An Introduction to LEAN & Six Sigma in Hospitality

Six Sigma Case Study
Agenda for Each Video

VIDEO 1
- Aims/Learning Outcomes
- History of LEAN & Six Sigma
- LEAN in Hospitality

VIDEO 2
- Adopting a "Continuous Improvement" Mindset
- LEAN & Six Sigma Tools
- Problem Solving Methods

VIDEO 3
- Six Sigma Case Study in Housekeeping
- Sustainability
Recap on Video 1

1. LEAN reduces waste in processes
2. Six Sigma reduces inconsistency in processes
3. Opportunities for applying LEAN & Six Sigma in Hospitality are everywhere
4. LEAN & Six Sigma can be successfully implemented in Hospitality
5. Solutions can be simple and the benefits can be huge
Recap on Video 2

1. Continuous improvement is small changes every day.
2. A Bottom-up and Leader Led culture is the best way to implement a continuous improvement mindset.
3. There are hundreds of LEAN tools you can use, we have chosen 6 of the most practical examples.
4. DMAIC is for large complex projects, Kaizen is a shorter process for less complex projects and PDCA is fast, intuitive and effective for everyday projects.
The Central Hotel

- 418-bedroom hotel
- Trading successfully for 20 years
- $10m refurbishment 3 years ago
- Occupancy level of 88%
- Revenue growth of 10% a year
Key Metrics

**Gross Operating Profit %**
Despite the strong top line performance, the Hotels Gross Operating Profit (GOP) % has dropped by 6% in the past 2 years to 45%.

**Voice of the Customer**
The “Voice of the Customer” (VOC) scores have fallen from a peak of 84% following the refurbishment to 65%.

**Voice of the Team-Member**
The “Voice of the Team member” (VOTM) survey shows a significant decline in “Staff Engagement” from 92% to 68%.
Define

- Project Selection Workshop
- Brainstorming/brainwriting
Define

- PESTEL Model
- Project Selection Matrix
### Define

**BEDROOM CLEANING PROCESS V1**

**Problem Statement**

The Hotel’s Gross Operating Profit (GOP) % has dropped by 5% in the past 2 years to 56%. The Voice of the Customer (VOC) scores have fallen from a peak of 85% to 68% and the Team Member Engagement score in the recent “Voice of the Team Member” (VOTM) survey has also fallen by 5% over the same period to 72%.

**Business Case & Benefits**

A reduction in room cleaning time would improve productivity levels. The implementation of a more standardised room cleaning process would improve VOC scores. Also, by directly observing Team Members in their daily work we will be able to see first hand where some of the challenges in the process are arising and be able to address them, this will help to improve the poor team engagement scores we have seen recently.

**Goal Statement/Financials**

- By the end of the project in 6 months:
  - Reduce the average room cleaning time by 10%.
  - Improve the VOC score by 5% points
  - Improve the VOTM score by 4% points.

**Timeline/Project Status**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Planned Completion Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Date</td>
<td>July 10th</td>
<td></td>
</tr>
<tr>
<td>Define</td>
<td>July 20th</td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td>July 27th</td>
<td></td>
</tr>
<tr>
<td>Analyze</td>
<td>August 1st</td>
<td></td>
</tr>
<tr>
<td>Improve</td>
<td>August 15th</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>August 20th</td>
<td></td>
</tr>
</tbody>
</table>

**Status Key**

- Healthy
- At Risk
- Under

**Project Scope In/Out**

<table>
<thead>
<tr>
<th>Event/Process Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Process Type</td>
<td>Start of Room Attendant Shift</td>
</tr>
<tr>
<td>End Process Type</td>
<td>End of Room Attendant Shift</td>
</tr>
</tbody>
</table>

**In Scope**

- Communication process, tools, and equipment management
- Room cleaning sequence, roles and responsibilities.

**Out of Scope**

- Departments outside Housekeeping & Laundry.
- Recruitment or Employee contract mix, Admin or night time staff.

**Project Team Members**

<table>
<thead>
<tr>
<th>Position</th>
<th>Person</th>
<th>Title</th>
<th>% of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sponsor</td>
<td>Ahmed</td>
<td>General Mgr</td>
<td>10%</td>
</tr>
<tr>
<td>Team Member</td>
<td>Kamel</td>
<td>Laundry Mgr</td>
<td>15%</td>
</tr>
<tr>
<td>Team Member</td>
<td>Bob</td>
<td>Maintenance Mgr</td>
<td>10%</td>
</tr>
<tr>
<td>Team Member</td>
<td>Maria</td>
<td>Front Office Mgr</td>
<td>10%</td>
</tr>
<tr>
<td>Team Member</td>
<td>Adrian</td>
<td>Finance Mgr</td>
<td>15%</td>
</tr>
<tr>
<td>Team Member</td>
<td>Amit</td>
<td>Food &amp; Beverage Mgr</td>
<td>10%</td>
</tr>
<tr>
<td>Team Member</td>
<td>Patricia</td>
<td>Sales Mgr</td>
<td>10%</td>
</tr>
</tbody>
</table>

For illustration purposes only

- Stakeholder Identification
- Create Project Charter
Measure

- Data collection phase
- Baseline Metrics established
- Process Mapping
## Measure

<table>
<thead>
<tr>
<th>Suppliers</th>
<th>Inputs</th>
<th>Process</th>
<th>Outputs</th>
<th>Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. HOD</td>
<td>VIP list, selection of job of the day</td>
<td>Attend daily briefing</td>
<td>1. Guest Info, job of the day.</td>
<td>HG/HOD/RRA</td>
</tr>
<tr>
<td>2. SUP</td>
<td>Prepare work assignment sheet</td>
<td>Collect work assignment sheet</td>
<td>2. List of rooms to be cleaned.</td>
<td>RA</td>
</tr>
<tr>
<td>3. RA</td>
<td>Stock with linen, amenities, cleaning equipment</td>
<td>Check trolley fully stocked</td>
<td>3. Stock of all required equipment</td>
<td>RA</td>
</tr>
<tr>
<td>4. RA/UP</td>
<td>Follow 10 step process</td>
<td>Service bedrooms</td>
<td>4. Room cleaned to standard</td>
<td>HG/SUP</td>
</tr>
<tr>
<td>5. RA/SUP/MM</td>
<td>Check room for maintenance faults</td>
<td>Report maintenance Faults</td>
<td>5. Record and report</td>
<td>HG/SUP/MM</td>
</tr>
<tr>
<td>6. RA/SUP</td>
<td>Dust and vacuum</td>
<td>Clean corridors</td>
<td>6. Corridor cleaned to standard</td>
<td>HG/SUP</td>
</tr>
<tr>
<td>7. SUP/RA</td>
<td>Quality checklist</td>
<td>Supervisor Inspection</td>
<td>7. Verification room meets specification</td>
<td>HG/HOD</td>
</tr>
</tbody>
</table>

- **Process Observations**
- **SIPOC**

For illustration purposes only
Analyse

- Data Analysis
- VA/NVA/NNVA Identification
- TIMWOODS 8 Wastes
• No "stayover" room cleaning times are outside of the Upper or Lower control limits however 3 datapoints are slightly outside of 2 sigma from the center line. 4 out of 5 datapoints (18-21) are on the same side of the centerline and more than 1 sigma from it indicating a potential change to the mean. There is a high level of fluctuation of room cleaning time seen here that needs to be investigated further.

### Housekeeping Waste Categories

#### Housekeeping Waste Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Total Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over Processing</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Waiting</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Motion</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>Defect</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Skills</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

#### VOC VOTM & DPMO 2018 - 2019

<table>
<thead>
<tr>
<th>Position</th>
<th>No Observations</th>
<th>Total Time Observed</th>
<th>*VA</th>
<th>*NVA</th>
<th>*NNVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housekeeping Supervisor</td>
<td>3</td>
<td>1,319</td>
<td>314</td>
<td>679</td>
<td>326</td>
</tr>
<tr>
<td>Room Attendant</td>
<td>5</td>
<td>1,942</td>
<td>1,382</td>
<td>368</td>
<td>182</td>
</tr>
<tr>
<td>Laundry Porter</td>
<td>1</td>
<td>452</td>
<td>248</td>
<td>174</td>
<td>20</td>
</tr>
</tbody>
</table>

- **DPMO**
- **Variability analysis**
- **Gate review meetings**
Improve

- Kaizen Event
- Ideate
- Final State Process Map
- Implementation Plan
Improve

For illustration purposes only

POTENTIAL IMPROVEMENTS – ROOM ATTENDANTS
Appendix 23

Room Attendant
- Room attendants will no longer attend a daily briefing, this will be changed to weekly, their Supervisor will pass on relevant information to them by text and noticeboards/in person.
- Conduct a 5S exercise on the trolleys to remove un-necessary items, optimise the space and create a standardised way each trolley would be set up each day.
- Using a Poka Yoke approach the Room Attendants will put all stained and torn linen into a brightly colored bag instead of placing it with the dirty linen so it can be treated separately and taken out of circulation.
- Room attendants will also be trained to separate linen from towels to avoid the need for the Laundry Porter to do this later.
- The Room attendants will be equipped with tool belts so they can carry more equipment when servicing the room and reducing the need to move back and forward to the trolley.
- The sequence of the steps in the room cleaning process are clear and logical but additional training needs to be undertaken to ensure all room attendants clean the rooms in the same way and to the right standard. For example, Stayover rooms should be “tidied” and refreshed while Checkout rooms should be “totally reset and sanitized”.
- Longer term investments in trolleys and equipment are also required and the WiFi network needs to be upgraded to eliminate dead spots, particularly in back of house areas.
- The room attendants will be equipped with smart devices which will allow them to update the status of the room after it has been serviced, allow them to create maintenance requests, communicate with their Supervisor and let them know what room to service next.

Ideate
Final State Process Map
Implementation Plan
Control

- Monitor new KPI's
- Create scoreboards
- Weekly huddles
- Celebrate success
Sustain the Gains

Visual Management
Create scoreboards where everyone can see progress

Meetings/Huddles
Short, interactive, activity-based weekly huddles

Gemba Walk
Go and see, speak with team to collect feedback

Targets/Incentives/Celebrations
Set achievable goals for the team and celebrate when they are achieved
Key Takeaways

1. The Central Hotel used a project selection matrix to help them to decide where to start.

2. The DEFINE stage is the most important phase and can take up to 50% of the project time.

3. Six Sigma is heavily reliant on data, sometimes new KPI's will need to be created.

4. Gate review meetings should take place before moving to the next phase of the process.

5. Detailed implementation plans and control measures must be put in place to ensure a successful outcome.

6. Teams play differently when they are keeping score, use visual management and celebrate success.