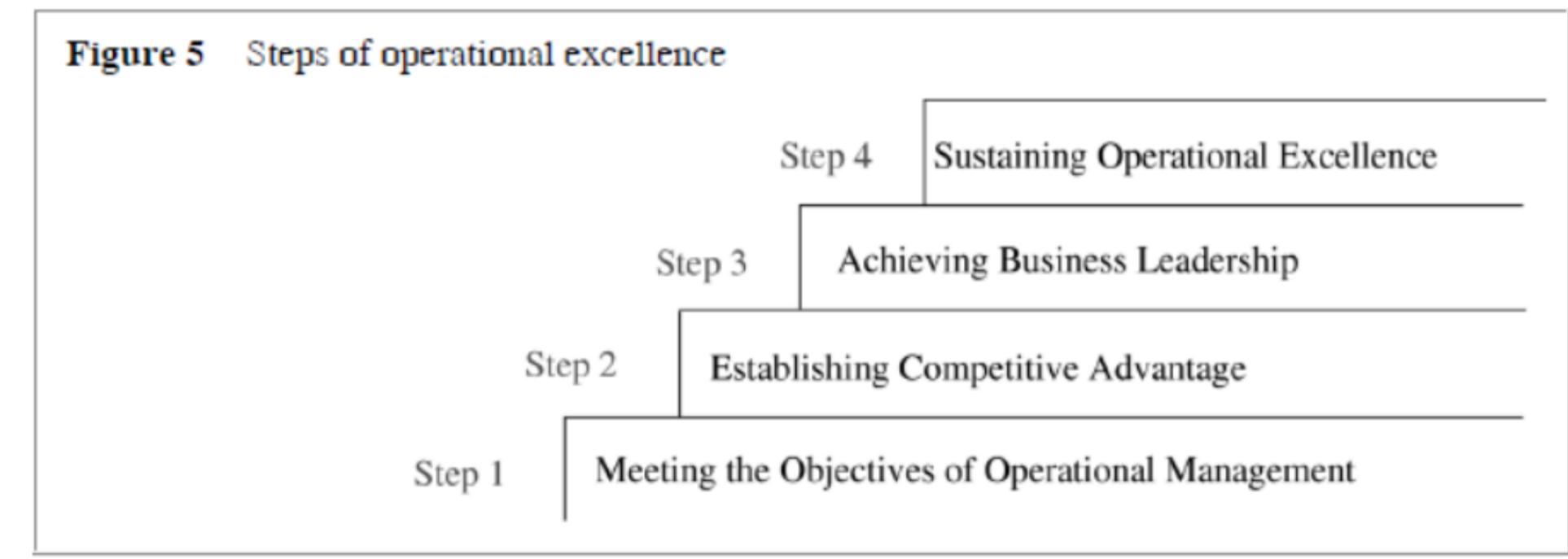


Table 2 Application of tools and techniques	
Application	Tools and Techniques
Checking	Checklists, control plans
Data collection/presentation	Check sheets, bar charts, tally charts, histograms, graphs
Setting priorities/planning	Pareto analysis, arrow diagram, quality costs
Structuring ideas	Affinity diagrams, systematic diagrams, brainstorming
Performance/capability measurement/assessment	Statistical process control, departmental purpose analysis
Understanding/analysing problems/process	Flow chart, Cause and Effect diagrams, Process Decision Programme Chart (PDPC)
Identifying relationship	Scatter diagrams/regression/correlation/matrix diagrams
Identifying control parameters	Design of experiment
Monitoring and maintaining control	Mistake proofing, FMEA, matrix data analysis
Interface between customer needs and product features	Quality function deployment

Source: Dale, Booden and Wilcox (1993)



Step 1 = Be profitable and deliver what the customer wants

Step 2 = Competitive advantage with benchmarking --> Continuous Improvement programme

Step 3 = Be "Best in class" through TQM or SIX SIGMA --> OEPRATIONAL EXCELLENCE

Step 4 = Sustain benefits of step 3 through Review etc --> FIT SIGMA

Definition = 3.4 defects on 1million cases

SIGMA = Variation from mean --> the greater SIGMA is, the fewer the defects

Prerequisites = Purpose, Training, Application

Tools & techniques

Six sigma Basu, R (2004)

Success factors for Six SIGMA

Based on statistical science

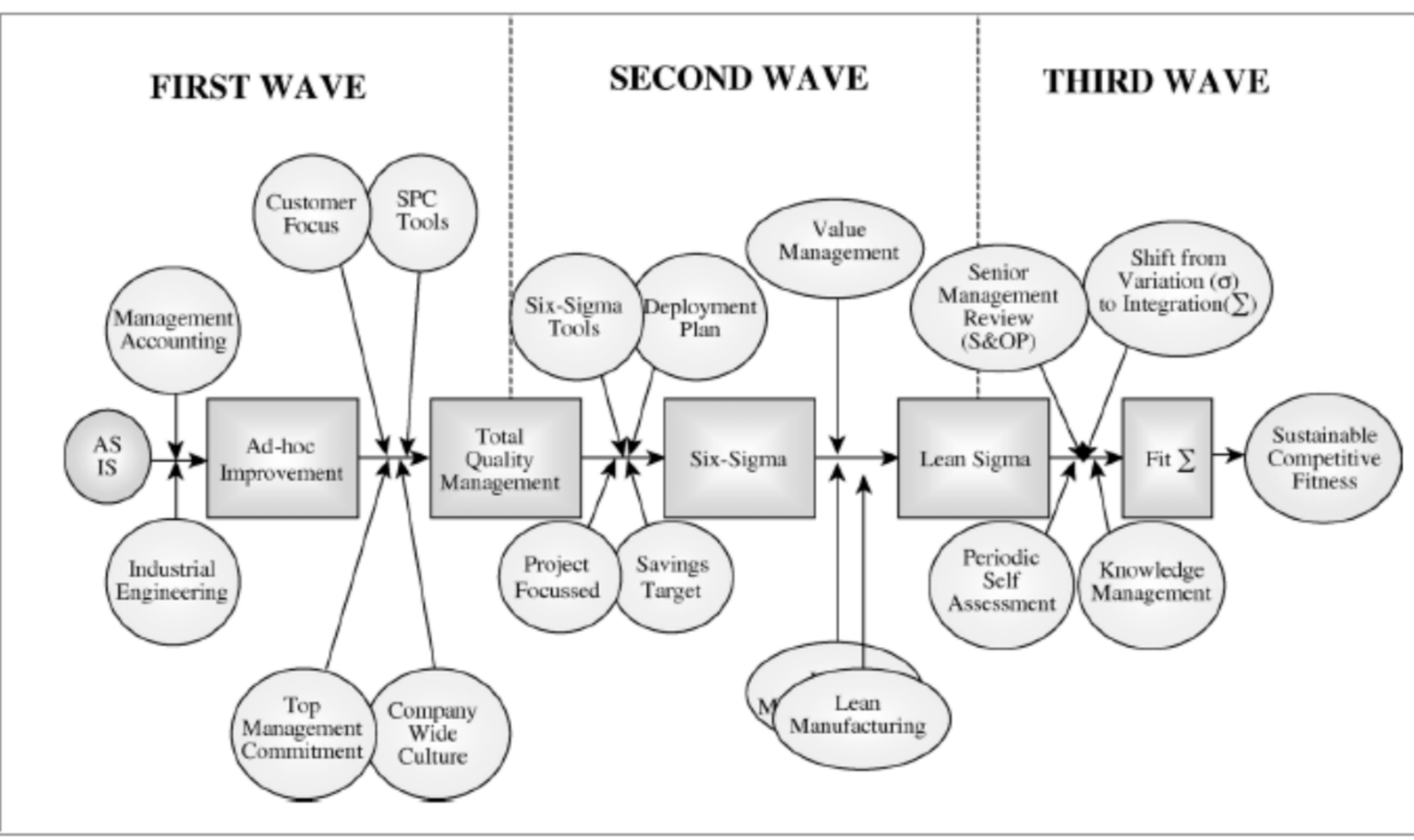
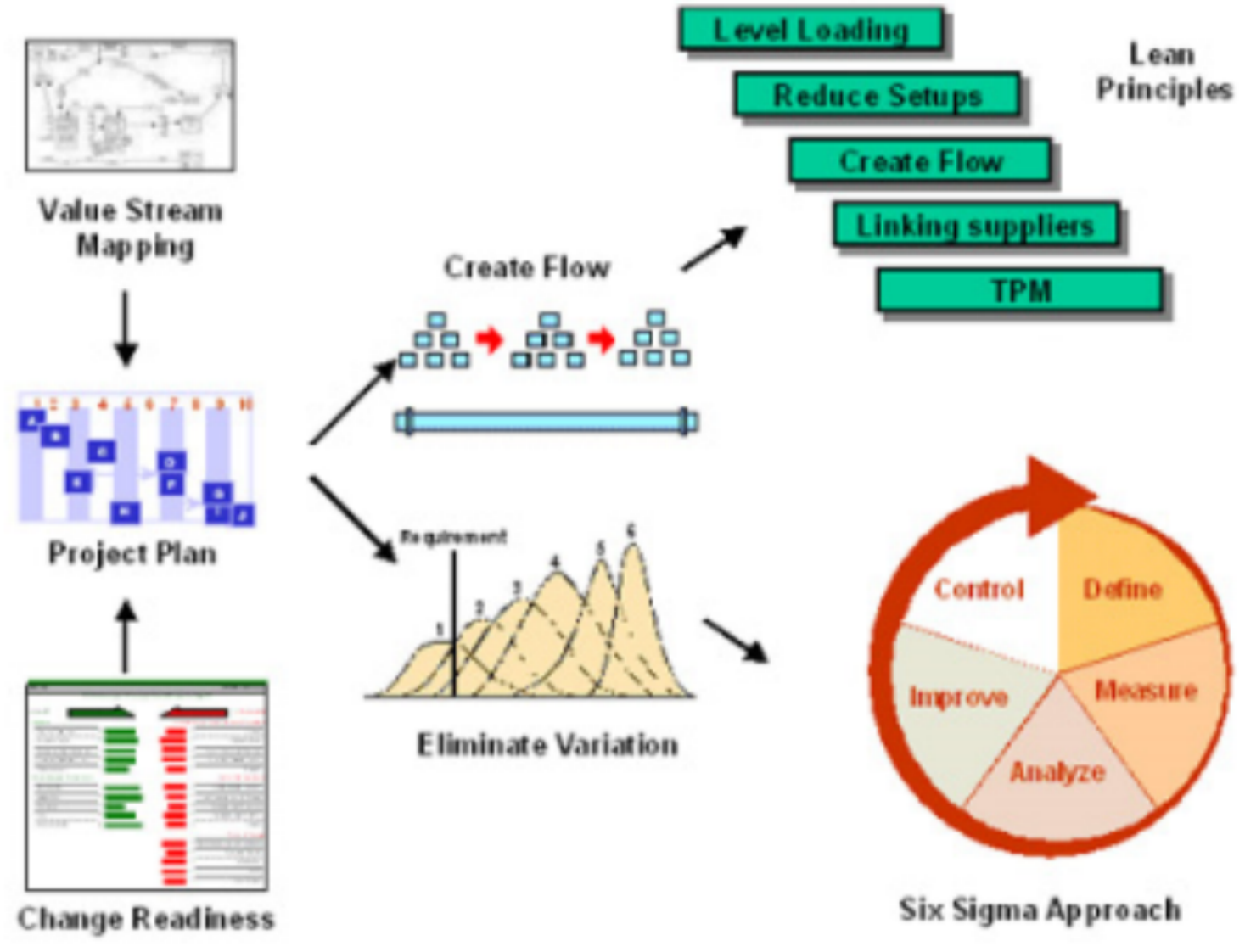
Structured training deployment plan (Champion, Master Black Belt, Black Belt, Green Belt)

Project based approach with a single set of problem solving techniques like DMAIC (Definition, Measure, Analyze, Improve, Control)

Reinforcement of Juran Tenets (Top management leadership, Continuous education, Annual savings plan)

FIT SIGMA

- 1 First wave = TQM
 - Quality control
 - Quality assurance
 - Cultural
- 2 Second Wave = LEAN SIGMA
 - Upper management leadership of quality
 - Continuous education on quality for all
 - annual plan for quality improvement and cost reduction
 - Lean production --> Elimination of non-value adding processes (WASTE) and improvement of process capability --> Whole supply chain
- 3 Third wave = FIT SIGMA
 - underpinned by best-practice of SIX SIGMA, LEAN SIGMA



- Fitness for the purpose**
- initial assessment
 - all functions
 - any size of organization.
- Sigma (Σ) for improvement and integration**
- appropriate Six-Sigma tools
 - learning deployment
 - project plan and delivery
 - shift from variation (σ) to integration (Σ).
- Fitness for sustainability**
- performance management
 - self-assessment and certification
 - senior management review (S&OP)
 - knowledge management.

Measured by the balanced scorecard