

Transition Process Design by Using Six Sigma Methodologies

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Abstract - Today, organizations strive for an improved level of process capability and quality to achieve the bottom-line objectives of generating a profitable margin and sustainable competitiveness and share in the market. The most important phase of the business process is transition which leads to the success or failure of the business. So it is very essential to do the activity without any defect. Six Sigma is a quality improvement strategy that helps companies to achieve these results. The purpose of the paper is to provide an examination and methodology, centering on its implementation and its application to a real business process [1]. The result of the paper will be a proposal detailing the customized implementation framework for the company, along with the benefits derivable from the application of the methodology. The purpose of this paper is to design the transition process to satisfy a growing demand and expectation from customers while coping with increasing system complexity and limited resources by using six sigma approach. Continuous improvement tools and techniques are introduced to address these issues, allowing the Facility managers quality services with efficient processes.

Index terms – DMAIC, Six sigma, Transition.

I. INTRODUCTION

Six Sigma seeks to improve the quality of process outputs by identifying and removing the causes of defects (errors) and minimizing variability in manufacturing and business processes [1]. It uses a set of quality management methods, including statistical methods, and creates a special infrastructure of people within the organization ("Black Belts", "Green Belts", etc.) who are experts in these methods. Each Six Sigma project carried out within an organization follows a defined sequence of steps and has quantified financial targets (cost reduction or profit increase) [2].

II. METHODOLOGY

A Problem statement:-

In this paper analysis is carried in the company Knight Frank India Pvt. Ltd. to identify the variations in transition process. Currently the company is facing problems related to transition process which is most important stage of their business. Presently the procedure is not well define and organized according to the requirement. List of documents required during transition are also not defined, thus proper database is not available while dealing with new business transition. Again due to lack of availability of Back up, support skilled manpower, equipments & infrastructure, the cost involved in the transition process goes high. Study of previously mobilized sites suggest that transition process period

varies from 3 months to 6 months, which after due deliberation was proposed to be targeted to be reduced to 30 Days.

B What is Transition?

It is a process of change from one place or state or stage to another.

- A transition is like a project and needs planning and management. Transition Management is an ongoing activity throughout the life of the transition.
- It involves constant monitoring of activities to ensure all tasks are completed on time, all risks are identified and mitigated, and all issues are addressed in a timely manner.

C Six sigma tools and techniques

Six Sigma projects follow two project methodologies inspired by Deming's Plan-Do-Check-Act Cycle. These methodologies, composed of five phases each, bear the acronyms DMAIC and DMADV [3].

A) DMAIC is used for projects aimed at improving an existing business process. DMAIC is pronounced as "duh-may-ick". B) DMADV is used for projects aimed at creating new product or process designs. DMADV is pronounced as "duh-mad-vee". Among these two techniques DMAIC cycle is selected for the transition process design to improve current process to save time, cost and ultimately to increase quality and reliability of system. The DMAIC project methodology has five phases:

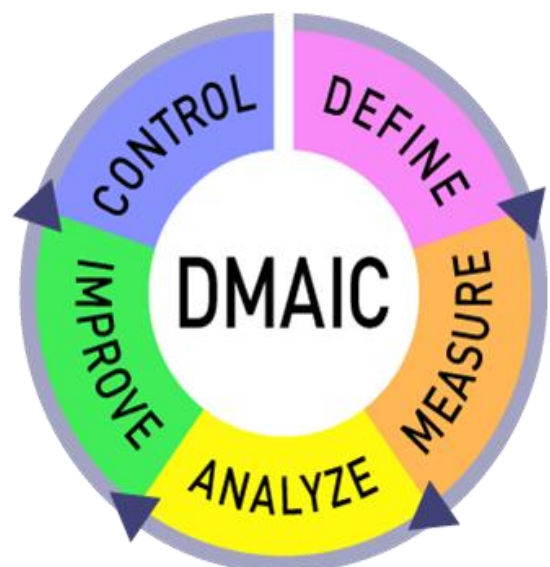


Fig 1: DMAIC Cycle

- Define the problem, the voice of the customer, and the project goals, specifically.
- Measure key aspects of the current process and collect relevant data.
- Analyze the data to investigate and verify cause-and-effect relationships. Determine what the relationships are, and attempt to ensure that all factors have been considered. Seek out root cause of the defect under investigation.
- Improve or optimize the current process based upon data analysis using techniques such as design of experiments, poka yoke or mistake proofing, and standard work to create a new, future state process. Set up pilot runs to establish process capability.
- Control the future state process to ensure that any deviations from target are corrected before they result in defects. Implement control systems such as statistical process control, production boards, visual workplaces, and continuously monitor the process.

D Implementation of DMAIC

1. Phase 1: Define

The purpose of this phase is to define the objectives & goals of transition process. This phase involves following two tools:

- **Project Charter** – it comprises of the all activities necessary for transition process.
- **Voice of customer** includes the customer’s complaint which needs to rectify while designing improved transition process.
 - Nil or limited buffer manpower (technical & soft) available.
 - Clarity between BD and operations team on the (SOW) or value adds.
 - Lead time required before starting up the site.
 - Proper handover from client not received.
 - No support from vendor
 - Delay in delivery of machines & other consumables
 - Modification of transition checklist i.e. to project charter from day 1 to day 30.
 - Dedicated transition manager at site till process is complete.
 - Major communication gap between team.
 - Identification of Role responsibility & authority.
 - Data analysis
 - Training or an overview of the recent trends.
- **SIPOC** - Suppliers, Inputs, Process, Outputs, and Customers helps the process owner to agree the boundaries of what they will be working on so that responsibility of each team member is define at this stage. Few of the output characteristics mentioned below

Sr.No	Supplier	Input	Process	Output	Customer	Output Characteristic
1	BD/Core Team	Study of Site	Inspection of site	details of site	BD / Transition team	Time for collection of site information
2	BD/Core Team	Study of Site	Site assessment	Documentation	BD / Transition team	time for collecting the data & making the document for it.
3	BD/Core Team	Study of Site	Understanding the requirement of services by the Client	Expectations of Client	BD / Transition team	Arranging & making the meetings with Clients. Preparing the MOM
4	BD/Core Team	Study of Site	Study the Scope of Work	Action Plan for further processes	BD / Transition team	Time for studying the scope of work
5	BD/Core Team	cost proposal	Estimating the Work force/ Manpower	details of cost structure	BD Team	Time for estimation

2. Phase 2: Measure

During Measure Phase the overall performance of the Business Process is measured. There are two important part of Measure Phase.

(1) Data Collection Plan and Data Collection

A data collection plan is prepared to collect required data. This plan includes what type of data needs to be collected, what are the sources of data etc., The reason to collect data is to identify areas where current processes need to be improved.

ACTIVITIES INVOLVED	Site A	Site B	Site C	Site D
Deployment of manpower on site	4 day	4 day	30 days	1st day
Implementation of processes	60 days	15 days	4 days	1st day
Equipments & Machinery -Technical	30 days	30 days	8 days	30 days
Equipments & Machinery -Soft	20 days	15 days	15 days	15 days
Documentation	45 days	30 days	30 days	52 days
Total Days	141 days	94 days	87 days	99 days

(2) Data evaluation

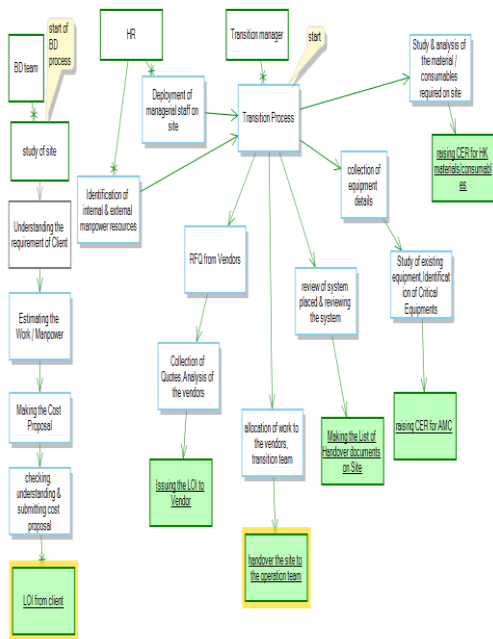
At this stage, collected data is evaluated and sigma is calculated. This gives approximate number of defects.

Thus the process followed to measure the data related to project is:

- a) Inputs from Site Managers for previous transitions
- b) previous transitions summary
- c) Transition process mapping
- d) Preparing Checklist
- e) Project Process Tracker on the basis of FMEA

3 Phase 3: Analyze

Analyze the data to investigate and verify cause-and-effect relationships. Determine what the relationships are, and attempt to ensure that all factors have been considered. Seek out root cause of the defect under investigation.



4 Phase 4: Improve

Improve or optimize the current process based upon data analysis using techniques such as design of experiments, poka yoke or mistake proofing, and standard work to create a new, future state process. Set up pilot runs to establish process capability. So in this phase we developed one database documents which includes all necessary activities during transition with specified time limits to achieve the targeted 30 days transition process.

5 Phase 5: Control

In future state process to ensure that any deviations from target are corrected before they result in defects. To increase the reliability of the process and to make designed process available at very point in the organization, the database is created by using MS Project software.

ID	Task Name	Duration	Start	Finish	Predecessor Names	Feb 19, '12							Feb 25, '12							Mar 4, '12						
						S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	
1																										
2	Manpower Deployment																									
3	Deployment of HF Key site Personnel	4 days	1st Day	4th Day	HR & Transition Team																					
4	Deployment of Vendor Technical staff	7 days	1st Day	7th Day	Transition Team																					
5	Deployment of Vendor Soft Services staff	7 days	1st Day	7th Day	Transition Team																					
6	Deployment of Vendor Security Staff	7 days	1st Day	7th Day	Transition Team																					
7	General documentation for vendor & infrastructure support for HF staff	8 days	4th Day	10th Day	Transition Team																					
8	Creating id's for Creating & HF Community access	7 days	1st day	7th Day	Transition Team & Systems / IT team																					
9	Review Equipment status(HF Scope)																									
10	Ordering of new HK equipments	10 days	10 days before site start up	1st day	Commercial & Transition Team																					
11	Checking the delivery status of HK Equipment	2 days	7th day	8th day	Commercial & Transition Team																					
12	Order for HK consumables & (if required) taking out extra HK equipment's required	4 days	4 days before site	1st day	Commercial & Transition Team																					
13	Reviewing & Ordering of additional HK consumables if required	3 days	8th day	10th day	Transition Team																					
14	Tracking of the actual consumption pattern of HK Consumables	4 days	12th day	16th day	Transition Team																					
15	Ordering of technical tools & tackles & PPE's	7 days	7 days before site start up	1st day	Commercial & Transition Team																					
16	Reviewing of technical tools & tackles & PPE's on deliver	3 days	8th Day	10th Day	Transition Team																					

III. CONCLUSION

For a growing economy like India where people demand from us ultimate quality and satisfaction Six Sigma is one of the ways for getting up to that mark. And to lead to the journey of excellence Six Sigma can be the milestone in the journey. By using six sigma the overall performance of organization can be improved. However, integrating the data-driven, structured six sigma processes into organizations still has room for improvement. Cultural changes require time and commitment before they are strongly implanted into the organization. Effective six sigma principles and practices are more likely to succeed by refining the organizational culture continuously.

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