More Six Sigma & Intro to Testing

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CECS 445

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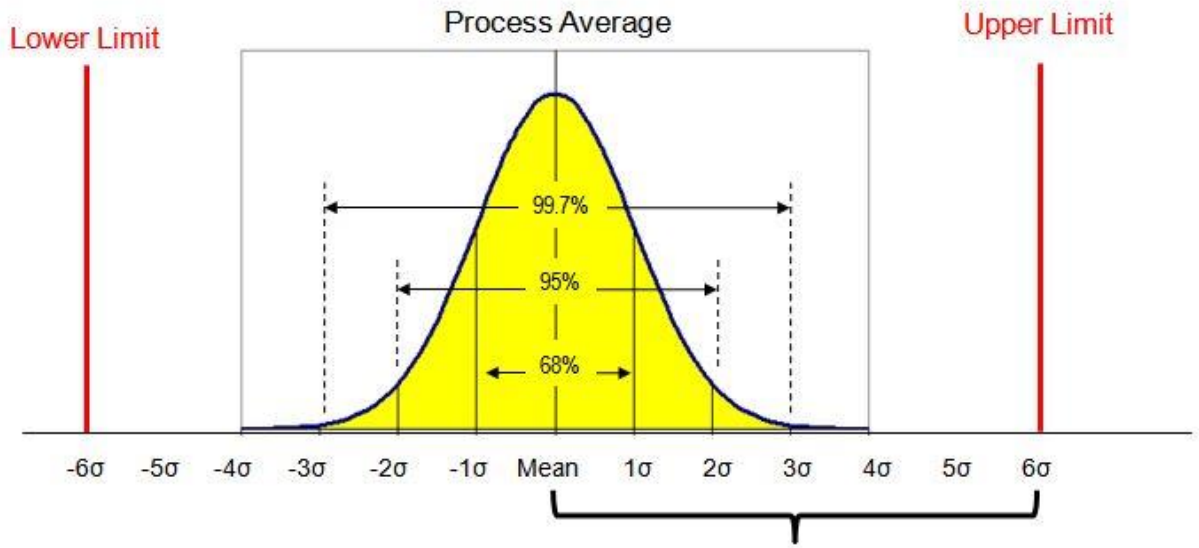
Six Sigma

- *Define* customer requirements and deliverables and project goals via well-defined methods of customer communication.
- *Measure* the existing process and its output to determine current quality performance (collect defect metrics).
- *Analyze* defect metrics and determine the vital few causes.

- *Improve* the process by eliminating the root causes of defects.
- *Control* the process to ensure that future work does not reintroduce the causes of defects.



Define = User Stories & Requirements Tables, Architecture Diagrams, Schedules

Measure = CPI, Risk, Defect Amplification Model, Error Density, Availability

Analyze = What do these metrics mean? The "Why" in Scrum & Status Tag-Ups

Improve & Control = Kaizen

Improve & Control

Value Stream Mapping: Value stream maps illustrate the flow of materials and information in one of the processes. It helps with optimizing flow within companies.

Pareto Chart: The Pareto chart illustrates the differences between particular data groups allowing the Six Sigma teams to point out the most significant threats against the process.

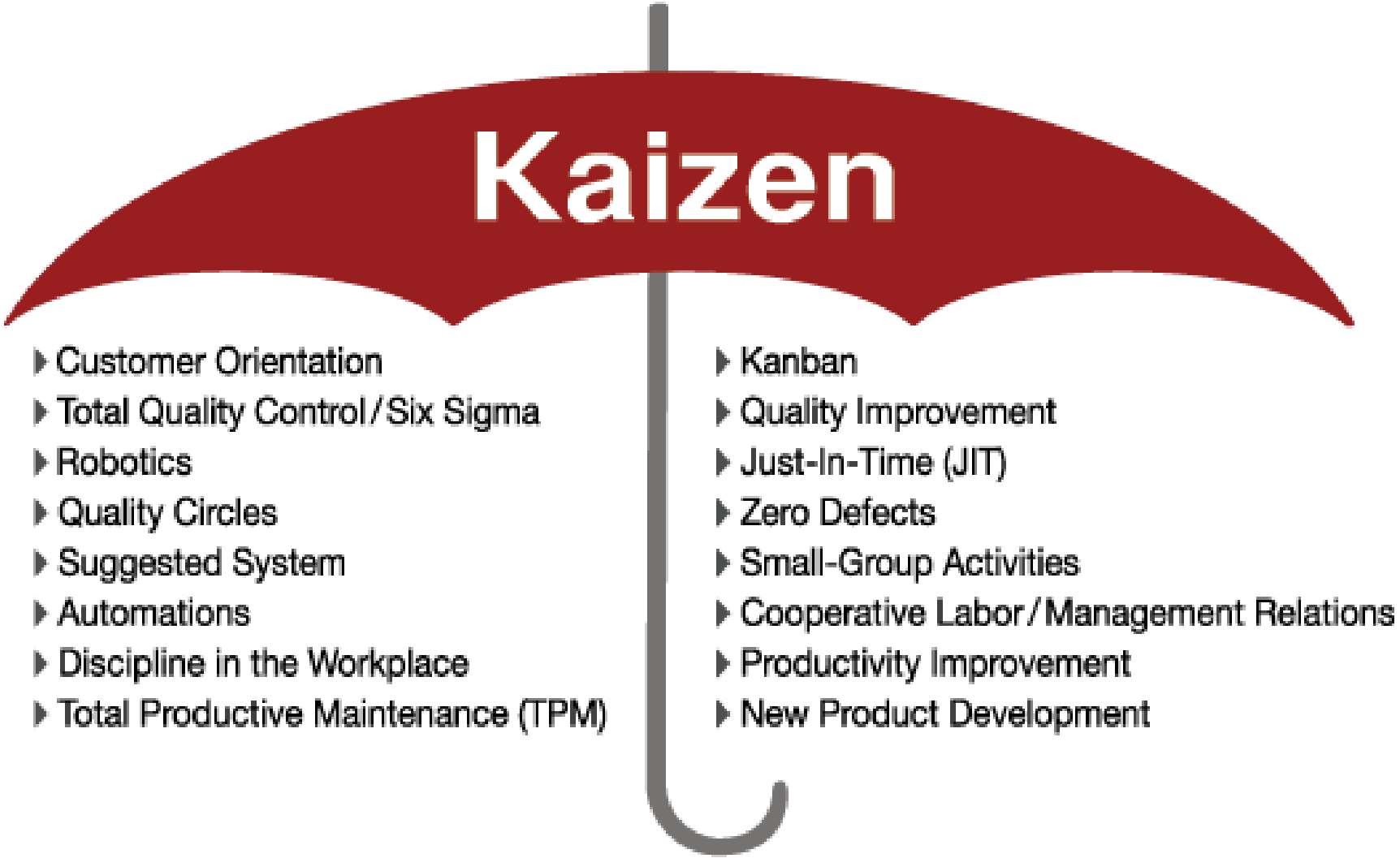
Regression Analysis: Regression analysis is a statistical approach, used to ascertain the negative or positive relationships among several variables.

Kaizen: This is a practice of continual observation, identification, and implementing particular improvements to the production process.

Kai = Change

Zen = For the Better

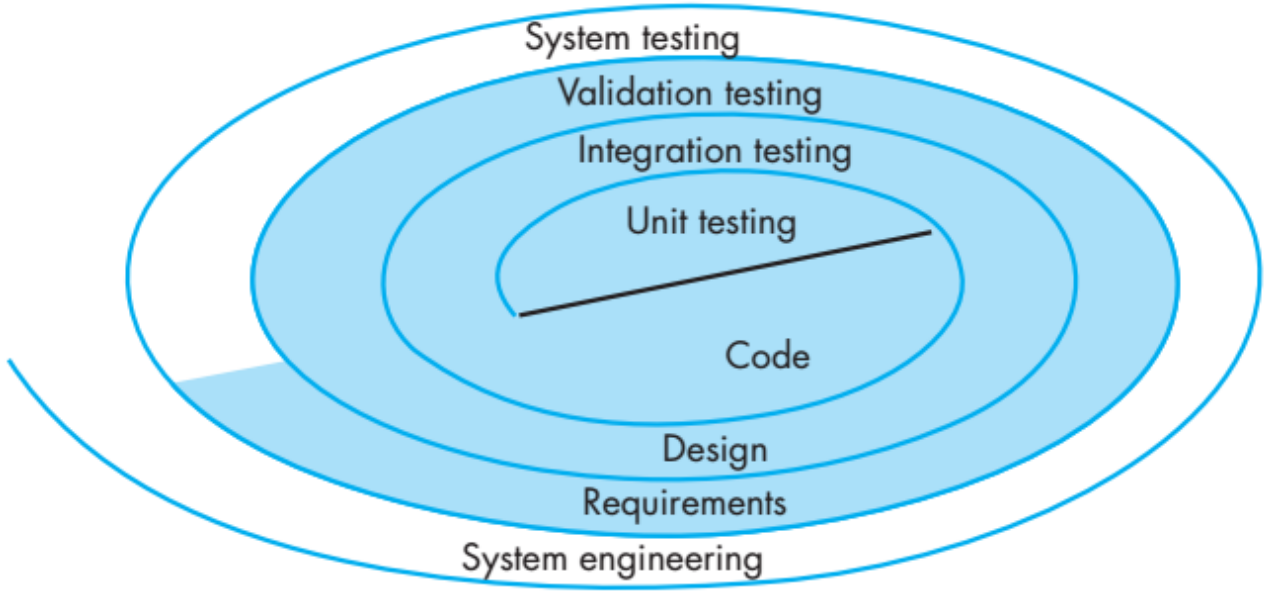
Improve & Control – Kaizen & Quality Circles



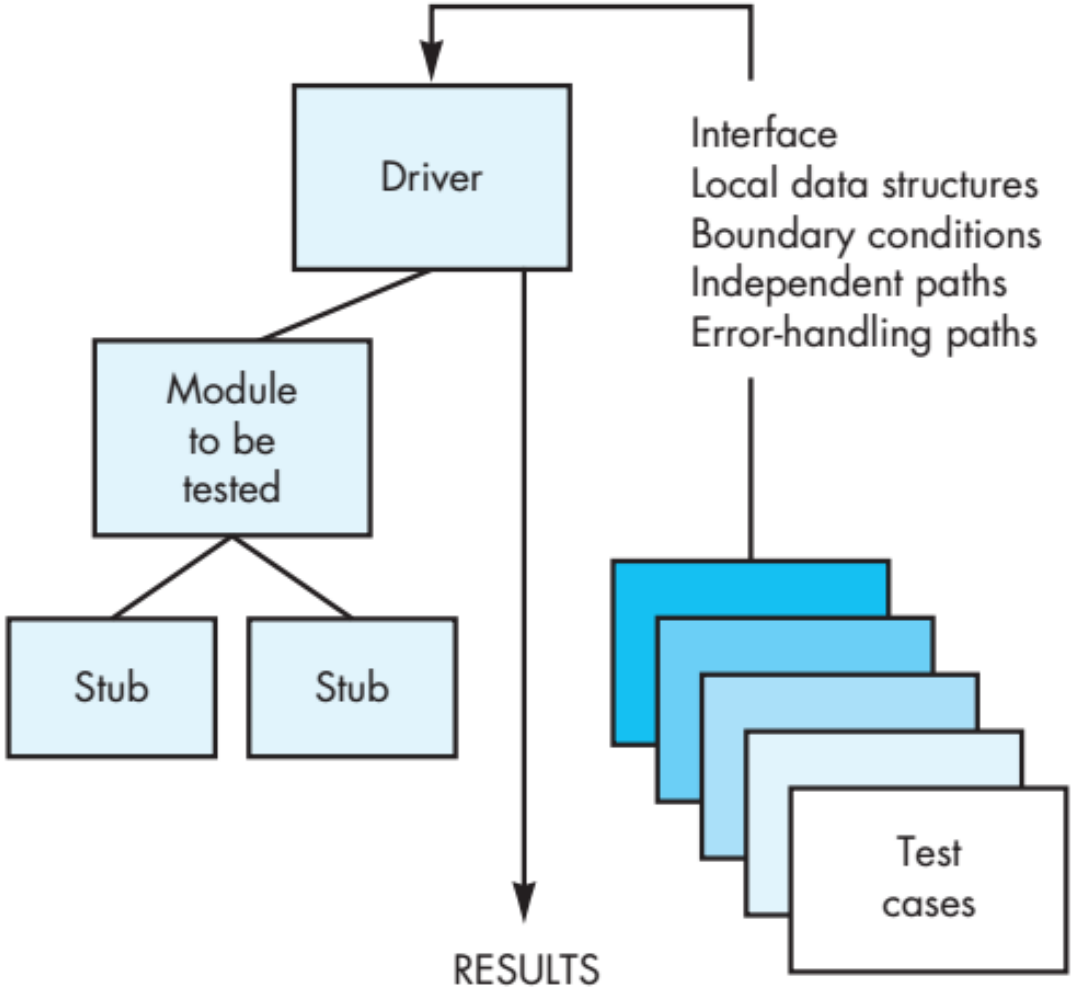
Intro to Software Testing

Verification: "Are we building the product right?"

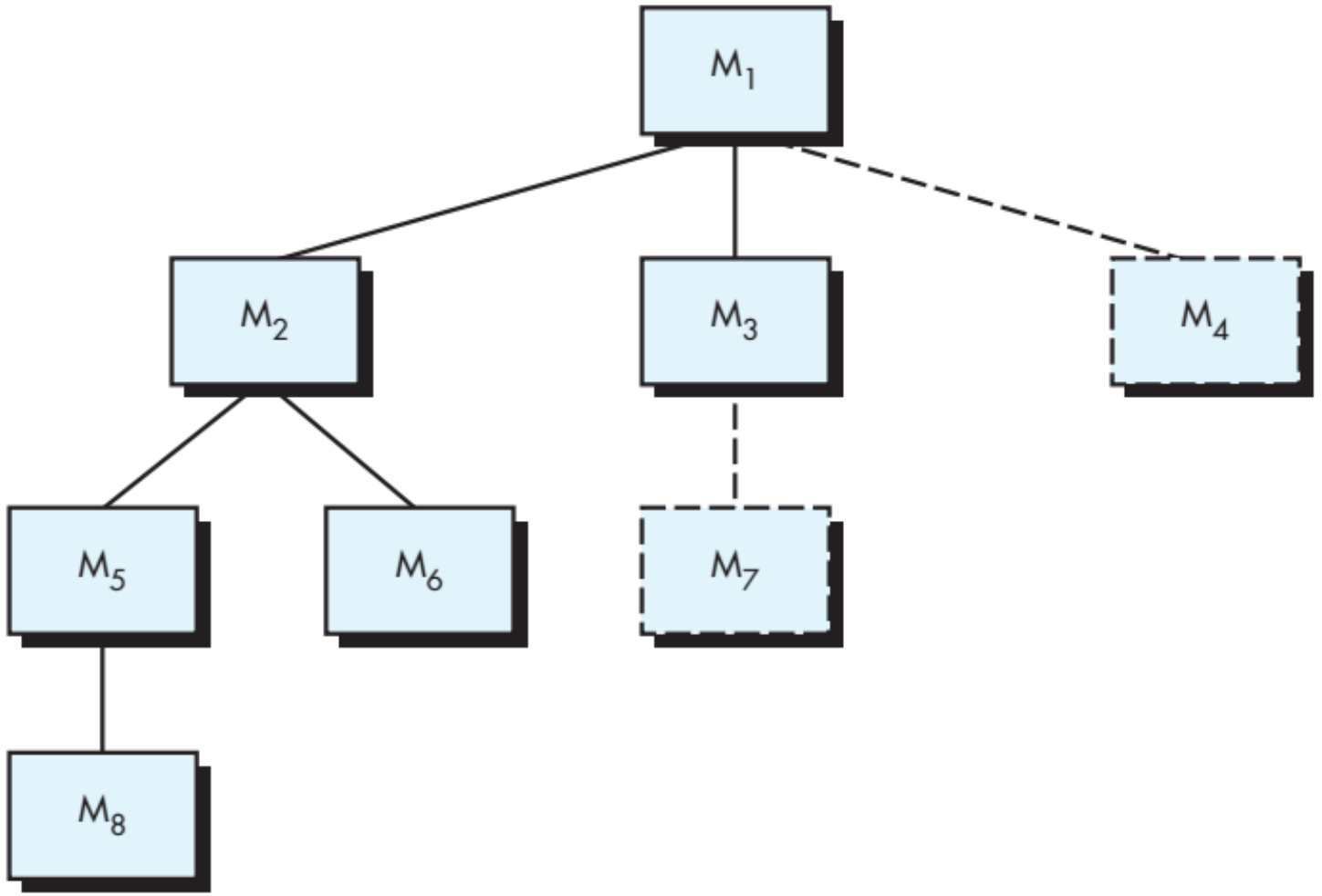
Validation: "Are we building the right product?"



Overall Testing Strategy



Top-Down Testing



Bottom-Up Testing