

1) Achievements of 5S Implementation:

- **Productivity & Efficiency:**
 - Reduced search time for tools and materials from 90 sec. to 40 sec.
 - Streamlined workflows and elimination of bottlenecks by reducing the cycle time.
 - Lowered lead times by eliminating non-value-added activities 30% and increased output 25% more than earlier.
- **Safety & Quality:**
 - Decreased workplace accidents to zero by removing hazards.
 - Improved product quality to 90% through standardized processes and easier defect identification.
 - Enhanced equipment maintenance and zero breakdown for six months.
- **Waste Reduction:**
 - Eliminated non-value-added activities, such as unnecessary movement and handling to 70%
 - Minimized resource usage and optimized material management. Reduction of inventory to 30%.
- **Morale & Culture:**
 - Boosted employee morale, engagement, and job satisfaction. Employees are giving 5 suggestions per month.
 - Fostered a sense of ownership, pride, and accountability.
 - Created a visual factory and a culture of continuous improvement (Kaizen). Employees are implementing 10 Kaizen per month per section.
- **Cost Savings:**
 - Reduced expenses from errors, downtime, and inefficient resource use. Average 20% reduction in expenses.

- **Sustainability:**

- Lowered energy consumption and waste generation. Average 20% reduction in waste generation.
- Promoted responsible resource management.

To conclude, 5S transforms a disorganized workplace into a lean, efficient, and visually managed work environment, setting the stage for further lean initiatives.

2) Achievements after implementing TPM practices include:

Operational & Performance Achievements

- **Increased Overall Equipment Effectiveness (OEE):** TPM's core goal is to maximize equipment effectiveness. Companies often report significant OEE improvements from 60% to 80%.
- **Reduced Unplanned Downtime and Breakdowns:** The proactive and preventive maintenance drastically cuts down on unexpected equipment failures. Reports from various industries mention a 60% reduction in machine downtime.
- **Improved Availability and Reliability:** 80% improvement in the availability and reliability of their production facilities after TPM implementation.

Quality & Cost Achievements

- **Enhanced Product Quality:** TPM integrates quality control into the maintenance process, leading to a reduction in defects, rework, and customer complaints. Some companies have achieved a "zero customer complaint" rating for specific products.
- **Reduced Manufacturing Costs:** Proactive maintenance and waste elimination significantly lower operational costs, including maintenance, energy consumption, and inventory costs. Some firms have reduced maintenance costs by 70% and overall production costs by 25%.

Cultural & Human Resource Achievements

- **Enhanced Employee Engagement and Morale:** TPM fosters a sense of ownership and shared responsibility among all employees (from operators to top management). This leads to increased job satisfaction, better teamwork, and higher confidence levels.
- **Safer Working Environment:** A strong emphasis on the Safety, Health, and Environment (SHE) pillar, coupled with 5S practices (sort, straighten, shine, standardize, sustain), results in a cleaner, organized, and safer workplace with a reduction in accidents / injuries and safety incidents.
- **Improved Skills and Knowledge:** Comprehensive training programs build technical competencies and problem-solving skills across the workforce, creating a more multi-skilled and capable team.

3) Achievements after implementing TQM practices include:

Operational Performance Gains

- **Reduced defects and errors:** TQM implementation significantly lowers defect rates, rework, and scrap-off waste to 20% by addressing problems at their source rather than through final inspection.
- **Increased productivity:** Streamlined workflows, standardized processes, and the elimination of non-value-adding activities result in enhanced productivity to 85%.
- **Faster cycle times:** Removing bottlenecks and optimizing processes leads to reduced delivery and production cycle times.
- **Improved process control and stability:** TQM provides a framework for consistent and predictable results through process mapping and statistical process control (SPC) tools. Reduction in the output dimension variation.
- **Better supplier relationships:** Collaboration with suppliers to set clear quality expectations and share feedback helps maintain quality throughout the entire supply chain.

Customer Satisfaction and Loyalty

- **Higher customer satisfaction:** By understanding and consistently meeting the customer needs and expectations, organizations experience a significant boost in customer satisfaction scores.
- **Increased customer loyalty:** Satisfied customers are more likely to become repeat customers and recommend the business to others, leading to long-term loyalty and sustainable growth.

Financial Returns and Competitive Advantage

- **Reduced costs:** Lower defect rates to 5% and improved operational efficiency translate into significant cost savings in time, materials, and production process.
- **Increased profitability:** Cost reduction 20% combined with revenue growth from satisfied customers often leads to higher profitability.

Organizational Culture and Human Resources

- **Total employee engagement and morale:** TQM fosters a culture of ownership and accountability where employees feel empowered to identify problems and suggest solutions, using QC Tools / Six Sigma tools leading to higher job satisfaction and engagement.
- **Improved communication and collaboration:** The TQM philosophy breaks down departmental silos and promotes cross-functional teamwork and transparent communication across all levels of the organization.
- **Culture of continuous improvement:** TQM embeds "Kaizen" or continuous improvement as a daily habit, to improve productivity and quality.

Successful TQM implementation moves an organization from reactive quality control to a proactive, integrated system focused on continuous improvement and excellence in all aspects of its operations.