; George, 2003). Today, Lean Six Sigma is recognized as (Since, 2010) “a business strategy and methodology that increases process performance resulting in enhanced customer satisfaction and improved bottom line results.”

### **Lean Six Sigma**

Lean Six Sigma is a synergized managerial concept of Lean and Six Sigma. It results in the elimination of the seven kinds of wastes which can be classified as wastes resulting from Defects in production, Overproduction of goods, Transportation of raw material and finished product, Waiting time for supply of material, Inventory, Motion and Over Processing and provision of goods and service at a rate of 3.4 defects per million opportunities(DPMO).

HR function has a very important role to play in achieving high organizational performance. It is also entrusted with the task of successfully and credibly delivering operational services to internal customers of the organizations constituting of other functional areas. Hr professionals with the right skills can contribute to a Six Sigma initiatives are unlikely to succeed without help from HR as HR has an important role in sophisticated process improvement approach.

### **Role of Human Resources (HR) in Six Sigma**

To recognize the important role HR has in Six Sigma, it is important to know all the roles played by professionals in a Six Sigma implementation, and the factors critical for a successful implementation. According to Mary Federico, Six Sigma has a martial arts convention for naming many of its professional roles.

Leaders and Champions usually receive high-level training on the technical aspects of Six Sigma and specific training on how to lead an initiative. At the "Belt" level, each candidate is assigned an initial "training project" that he/she will work on during the formal training period. Like any major organizational initiative many factors contribute to the success of six sigma and fall within HR's area of responsibility.

### **Black Belt Selection and Retention**

Having the right people in the Black Belt role is critical to the success of a Six Sigma initiative. The organization has to invest in the training programmes substantially to generate success. Black Belts are the visible "face" of Six Sigma. They portray organization's image of Six Sigma, and encourage others to embrace the initiative.

HR professionals can contribute in helping the Six Sigma leader find the right people for Black Belt roles and ensure they remain in those positions for the typical two-year rotation:

- HR can build a competency model that will help identify candidates with the right mix of technical, team and leadership skills and abilities.
- HR can help in creating job descriptions that help candidates fully understand the position and expectations prior to signing on.
- HR can develop a retention strategy that will help ensure that Black Belts complete their rotation and the organization recoups its investment in training and development.

### **Rewards and Recognition**

Black Belts join the Six Sigma initiative from various places in the organization where they are likely to have been at different job levels with differing compensation arrangements. Rewarding and recognizing Black Belts and Six Sigma teams is more complex than it may appear. It is very critical to determine appropriate adjustments in level and compensation as all these individuals are in the same role.

HR professionals can help Six Sigma Leader in tackling the challenges of establishing the right rewards/ recognition. They can contribute in this area by:

- Analyzing the existing compensation arrangements and to identify how much of these arrangements will support the Six Sigma initiative.
- Creating a compensation plan that will improve support for Six Sigma.
- Developing a non- monetary reward program as well for Six Sigma teams.

### **Project Team Effectiveness**

The work of Six Sigma is done mostly at the project team level by a Black Belt leading a small team through the steps of the DMAIC (Define, Measure, Analyze, Improve and Control) method. The project cannot be successful if the team itself does not function well or does not interact effectively with others in the organization that have to support and carry out the process changes.

HR professionals can help the project teams work together more effectively.

They can contribute by:

- Ensuring that team leaders and members get adequate training and coaching in teamwork, conflict management, communications, dealing with difficult team members, and other team effectiveness skills.
- Providing teams with tools that will allow them to diagnose their own performance and identify when and where they need help.
- Acting as a resource for Black Belts in facing team-related challenges

### **Creating a Six Sigma Culture**

Many Sponsors, Champions and Leaders look to Six Sigma as a way to change an organization's culture to one that is more based on data, proactive, decisive, and customer-oriented. But they have no experience to initiate this change.

HR professionals can help executives approach culture change to achieve goals without creating organizational resistance. They can contribute by-

- Working with Six Sigma professionals to identify elements of the culture that might hinder the achievement of Six Sigma goals.
- Advising on change plans for specific cultural elements.
- Identifying how Six Sigma can be used in a way that works with the current culture.

### **Change Management and Communications**

Introducing Six Sigma into an organization is a major change that brings uncertainty and anxiety and increases the levels of acceptance and cooperation in the organization. It has a profound effect on a vast group of stakeholders who are required to engage in new behaviours. Some stakeholders view Six Sigma as a source of competitive edge gaining control over resources, executive attention, and organizational power. Others view it as an indictment of their past performance. Still others are confused about how Six Sigma fits with the large number of other ongoing organizational initiatives. HR professionals play a role in reducing the uncertainty and anxiety surrounding Six Sigma by:

- Drafting a change management and communications plan that addresses the people side of the Six Sigma initiative
- Helping create a "case for change" that describes
- The reasons for Six Sigma and its benefits
- The way in which organization will help employees succeed.
- The way in which Six Sigma will fit with other ongoing initiatives
- Counselling Six Sigma professionals about their behaviour and how it can impact Six Sigma's acceptance throughout the organization.

### **Being Include in Six Sigma**

HR professionals can include themselves in the Six Sigma initiative and play a role in its success by

- Ensuring that HR professionals possess the right skills and knowledge
- Marketing their potential contribution from the very beginning.

### **Gaining the Right Skills and Knowledge**

In addition to the knowledge of HR and other organizational development related areas, HR professionals need knowledge of Six Sigma processes. Without a basic knowledge of the DMAIC method and supporting knowledge of the tools, roles and statistical methods, HR will not be considered as a potential contributor to the initiative.

Six Sigma can be successfully applied to many HR's processes, e.g., the payroll process, benefits administration, selection and recruiting. HR can enhance its own processes by adopting Six Sigma techniques and encourage rest of the organization to follow.

### **Marketing HR's Potential Contribution**

The senior executives should believe that the people issues are just as critical to six sigma's success as are its many technical components. as such, HR needs to sell the importance of people side. also the executives must perceive HR as being able to make a significant contribution on the people side of six sigma. HR meet these challenges by:

- Gathering data that supports the need for attention to the people side of six sigma. this data can be obtained from past records of six sigma publication and executives decisions in companies that have already implemented six sigma.
- Learning lessons from success or failure stories of previous organizational initiatives in which people issues and HR actions and initiatives played an important role.
- Identifying areas where HR could provide very specific and measurable help to discuss business and six sigma goals and consulting six sigma professionals in the language of six sigma which they understand
- Taking the step towards successful application of six sigma successfully within the HR function.

HR has a substantial role to play in the successful implementation of six sigma initiative. But it will be possible if its professionals have the right skills and knowledge and are able to show six sigma executives the value that they can add.

Areas where HR can work with lean six sigma For bringing continuous improvement in the organisation, human resources professionals should be knowledge about the lean six sigma methodology. They can be a huge asset to the company if they are familiar with all operational aspects of lean six sigma methodology. every role of HR can contribute towards the ultimate business goals of driving profitable growth through continuous improvement. HR & lean six sigma synergy can bring desired results which are evident in the following areas

1. **Talent acquisition and retention** - the process for recruiting and hiring the right talent to contribute in the lean six sigma process, and developing strategies for retaining the six sigma team members.
2. **Building cross functional teamwork**- team dynamics can be improved by building teams, providing conflict resolution solutions, and improving communication among teams.
3. **Documentation**- using pre-existing data for monitoring and analysing people and process. The use of scorecards can help in tracking how the vision translates into operational and financial goals.
4. **Change management** - reducing uncertainty and anxiety involved with lean six sigma transformation
5. **Learning & development** - working with the continuous improvement process team to build a lean six sigma competency model, designing course for six sigma professionals and supporting the entire organisation with solutions focused on key competencies and change management.

HR can play a key role in bringing a desired change in organizations by supporting lean six sigma and continuous improvement strategies.

Procedure for applying for lean six sigma for continuous improvement

The processes in the human resources department can be streamlined by utilizing lean six sigma. It is not only a quality management strategy used by businesses for eliminating waste, reducing defects and improving customer satisfaction. HR functions of manpower staffing and performance measurement can be improved. The existing people need to be trained in lean sigma techniques. When all roles and responsibilities of lean six sigma are established the HR functions can be clearly defined, measured, analysed, improved and controlled using lean sigma methods.

It is first important to identify a champion in the company for sponsoring HR process improvement activities. Then training needs to be given to individuals in the HR organisation. The following steps are to be followed:

1. Prioritize the areas that require elimination of waste, reduction of errors and improvement of client satisfaction keeping in view the HR policies, procedures and processes. Review of the company's balanced scorecards, strategic plans or dashboards is needed to determine critical areas and select processes that may benefit from improvement efforts in both the short and long term.
2. Calculation of metrics to help in aligning the process improvement projects with company's strategic goals and performance measurement system.
3. Analysing the selected HR processes through flowcharting to illustrate separate steps of process in sequential order and determining the steps which may no longer be necessary or require adjustment.
4. Making small changes first and then identifying the impact and risk of those changes before implementing them on a wider scale
5. Rewarding process improvement project successes by recognizing individuals who participated in pilot projects and communicating the new HR processes, policies and procedures through meetings, newsletters and presentations.

#### **Lean/Six Sigma can help HR to become Strategic Partner**

According to Stephen coco, associate principal of intellilink, human resource departments and professionals are reactive, process driven and service oriented. Rather they should be strategic business partners who are required to do more succession planning and provide organizational design support.

By using some of the concepts from six sigma, specifically the lean process management philosophy, HR professionals can focus resources on being more of a strategic business partner in the organisation. The three concepts from the lean process management philosophy include:

- Focusing on process value
- Improving service throughput and
- Embracing pull systems

### **Using Process Value and Mapping**

Process value and process mapping help to determine if the HR function is heavily procedurized and processed. If any process does not help in keeping costs and cycle time down, or doesn't contribute to quality, it needs to be reconsidered. Inefficient processes causes waste and can introduce errors into the system. HR is prone to data manipulation and movement of information, and results into repeats, reworks and rechecks. This takes up a lot of time and makes processes lengthy without adding anything to the value. If the HR team takes each task and process and reviews the steps involved, the team can decide which steps might be discontinued or streamlined to speed up the processes.

### **Improving 'Through Put'**

Improving service through put (rate of successful message delivery) involves reviewing the system and staffing for processes since both affect the end result.

In HR, a lot of time is spent on tasks because systems or processes are not up to par, and an overhaul .systems quickly become antiquated or obsolete and need to be upgraded or replaced to meet current and future demands

### **Introduce 'Pull 'Systems**

Implementing pull systems to HR that are based on actual customer demands can link process to demand and cut out wastes that result from over production. For HR as service providers the objective is to reduce overall lead time of providing services by reducing things in progress.

The review of the result of the lean concept and examine the processes o determine what needs an overhaul will enable the HR professionals to serve the organization as business partners.HR will then be able to apply its strength in its core areas and focus more on talent management, succession planning and employee and leadership development .this will also help t move the organisation towards greater business success and profit margin

### **Six Sigma Relation to Human Resource Management Practices**

Six sigma has been successfully applied in manufacturing industries DMAIC methodology that improves processes. it can be considered the DNA of the company if integrated well into the corporate culture the human resources department cannot remain un touched by six sigma it is evident that HR people are now looking to benefit from six sigma initiatives HR can help executive the profit and growth strategies of an organization through the use of six sigma the HR department is best suited to facilitate management changes as it interacts with and influences every employee. An organisation needs HR to integrate six sigma methodology and a business scorecard to achieve growth and profitability.

HR has a huge effect on every business. The human resources should be considered as human capital and the HR department must ensure that there good return on investment in human capital. In addition to carrying out the typical HR functions innovations and change management must also become key functions in the HR department. Six sigma can be used to tackle a variety of strategic human resource projects like:

- Lowering turn over
- Paring prescription drug cost
- Reducing injuries at work
- Improving recruiting time to fill

HR professionals need to be strategic business partners and should be through in proven management methodologies and toolled of lean and six sigma .an hr professionals who can present his business case for HR strategy and interventions will be respected and regarded .A good knowledge and exposure of facts based strategy and decisions making will be benefited the HR professionals .

An HR professionals has multiple, roles o play in an organisation he is a strategy business partners a change catalyst an employee champion provide a frame work for confidently capturing and presenting information in all these areas for bridging gaps in performance and continues improvement HR professionals cannot ignore the use of modern management methodology in order to support the management and be recognize as business partners.

HR professionals have the ability to utilize the skills such as huge management and leadership development .the HR professional is a better position to function as a liaison with sponsor and champion than the project manager.

### **Managing Change**

One of the 4 key roles of HR for an organisation in facilitating and managing change. Whenever six sigma introduced into an organisation it will mean incorporating major changes that will have a profound effect.

HR professionals should consider the following.

- Identification of key success factors for building capacity for change
- Providing the extent to which these key successes factors are being managed
- Identification of improvement activities for each success factor
- Reviewing the key factors as an iterative process not as an event.

Proper integration of lean and six sigma methodologies with the HR functions can facilitate smooth flow of activity and check high attrition of employees thus giving better performance and improved result.

### **Conclusion**

Six sigma and lean are frame work used for rectifying organisational business process. They are helpful in achieving superior customer satisfaction. Lowering operational

cost accelerating cycle time enhancing quality productivity and reducing risk HR functionalism has very important role to play in achieving high organisational performance. it is also entrusted with the task of successful and creditable delivering operational services to internal customer constituting other functional areas .HR professionals with right skills can contribute it six sigma initiatives at both strategic and tactical levels.

HR & lean six sigma synergy can bring desired result in areas like talent a acquisition and retention building cross functional team work documentation change management learning and development HR can play a key role in bringing a desired change in organisation by supporting lean six sigma and continuous improvement strategy by using some of the concepts from six sigma specifically the lean process management philosophy HR professional can focus on being more of a strategic business partner in the organisation. The strategic role of HR can be positively achieved by six sigma knowledge as an added advantage.

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