



The Triangular Life Cycle Model

Phil Robinson

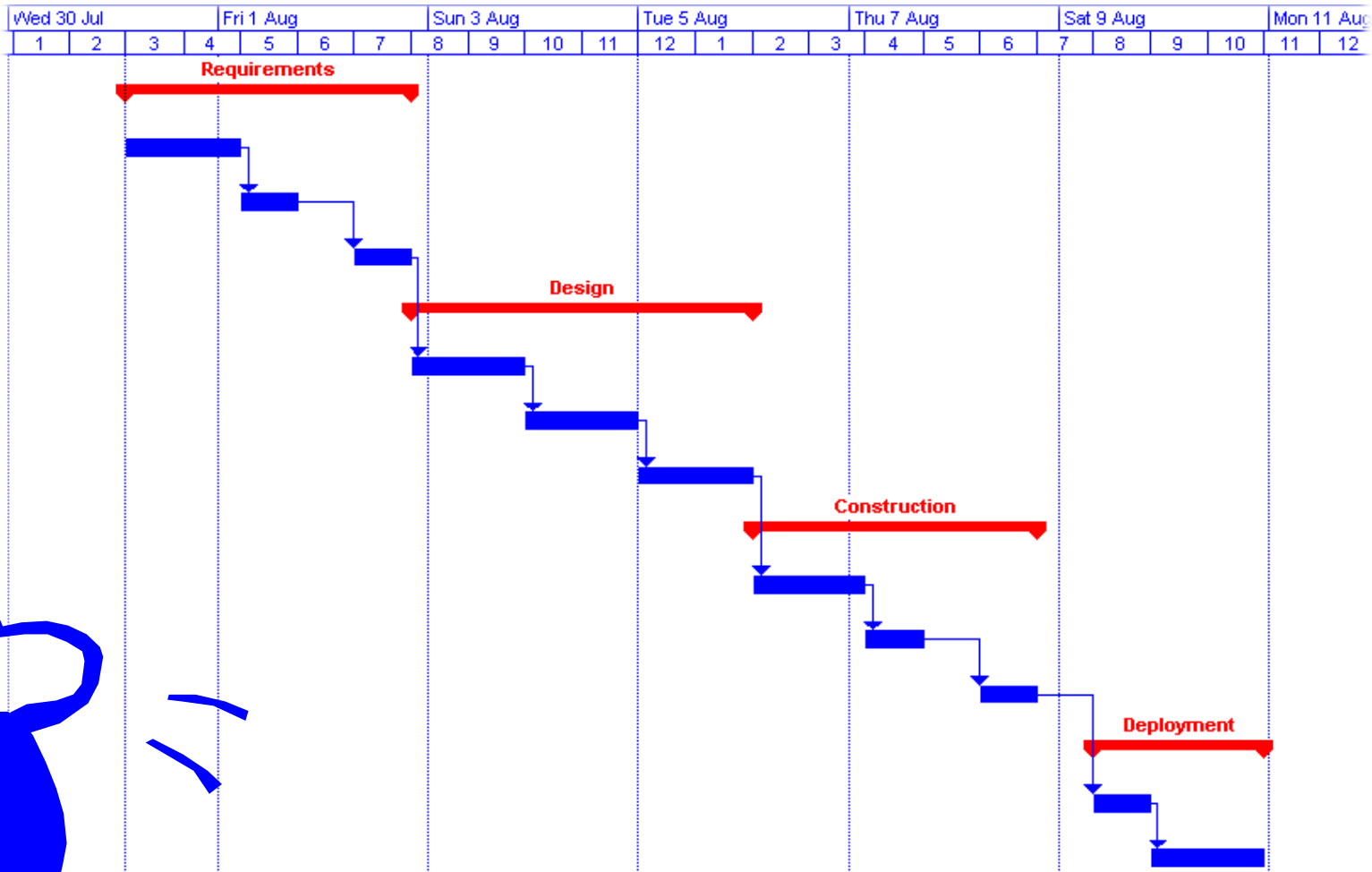
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Outline

- The waterfall life cycle model
- The triangular life cycle model
- Using the model to improve software quality
- Conclusion

First..

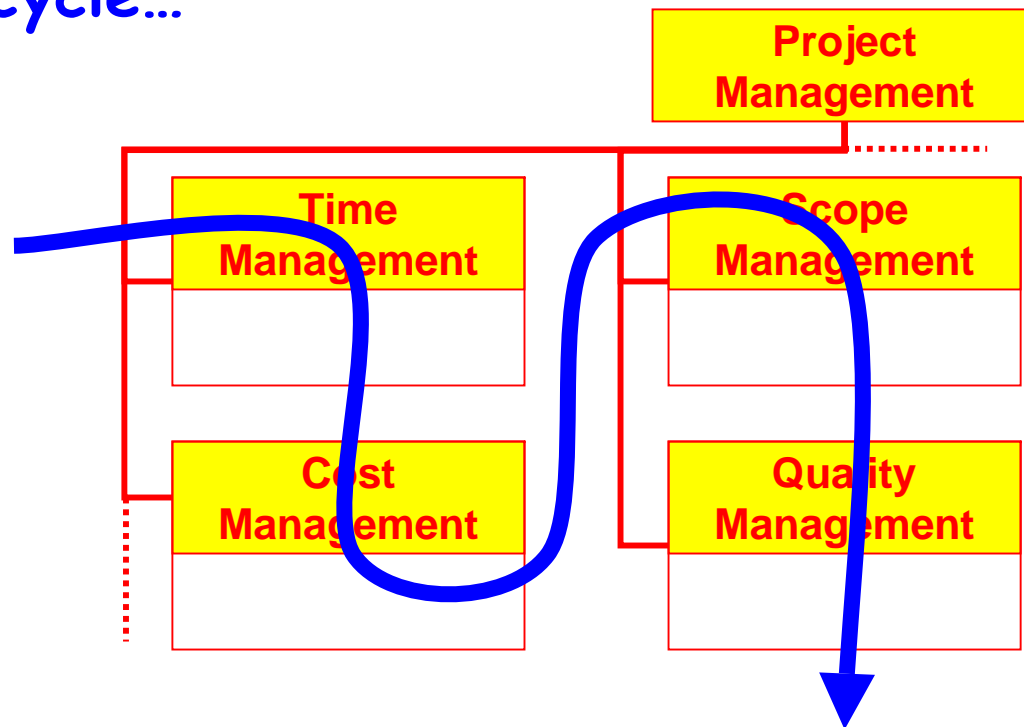


...the waterfall life cycle model...

...the waterfall life cycle model is based on...



...the project life cycle...



... and project management priorities

**There are many problems with
the waterfall life cycle model**

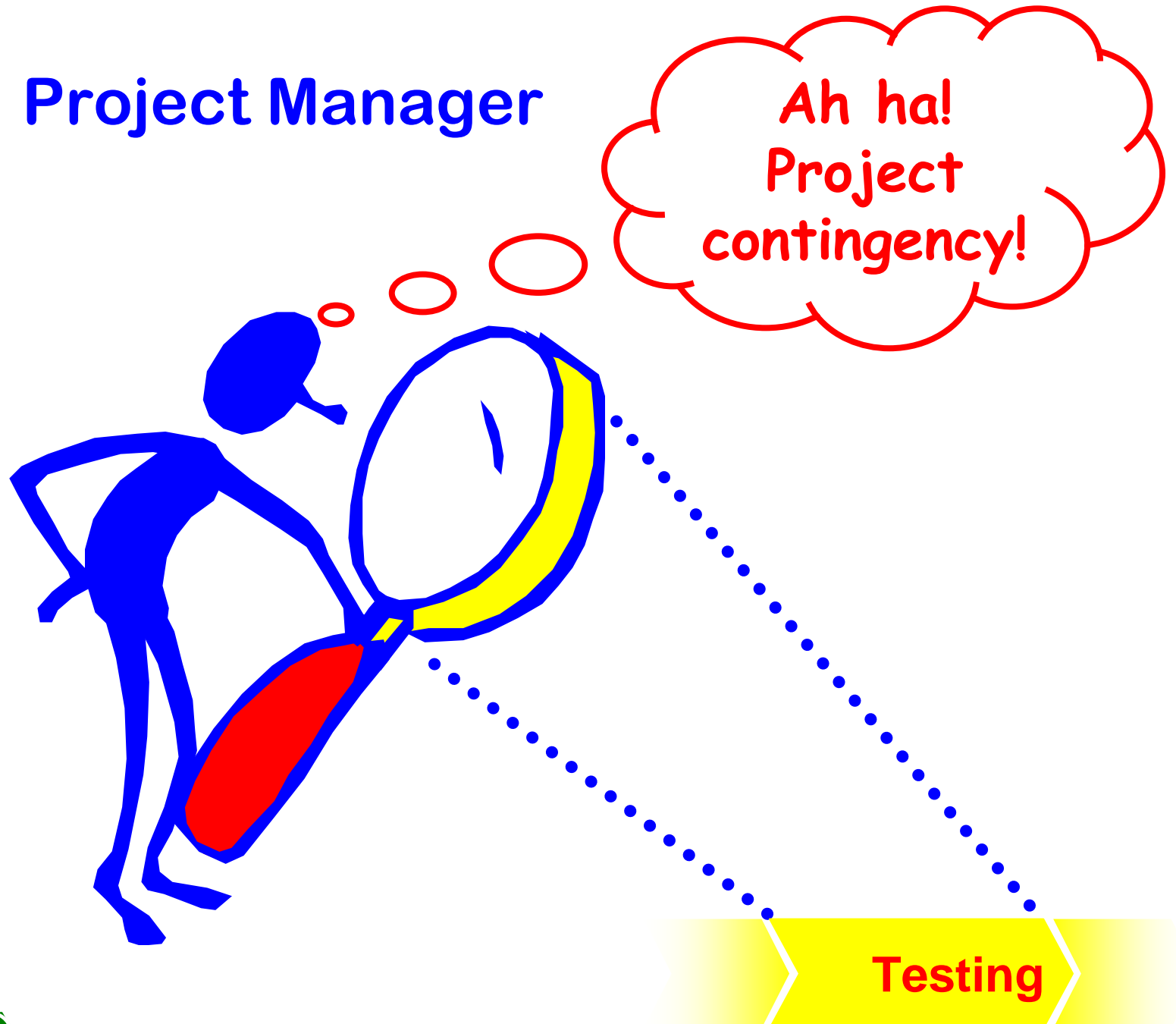
Project Manager



Success, glory,
promotion is
mine at last!



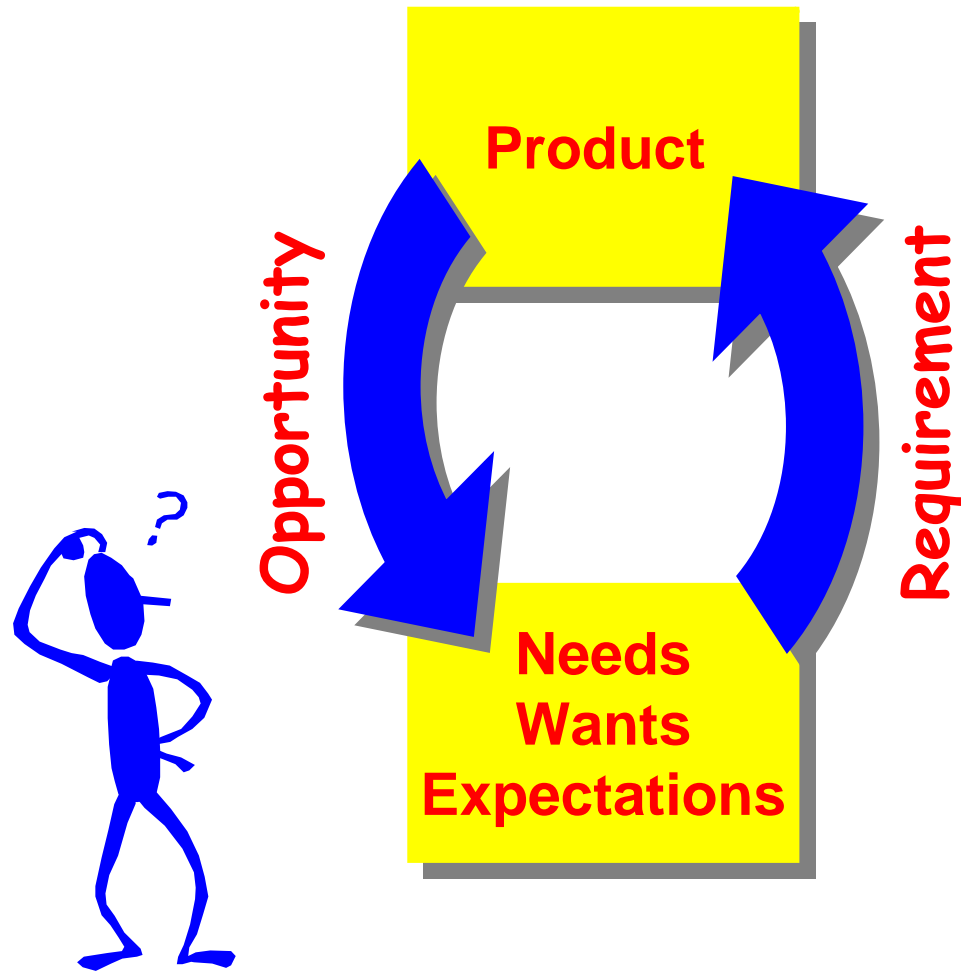
Project Manager



The Triangular Life Cycle Model

- ✓ Product vs. project life cycle
- ✓ Quality vs. project priorities
- ✓ Views of quality vs. Gantt charts

The Product Life Cycle

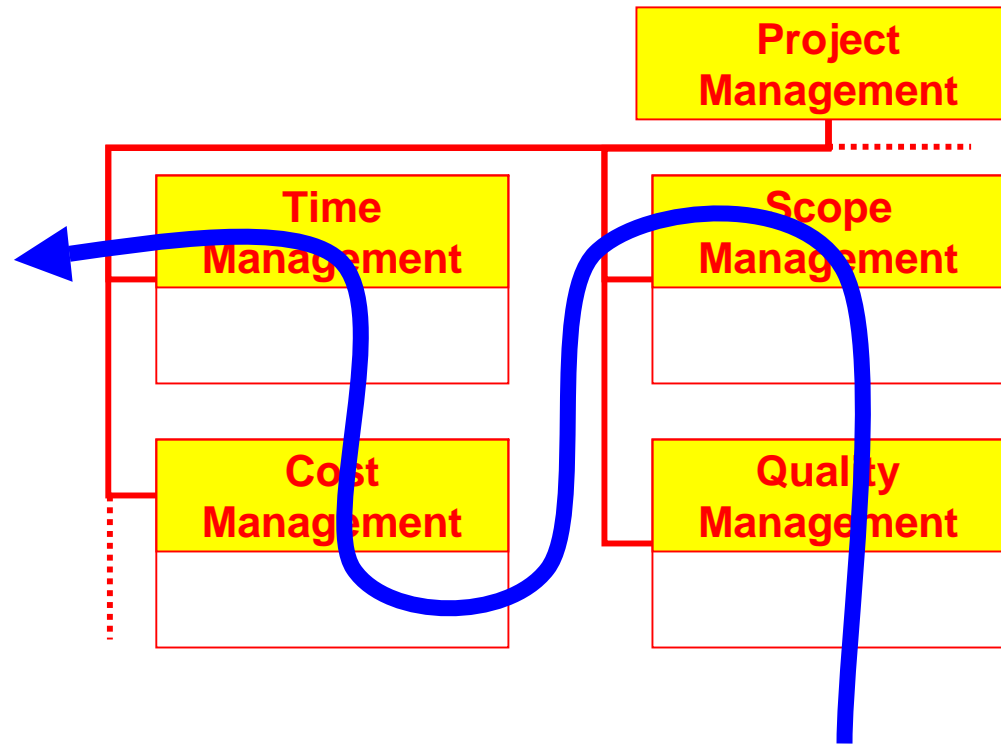


Wabi-Sabi

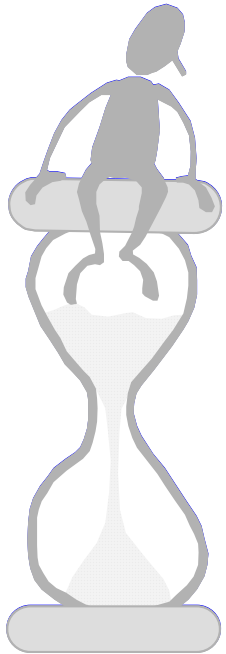
侘寂

Nothing is perfect
Nothing is finished
Nothing lasts

Quality Management Priorities



Views of Quality



Excellence
Quality can be recognised but not easily defined



Value view
What the user is prepared to pay for quality



User's view
Ability to satisfy user's needs

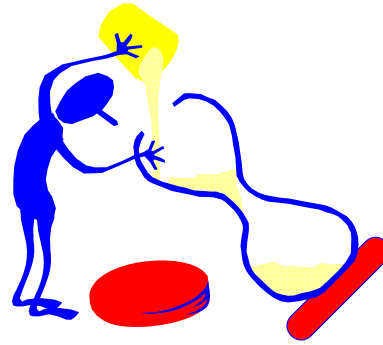


Manufacturer's view
Conforms to the specification

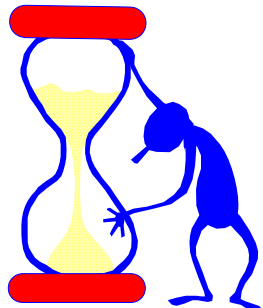


Product view
Measurable aspect of the product

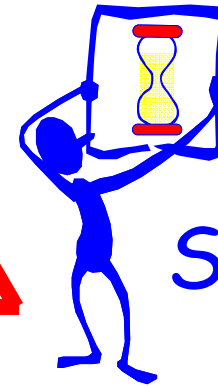
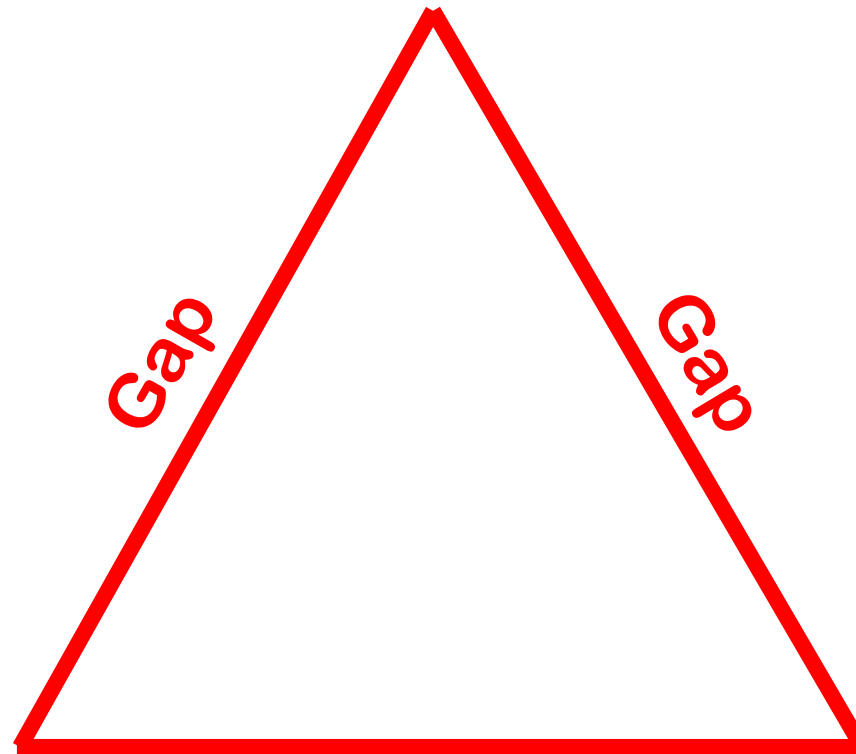
Gaps Between the Views of Quality



Product



Need



Spec

Gap

The Reasons For Gaps

"Gap"

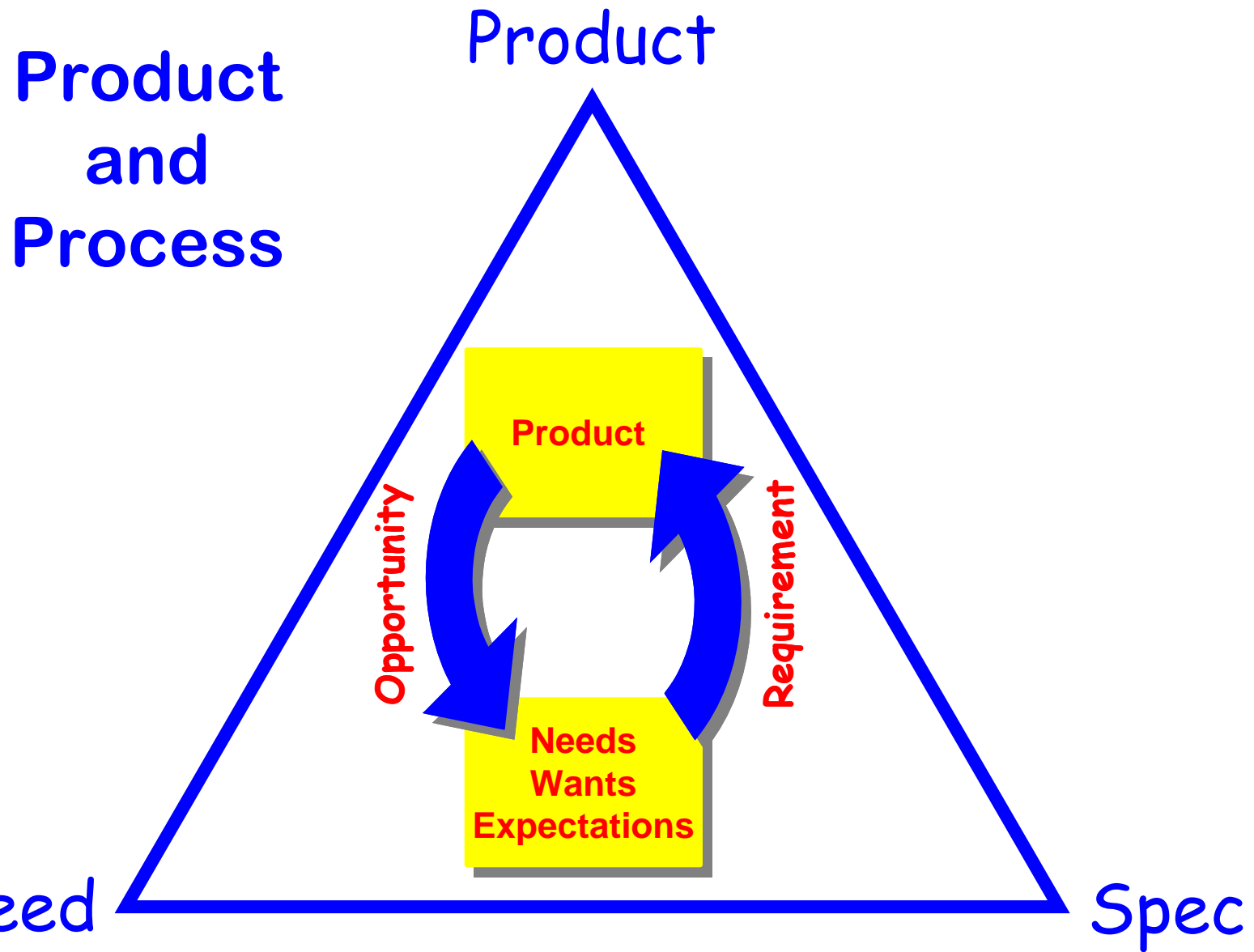
Understand the
user's needs
"Voice of the
customer"

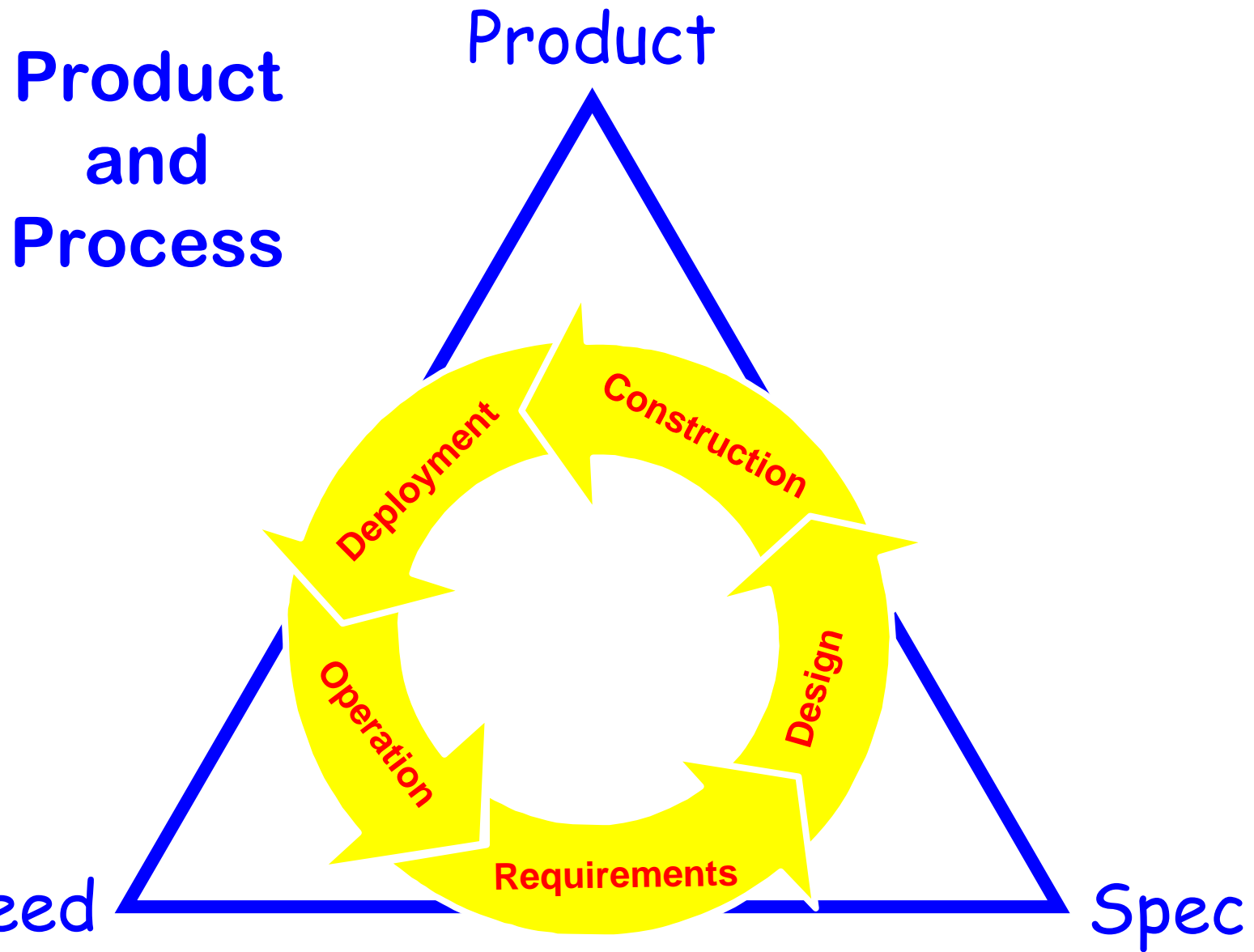
"Gap"

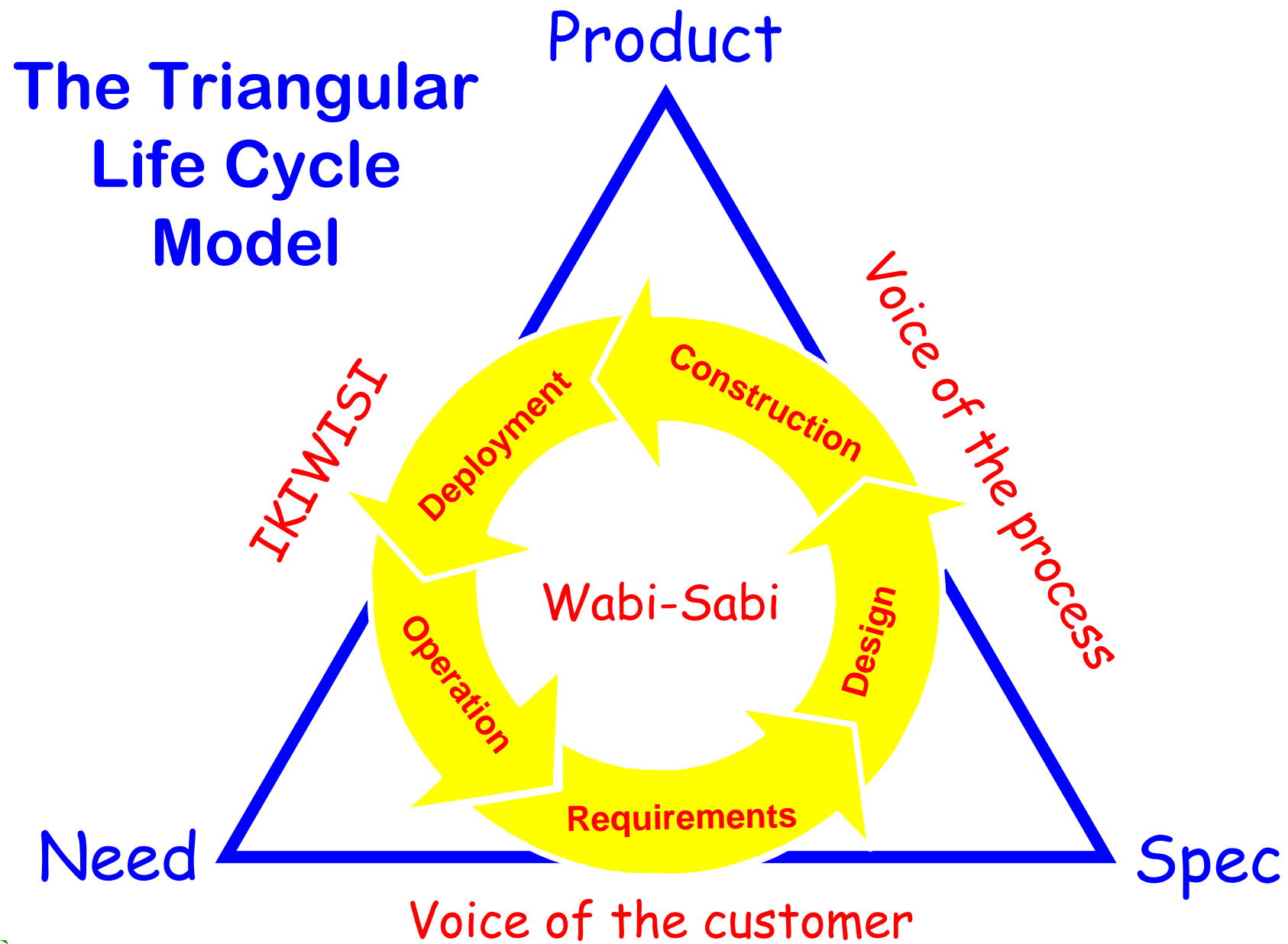
Follow the
specification
"Voice of the
process"

"Gap"

I'll know it
when I see it
"IKIWISI"

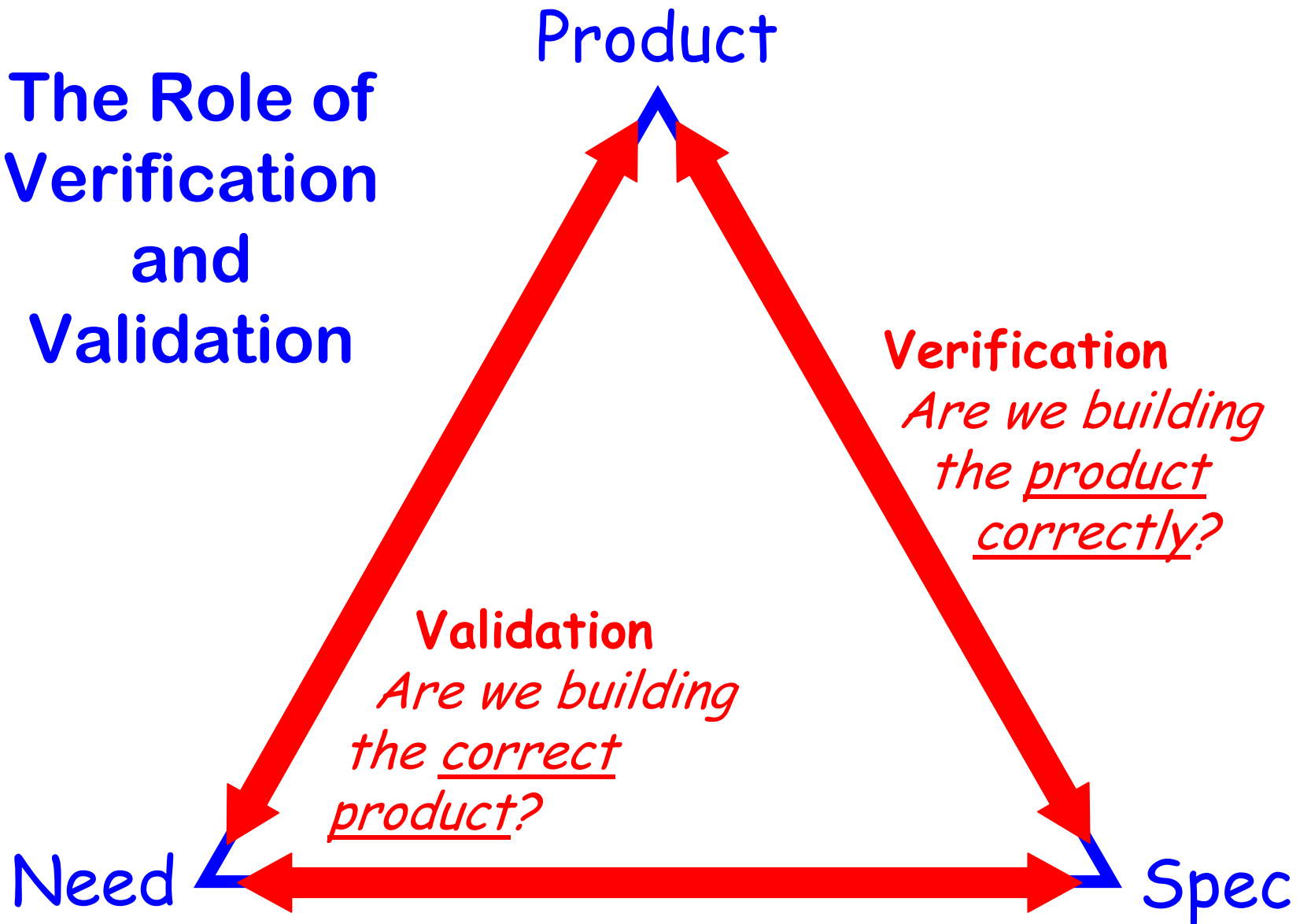


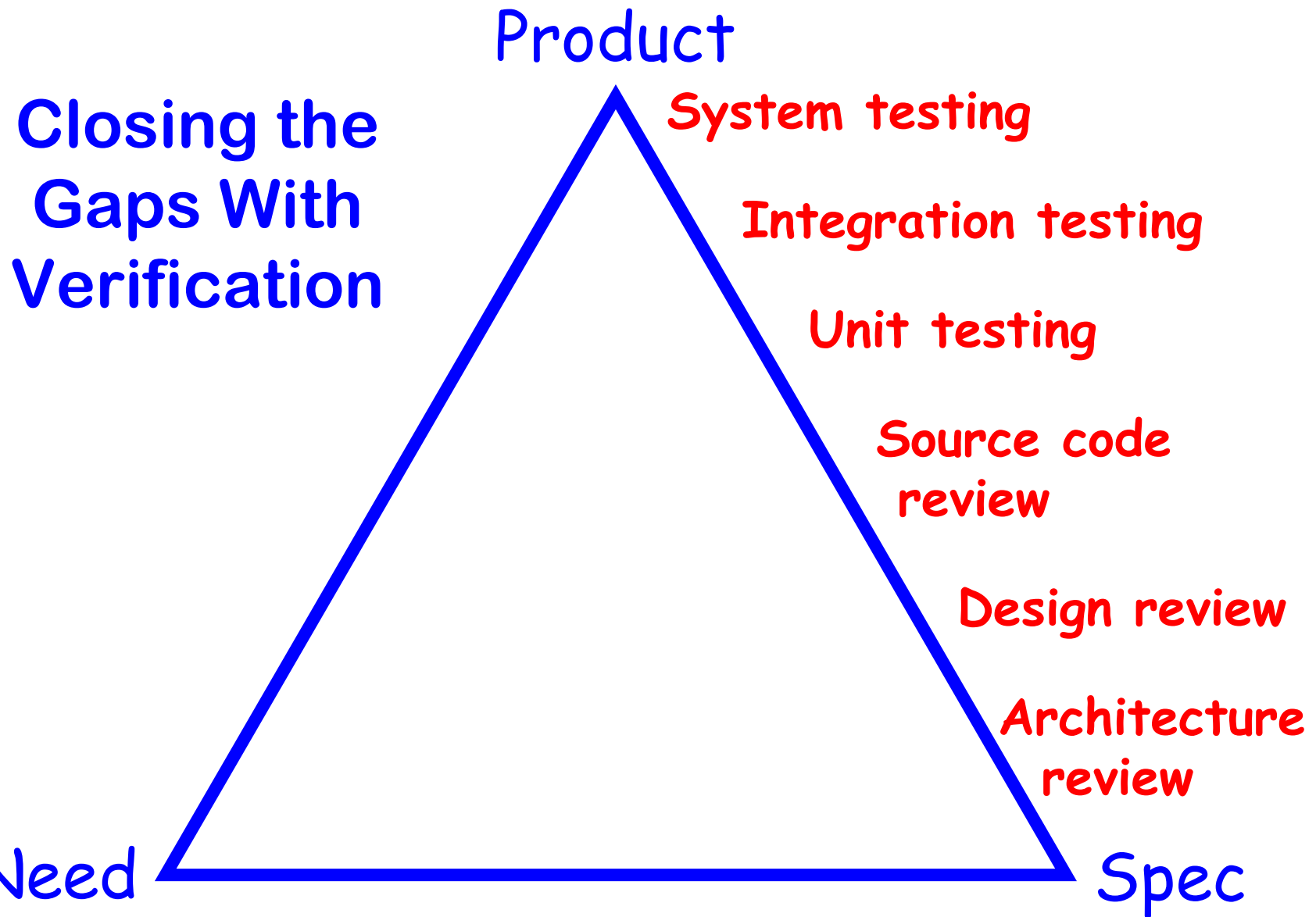


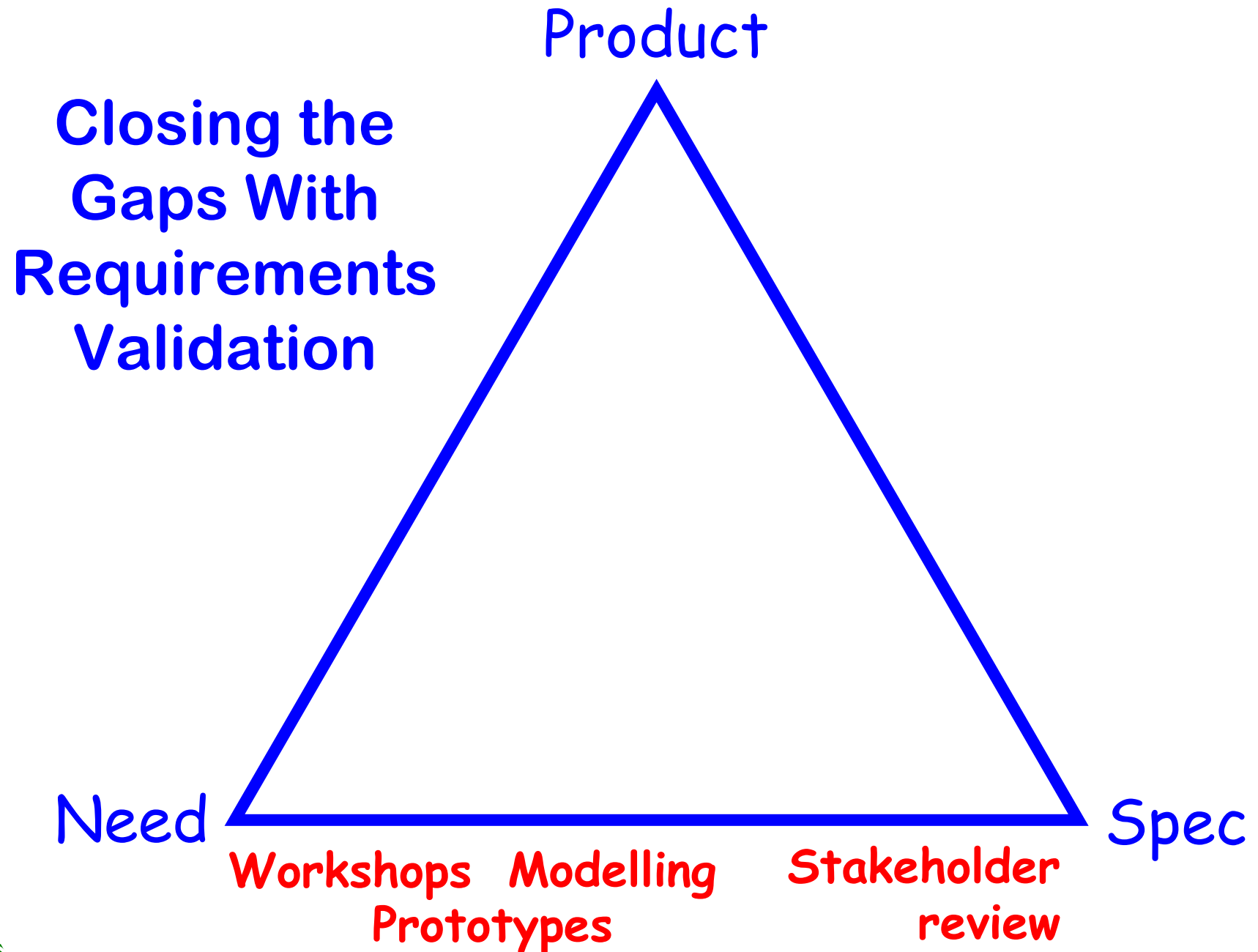


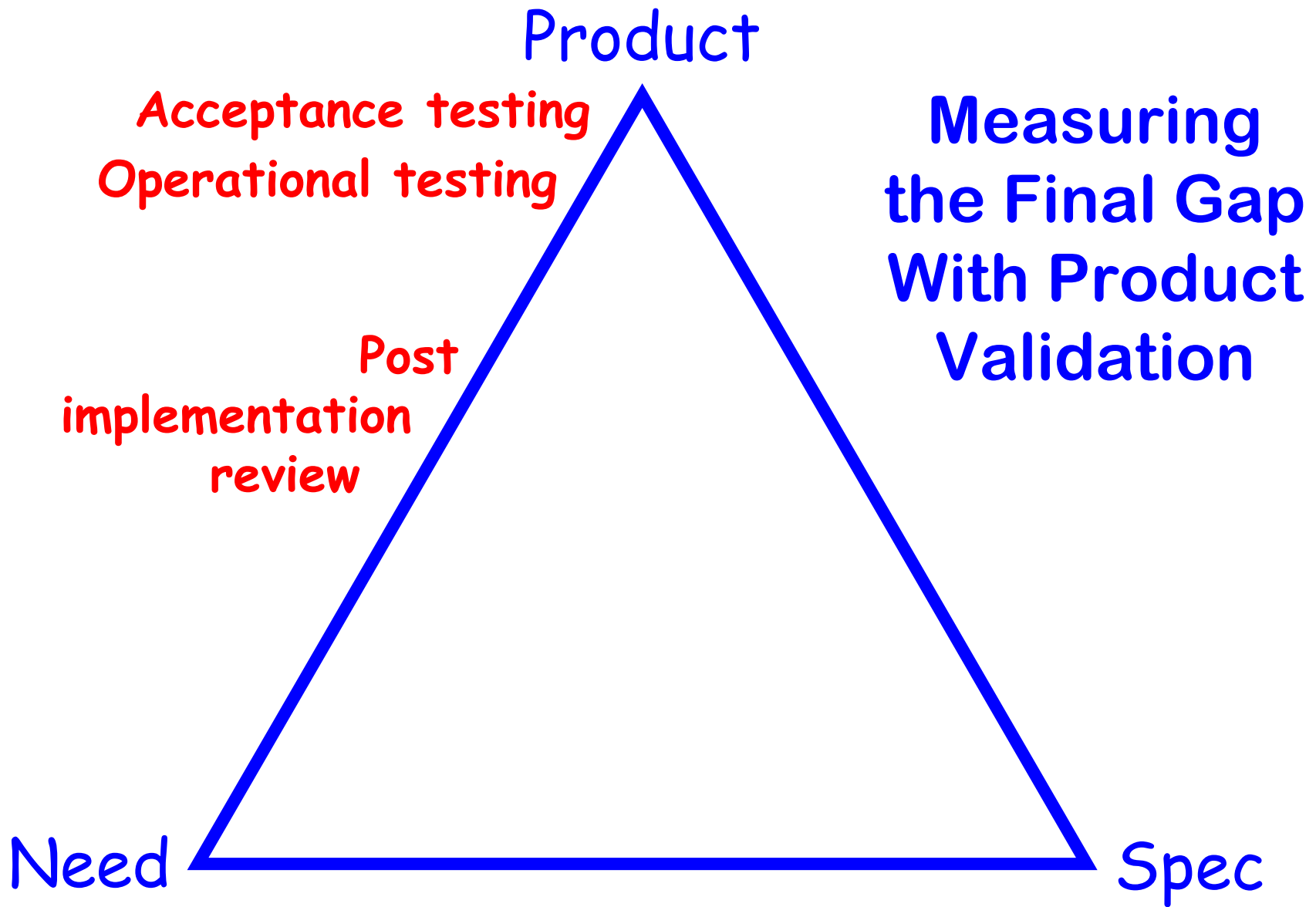
Closing the “Gaps”

The Role of Verification and Validation

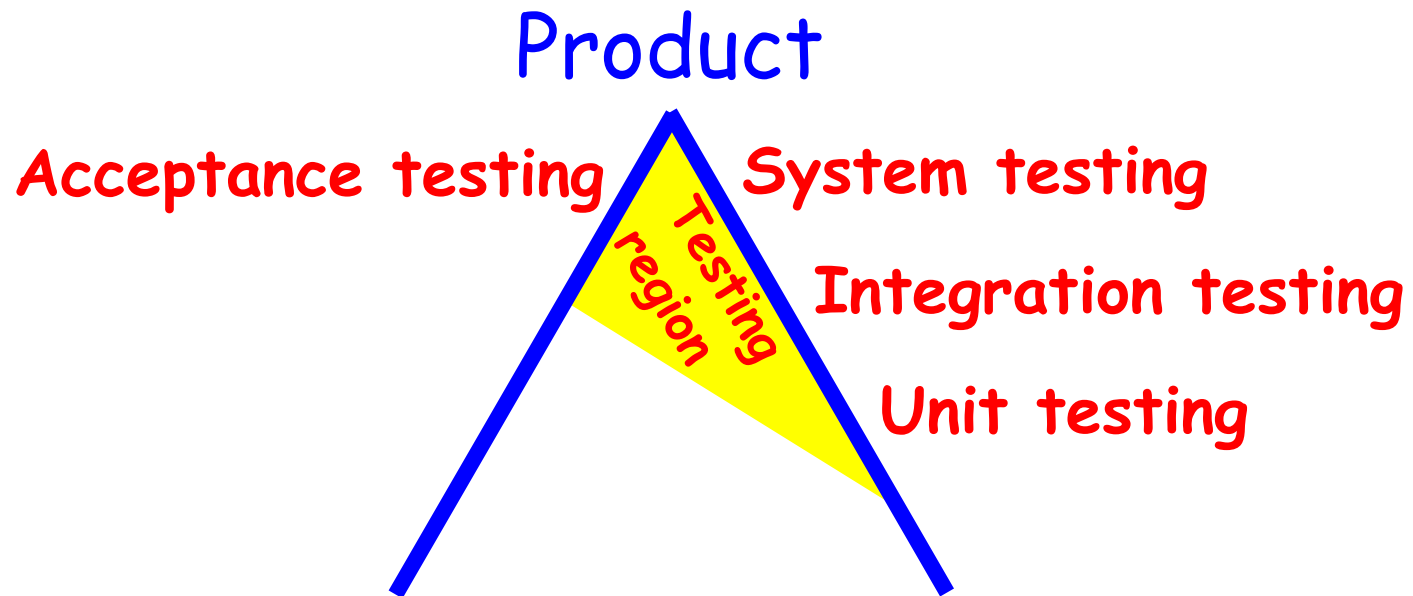




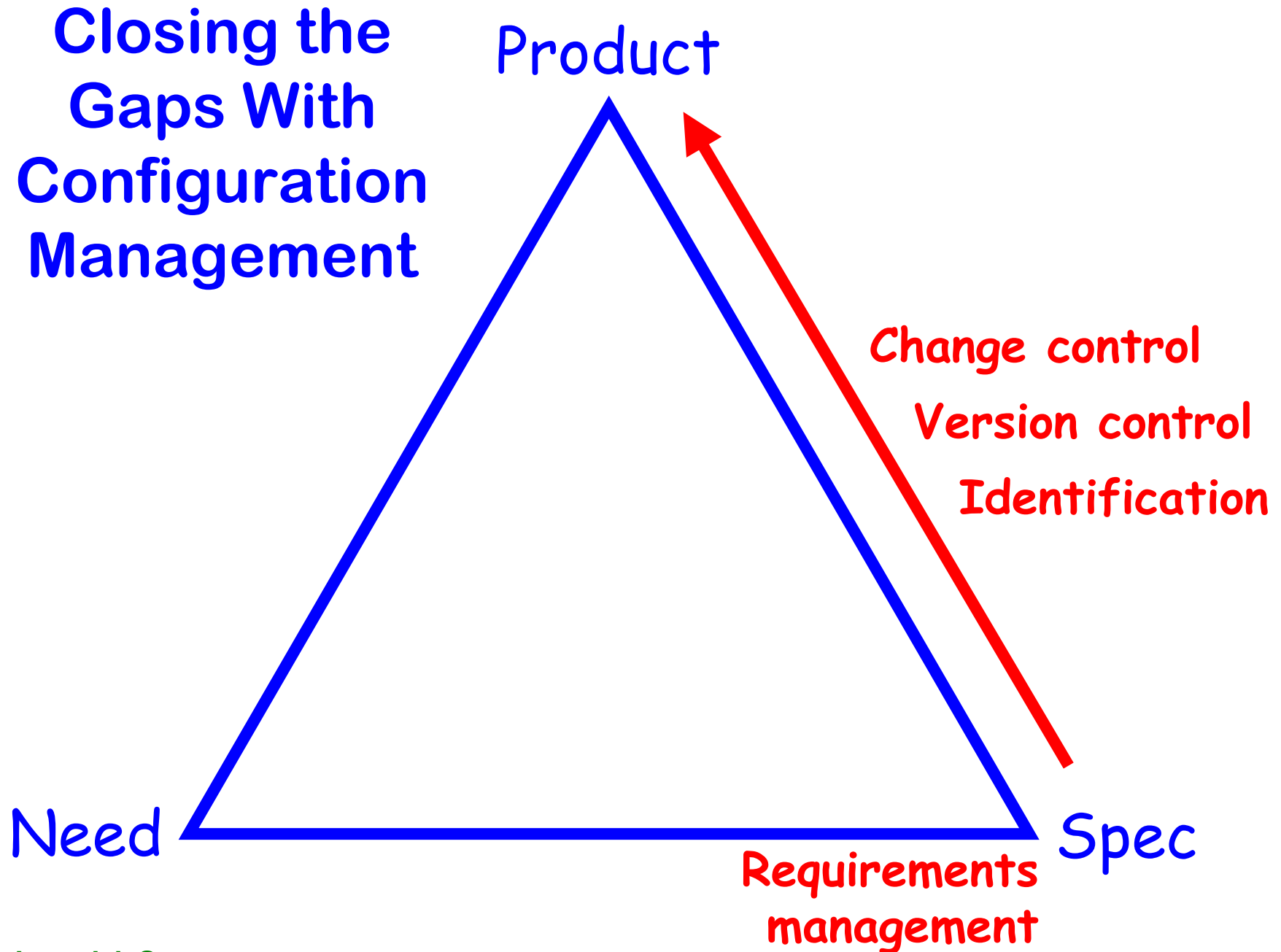




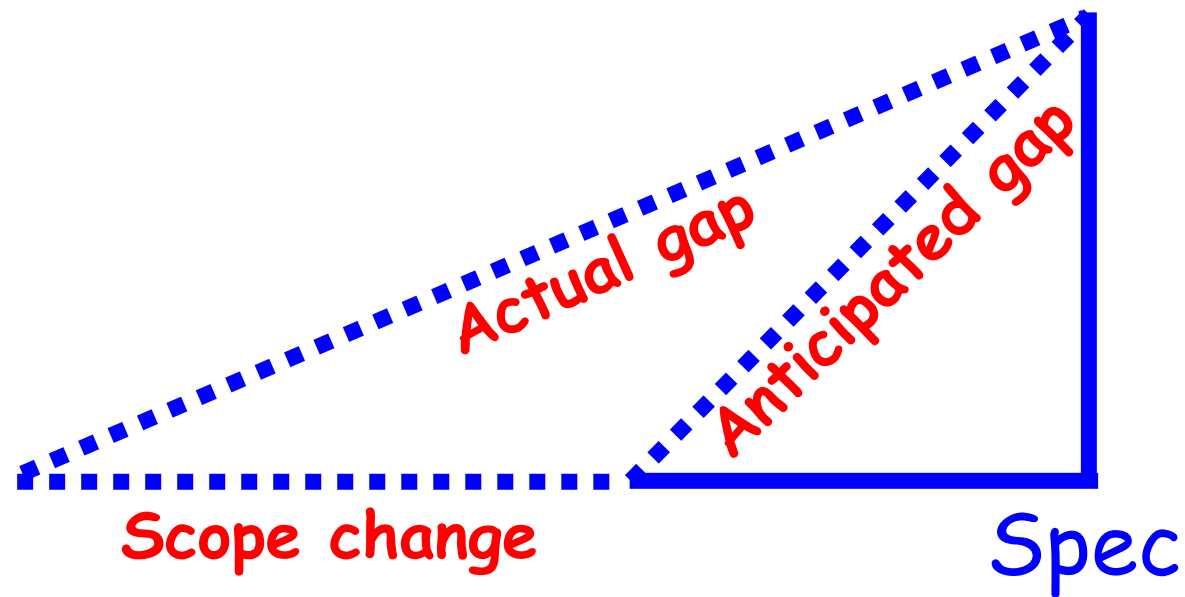
The Testing Region



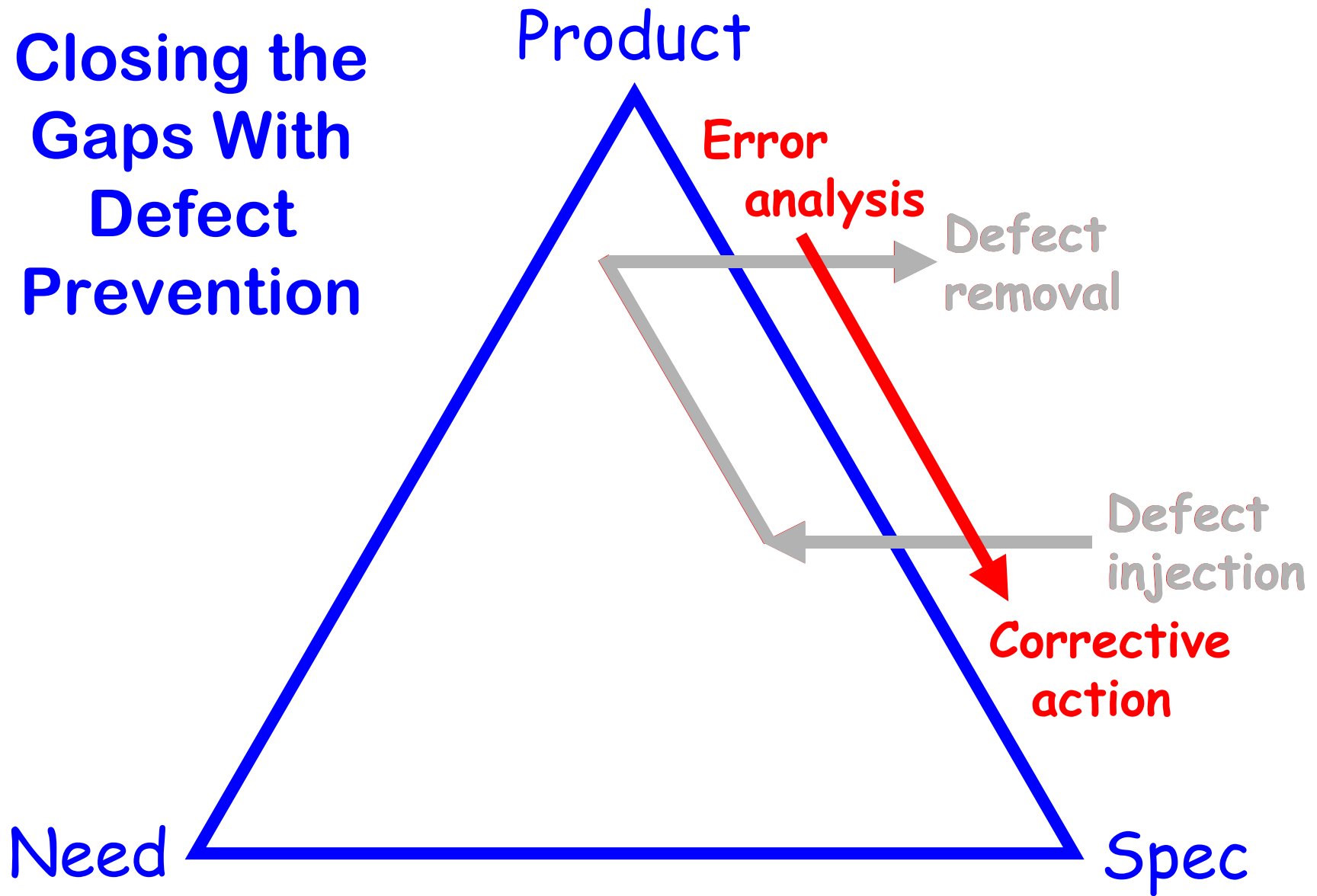
Closing the Gaps With Configuration Management

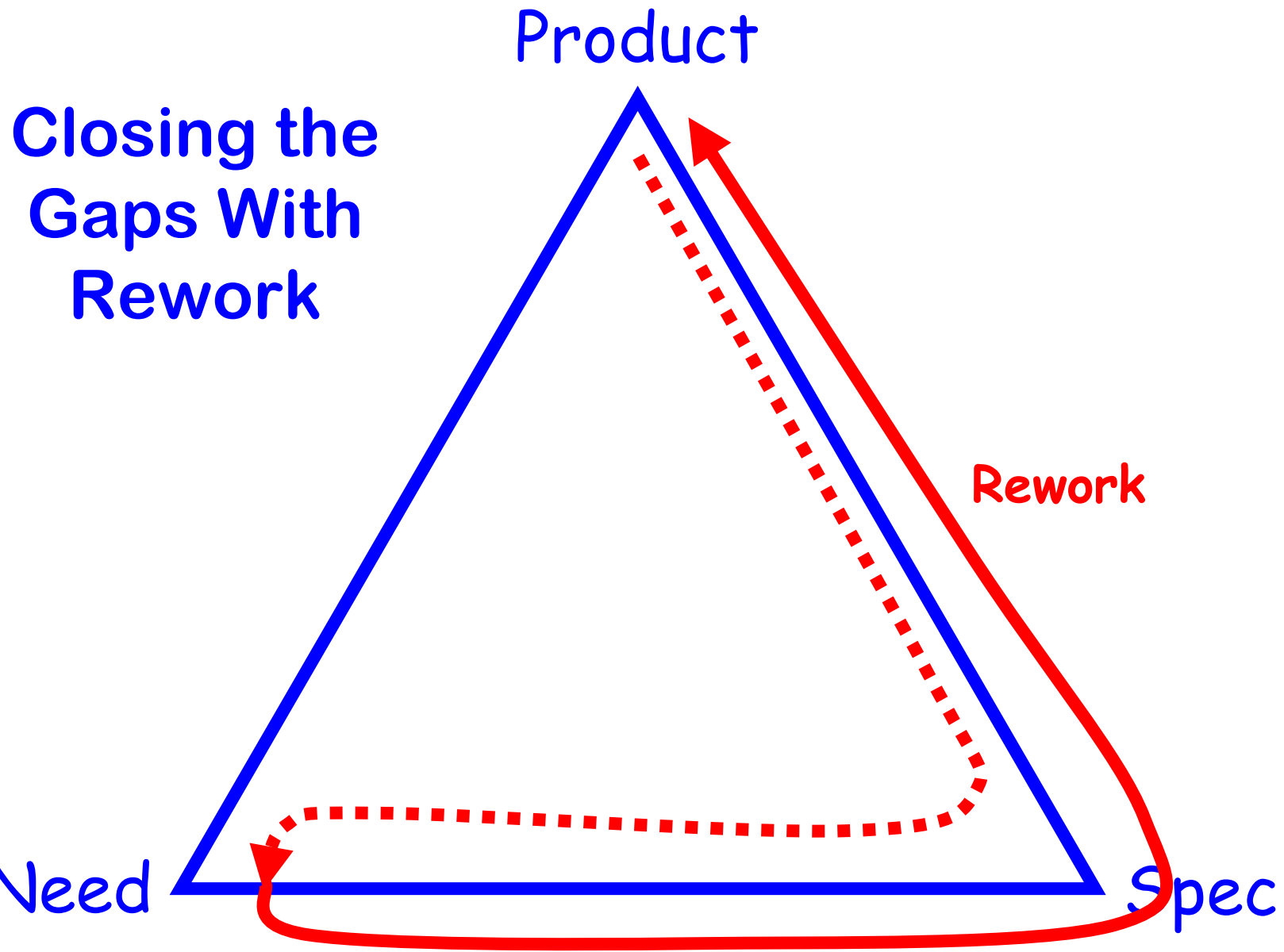


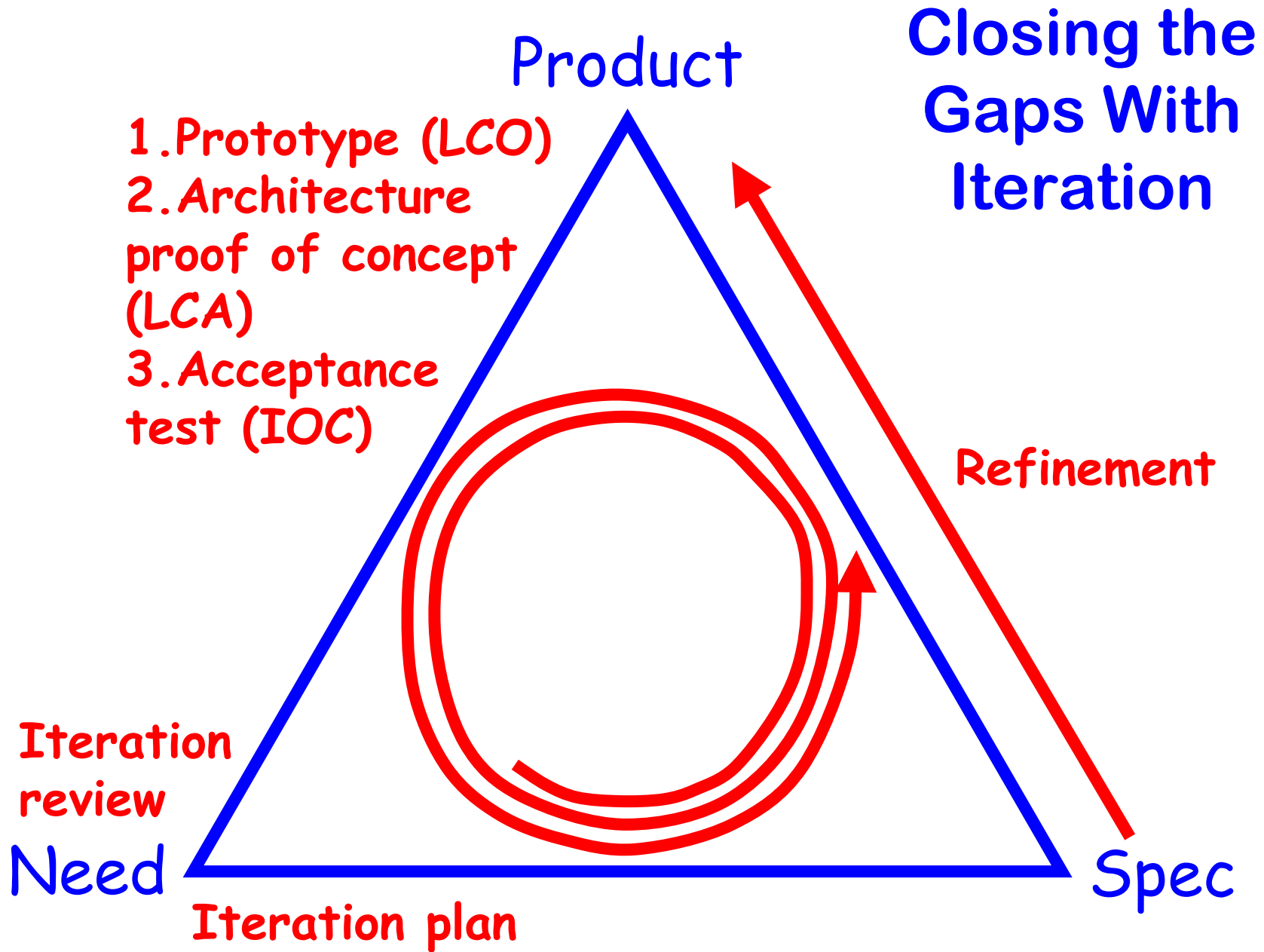
Closing the Gaps With Configuration Management



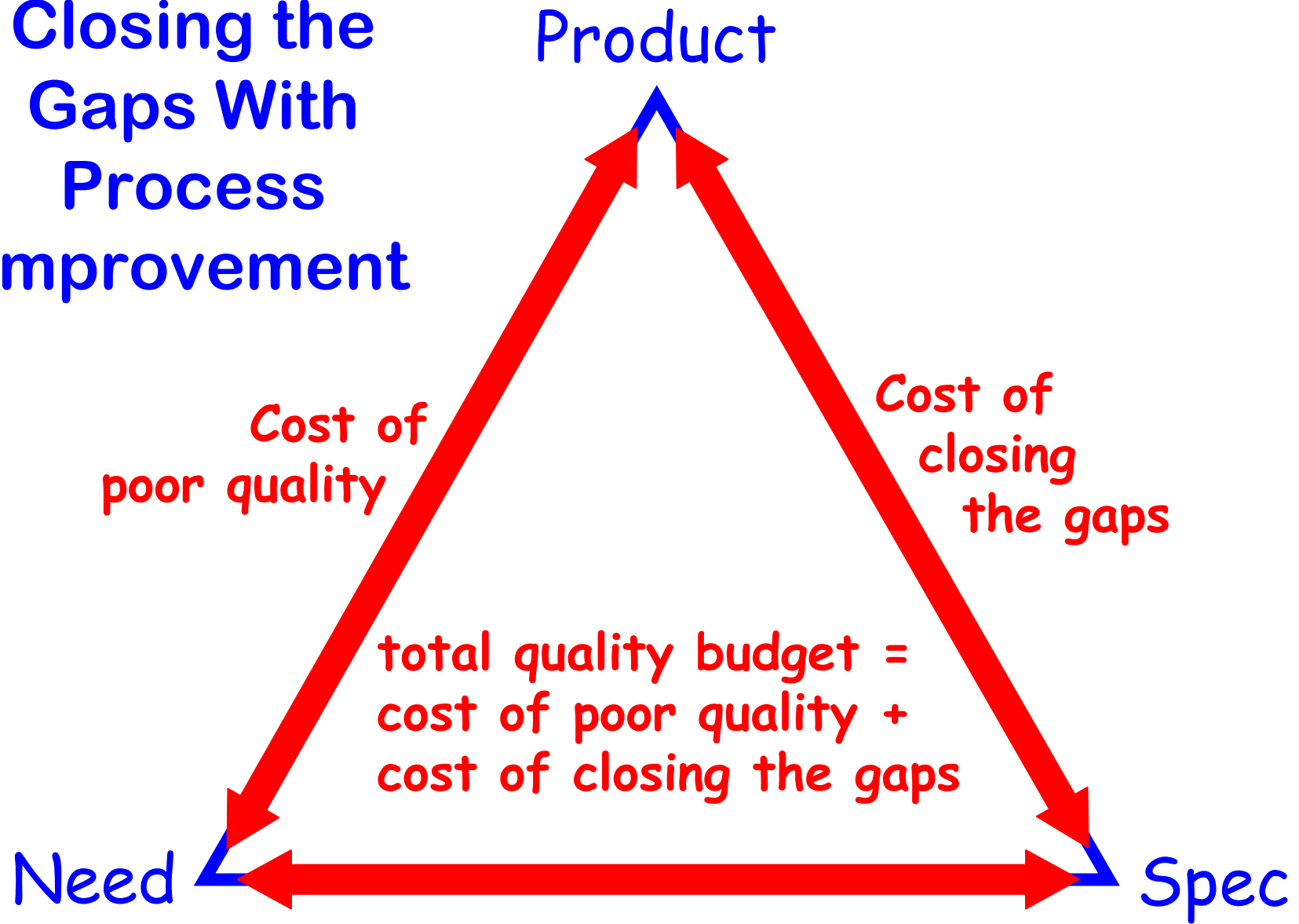
Closing the Gaps With Defect Prevention



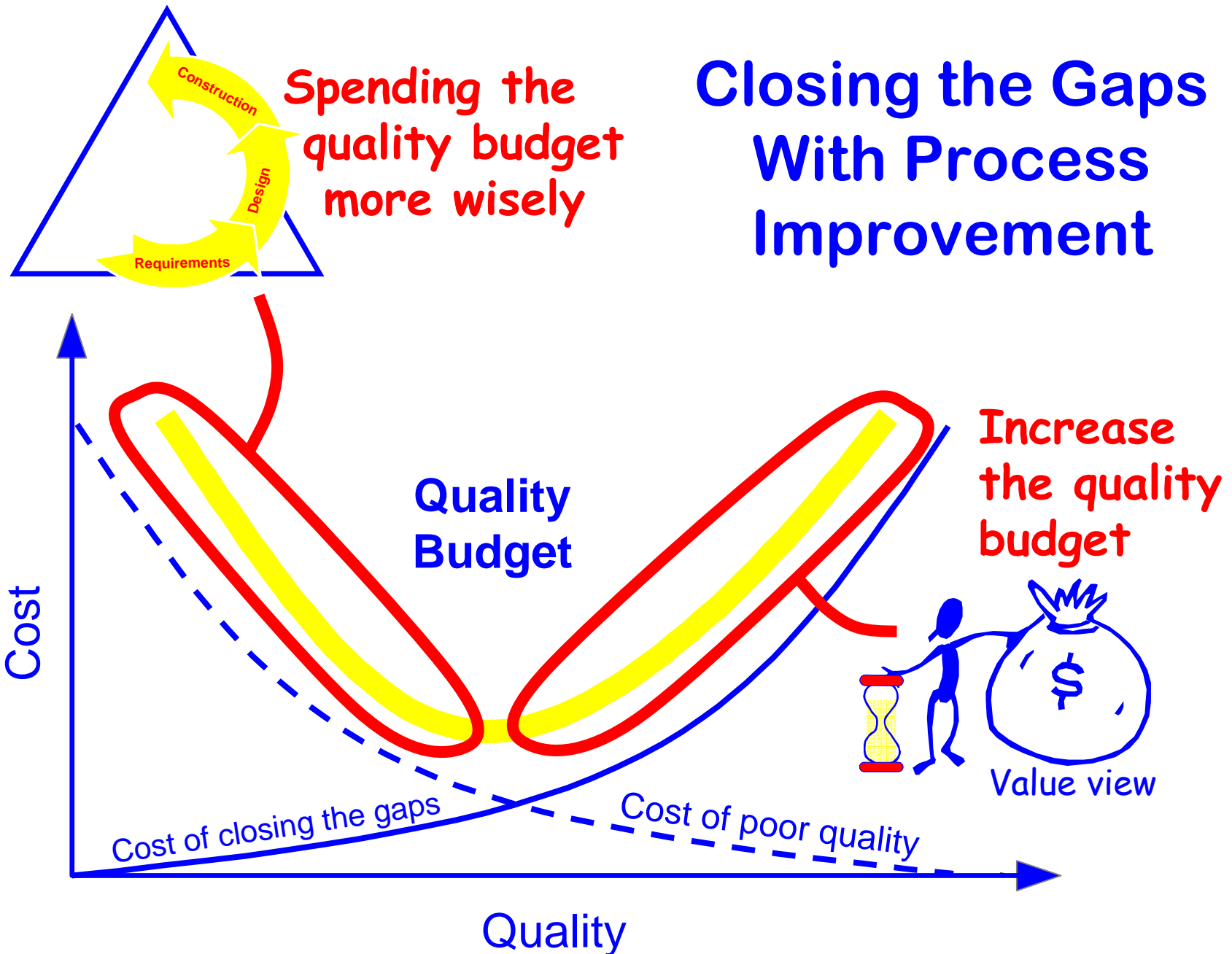




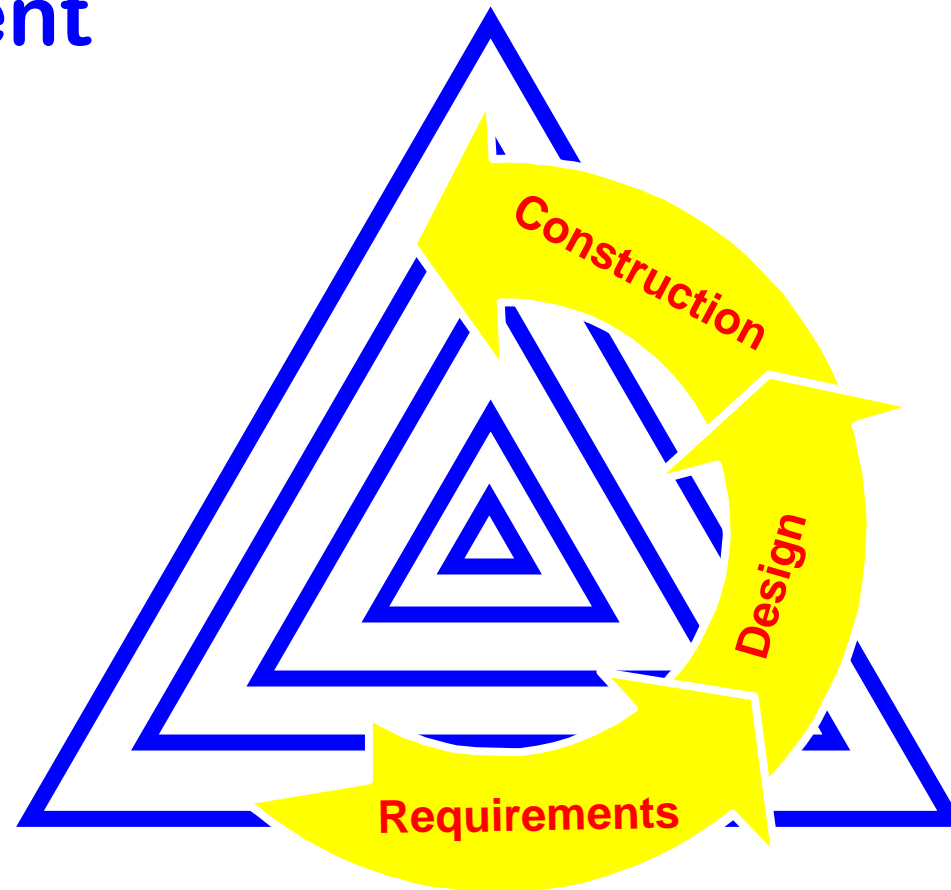
Closing the Gaps With Process Improvement



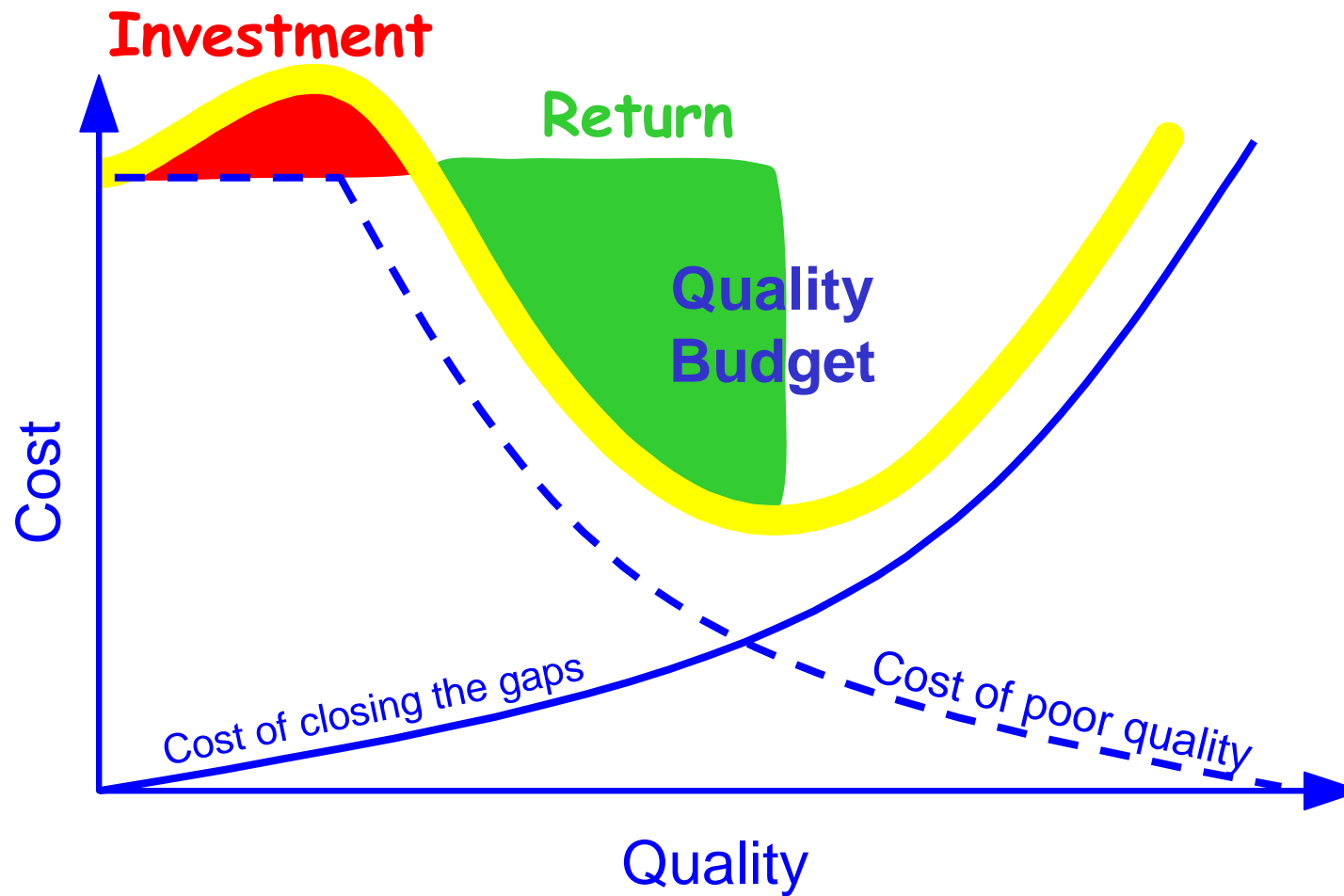
Closing the Gaps With Process Improvement



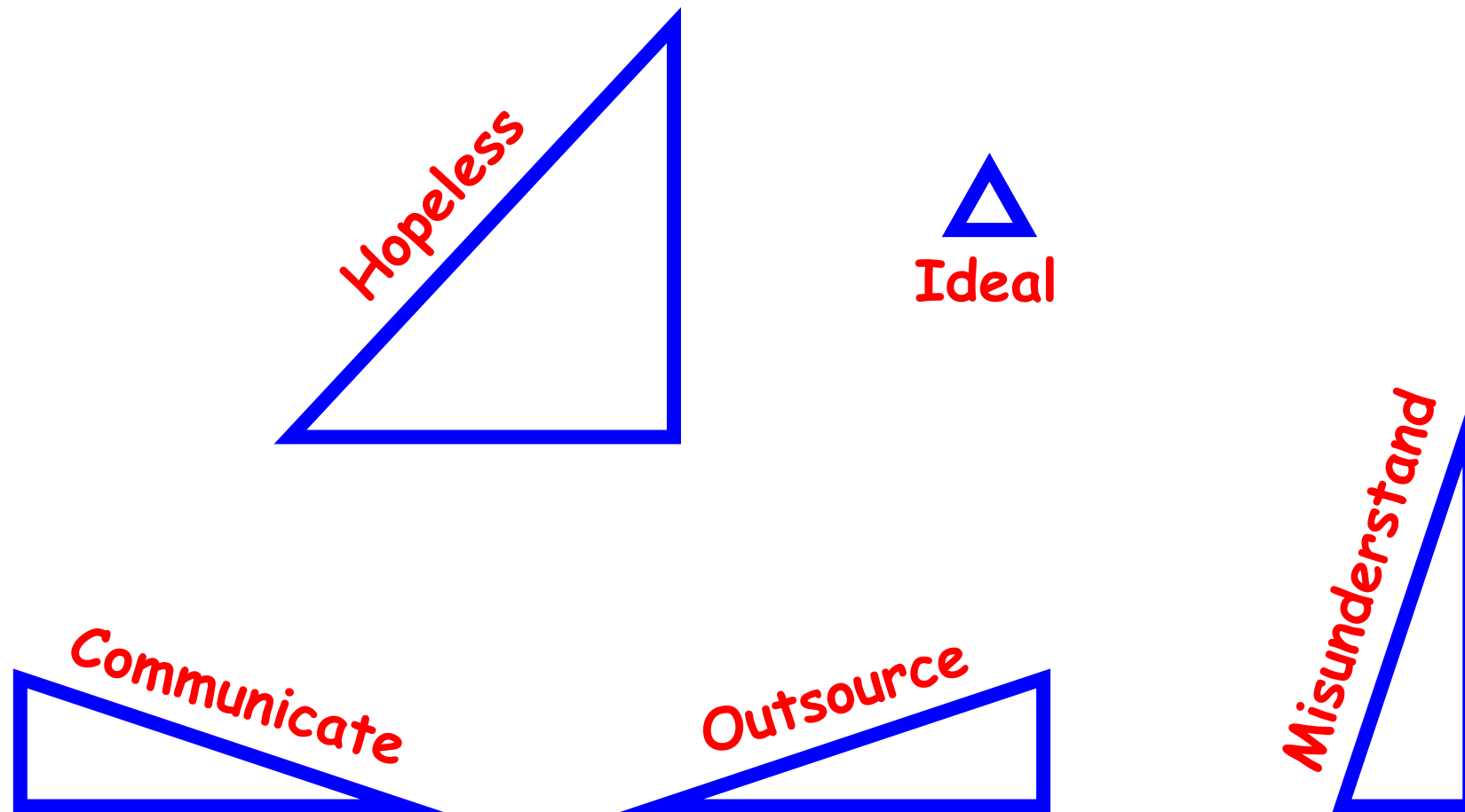
Closing the Gaps With Process Improvement



Closing the Gaps With Process Improvement



“Triangular” Maturity Models

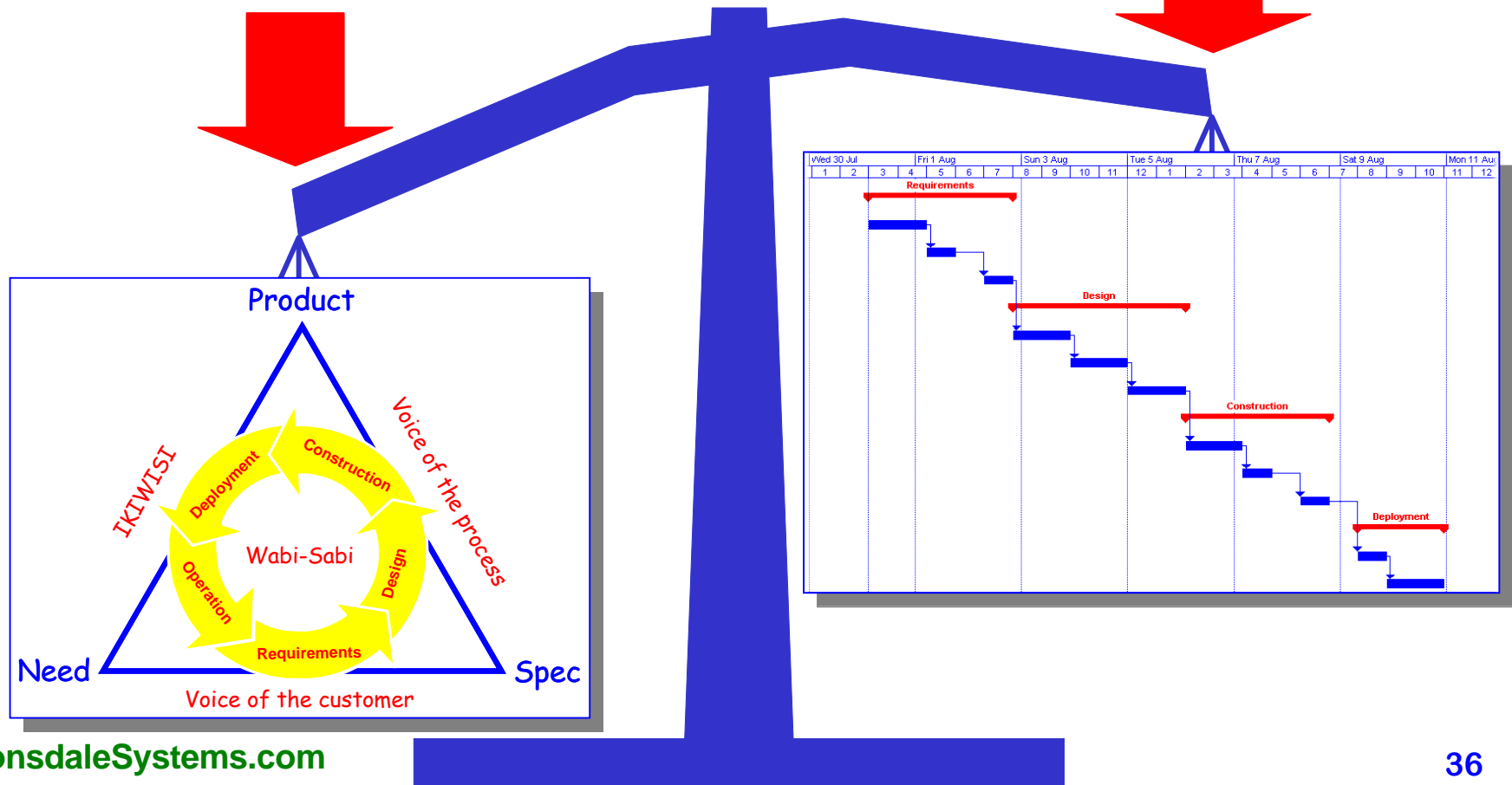


Conclusion

A question of balance...

Quality Management Priorities

Project Management Priorities





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