Optimization in Pharmaceutical Industry: A Case Study

Summary

Pharmaceutical industry is a highly innovation driven industry which throughout its history has contributed to the well-being of the humans by providing new medicines to address various diseases and have grown into one of the major sectors in the world. Our client organization which works to provide solution to their client based on their requirements. The pharmaceutical industry is a complex industry which involves several actors who practice optimization at different levels. It would be interesting to understand the phenomenon from the perspective of the Big Pharma's since they are the main drivers of change in the innovation ecosystem of the industry, leading us to the goal of this case study.
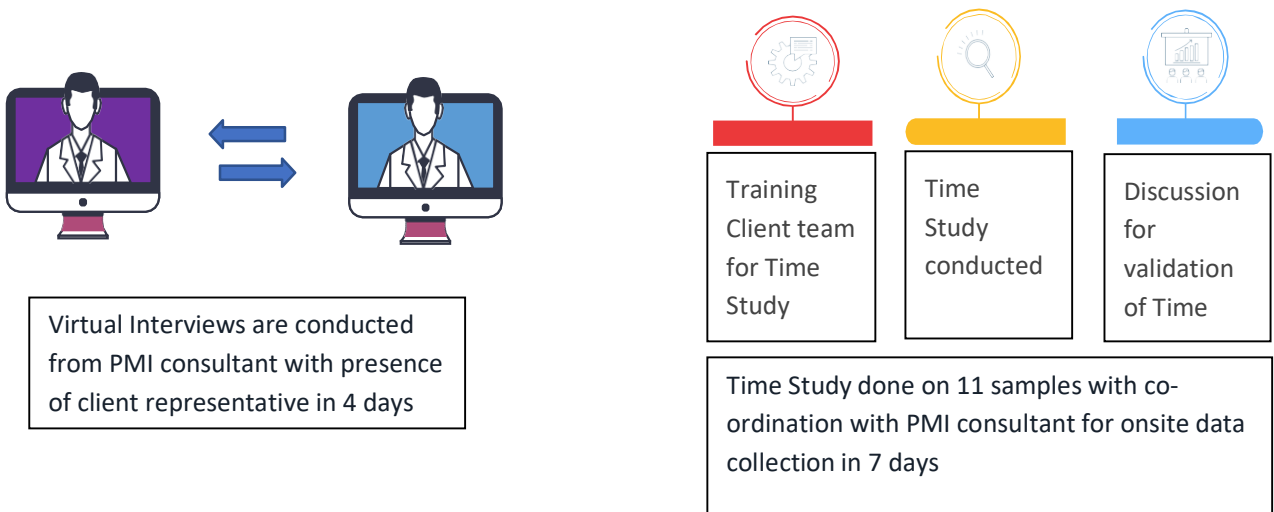
Aims/Objectives

- To increase productivity.
- Eliminating waste and nonvalue-added activities.
- Improving the effective utilization or optimization of resources.

What did PMI do?

- Conducted proof of concept in one part of QA department (Chemical development and formulations) to achieve ''More with less'' using Lean & Time motion study of QA activities.
- Based on the outcome of study the learnings and actions can be implemented across Quality department (broader QA coverage of other OU's) to maximize the benefits.

What was the context / background?

- Virtual Interactions with client QA associates. (25 % of QA Associates interviews are conducted).
- Jointly Time Study conducted for 14 % of QA Associates involved.   (Total Count – 80)

Virtual Interviews are conducted from PMI consultant with presence of client representative in 4 days

| Training Client team for Time Study | Time Study conducted | Discussion for validation of Time |

Time Study done on 11 samples with co-ordination with PMI consultant for onsite data collection in 7 days

How was it organized and who was involved?

The study was organized in a 3-stage process:

1. Data Collection.
2. Data Analysis and Estimation.
3. Results and Conclusion.

Data Collection – Collection of data from client in standard templates and then organizing the data for analysis and estimation after validation from client.

Data Analysis – Using the tools like standalone input analysis, combined input analysis, Time study, POC vs organization for data analysis.

Results and Conclusion – Optimization of Work force, Areas for removal of nonvalue-added activities, skill matrix and revised organogram, Action plan for further improvements.

Involvement of Associates –

- PMI – 1 Project Manager, 2 Engineers.
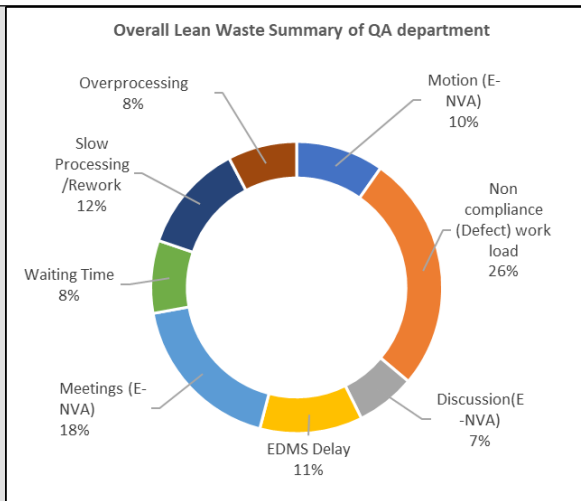- Client – 1 Master Black Belt and 2 Black Belt.

Design of Analysis-

Input	Process	Output
Standard JD	Standalone Input analysis	Work Load analysis %
Work Content	Combined Input analysis	NVA/ENVA/VA Analysis
Organogram	Time Study	Waste Elimination Kaizens Summary
WFM (Project std Activity QA, Std time for project, Levels)	Standard Excel Templates	JD Analysis
Standard Work	POC vs full organization	Skill matrix mapping
Shift Schedule		Resource utilization %
Skill Matrix		Opportunities Headcount reduction
Attendance data		Impact of Proof-of-Concept Study
Existing Head count		Learnings for horizontal deployment
Time and Motion Study		
OU Category		
Total Head count vs Sample Head count		

Has it been evaluated? How successful has it been?

After doing analysis and evaluation following results were obtained –

1. 36% of time observed is lost in terms of productivity during analysis.
2. The 36% is further sub-classified into 7 types of Lean waste and can be eliminated with action plan.

Overall Lean Waste Summary of QA department

- Overprocessing 8%
- Slow Processing /Rework 12%
- Waiting Time 8%
- Meetings (E-NVA) 18%
- EDMS Delay 11%
- Discussion(E-NVA) 7%
- Non compliance (Defect) work load 26%
- Motion (E-NVA) 10%

3. Multiskilling of Associates is obtained.

4. Opportunities for Head count reduction and resource optimization.

5. Restructured organogram.

How did it draw on or contribute to an Optimization of Client Challenges?

1. Multiskilling of associates is obtained which can help to shuffle associate during heavy workload.

2. Reducing the nonvalue-added activities that can result in resource optimization.

3. Headcount can be reduced by 9% of total QA count with increase in productivity.

Future Plans

- Stabilize first and distress the system by implementing **40 Kaizen actions**.

- Optimize the manpower headcount as per restructured organogram.

Key Learning Points

- Pooling of skilled resources for peak load.

- Multiskilling in between department can be implemented for intricated work.

- Communication to clients effectively and effective decision making is important for client demands.

- Time management skills based on the client dynamic requirement and also delivering qualitative output to client.

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