

Understanding the Variety of Total Quality Management Applications

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Total Quality Management (TQM)

- A customer-driven quality initiative.
 - Customer satisfaction can only be realized with the delivery of high quality product and/or service.
- Advanced TQM applications adopt the structure and process improvement tools of the Toyota Production System.



Toyota Production System (TPS)

- Highly structured and disciplined organizational approach.
- A management process that utilizes a series of special purpose tools to improve performance metrics.
- Driven by work center teams.



Lean

- The practice of eliminating waste.
- Use segments and special purpose tools of the Toyota Production System and avoid the organizational disciplines often associated with the Japanese culture.



Kaizen

- A series of process improvement events, known as Kaizen events, are quick paced and led by a project team.
- The approach use special purpose tools from the Toyota Production System.



Six Sigma

- A quality improvement methodology focused at reducing incidents that lead to customer dissatisfaction.
- Utilize data and statistical analysis to quantify problem statements and prove effectiveness of a process improvement.
- Implicit goal is to improve all processes to 3.4 defects per million opportunities (DPMO) or 99.9997% throughput
- Six Sigma is a registered service mark and trademark of Motorola, Inc.



Type of Initiative

TQM

Department-based integrated into the daily operational process.

TPS

Work center-based integrated into the daily operational process.

Employees of the work center form the smallest organizational unit often called a work team.

Lean

Project-based with a defined project timeline.

Kaizen

Project-based with a defined project timeline.

Six Sigma

Project-based with a defined project timeline.

AND EXPO

Organization

TQM

Departments within the current organizational structure form the TQM team structure.

TPS

4 - 8 employee work team
Team Leaders report to a Support Staff.
Support Staff members from various department functions.

Lean

Trained project leader selects a team from various departments.

Kaizen

Trained project leader forms a team from various departments.

Six Sigma

Special infrastructure of trained “champions”
Formal training hierarchy and status dictates the roles and responsibilities of the Quality Leader, Master Black Belt, Black Belt and Green Belt.

Selection of Initiative

TQM

Underperforming department quality metrics.

TPS

Underperforming work center metrics for Safety, Service, Quality, Delivery and Cost.

Lean

Project teams are directed by the strategic or operational management team to improve a troubled performance metric.

Kaizen

Project teams are directed by the strategic or operational management team to improve a overall performance of a work center.

Six Sigma

Project teams are directed by the Executive Leadership to improve a troubled performance metric or improve overall performance of a work center.

AND EXPLORE

Review Process

TQM

Departments review performance metrics on a monthly basis.
Department supervisors conform to the current reporting structure.

TPS

Work center teams review performance metrics on a daily basis and escalate unresolved issues to a support staff.
Team leaders provide performance feedback to the Support Staff.

Lean

Project teams meet periodically to review status and assign members action items.
Overall project status reported to the management team.

Kaizen

Work center gather data and provide performance feedback to the project team.

Six Sigma

Project team meets periodically to review status and assign members action items.
Project team formally presents project status to a panel.

Primary Focus

TQM

Product and/or service quality performance.
Zero defects and waste elimination are key performance metrics.

TPS

Standardize processes, eliminate process variability and improve performance metrics.
Rapid implementation of small incremental improvements

Lean

Reduce wasteful activity.

Kaizen

Process improvements in a single event that yields big improvement.
Cleanliness and orderliness.
Quick results that are visible

Six Sigma

Reduce occurrences leading to customer dissatisfaction.
Improvements that yield statistical results.

Strengths

TQM

Improve inter-department coordination.
Motivate and empower employees to improve quality.

TPS

Small teams with delegated responsibility and authority.
Motivate and empower employees to improve work center performance.
Focus on process standardization, compliance and consistency.
Can weather upper and middle management turn-over.

Lean

Waste reduction focus impacting a specific work center.
TPS without the challenge of organizational culture change.
Cross-functional approach to process improvement.

Kaizen

Overall performance improvement
TPS without the challenge of organizational culture change.
Quick results that are very visible to the entire organization.

Six Sigma

Quantify problem statement and performance outcome.
Highly structured training and certification program.



Weakness

TQM

Imbalanced scorecard focus.
Limit scope of responsibility.
“Quality Solves All” view leads to more waste and inefficiencies.

TPS

Process improvement stops when performance and stability is achieved.
Viewed as a manufacturing application which presents a training hurdle.
Literal translation impose a militaristic approach.
Hindered by strategic and tactical process inefficiencies.

Lean

Project-based initiatives are temporary surges of improvement.
Project leader “push” for project completion.
Hindered by strategic and tactical process inefficiencies.

Kaizen

Re-engineering each process creates a disjointed overall process.
Top-down push ignores current successes
Temporary process improvement – performance degrade in time.
Hindered by strategic and tactical process inefficiencies.

Six Sigma

Expensive training certification courses.
The project becomes the objective
Process improvement is slow and cumbersome
Focus on customer satisfaction distorts the need for efficiency
Hindered by strategic and tactical process inefficiencies.

Organizational Profile Best Suited For

TQM

Any size organization wanting to enhance the following traits:

- Customer-driven quality
- Data-driven
- Process-oriented

TPS

Any size organization wanting to enhance the current work force culture with the following traits:

- Customer-focused
- Data-driven
- Process-oriented

Lean

Any size organization that needs a project-based approach to reduce process waste.

Kaizen

Any size organization that needs to show quick and visible improvement to a work center.

Six Sigma

Developed by Motorola and appear to fit companies with the same size and organizational structure
Large organizations with a matrix organizational structure and a formal corporate culture.

Recommendation

- Select a strategic process-based approach initiated by the executive management team.
- Develop a cascade of performance metrics that links the executive management to the operational teams.
- Use performance metrics to drive autonomous process improvement initiatives



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