Universiti Malaysia PAHANG
Engineering • Technology • Creativity

BCS 3263
SOFTWARE QUALITY ASSURANCE

Chapter Eight
Process Quality

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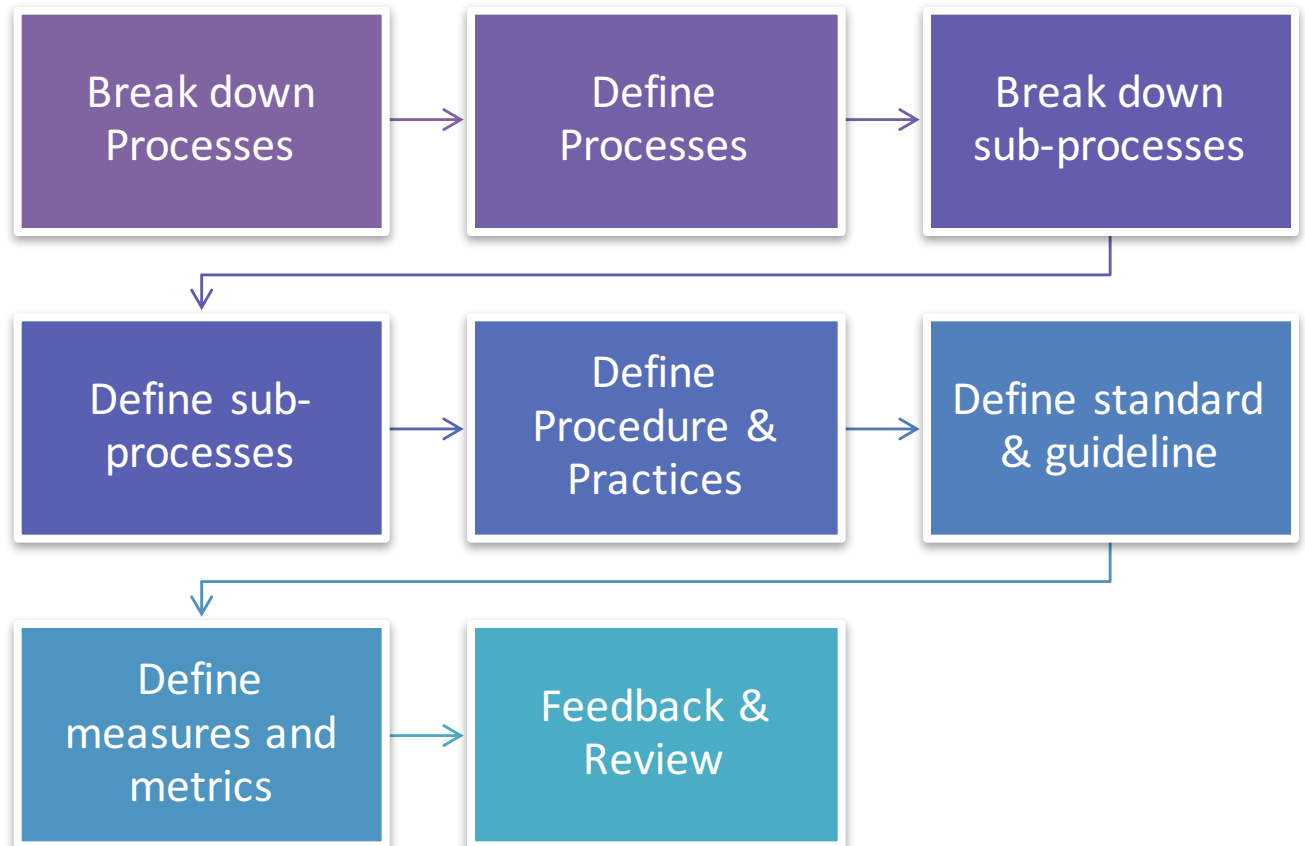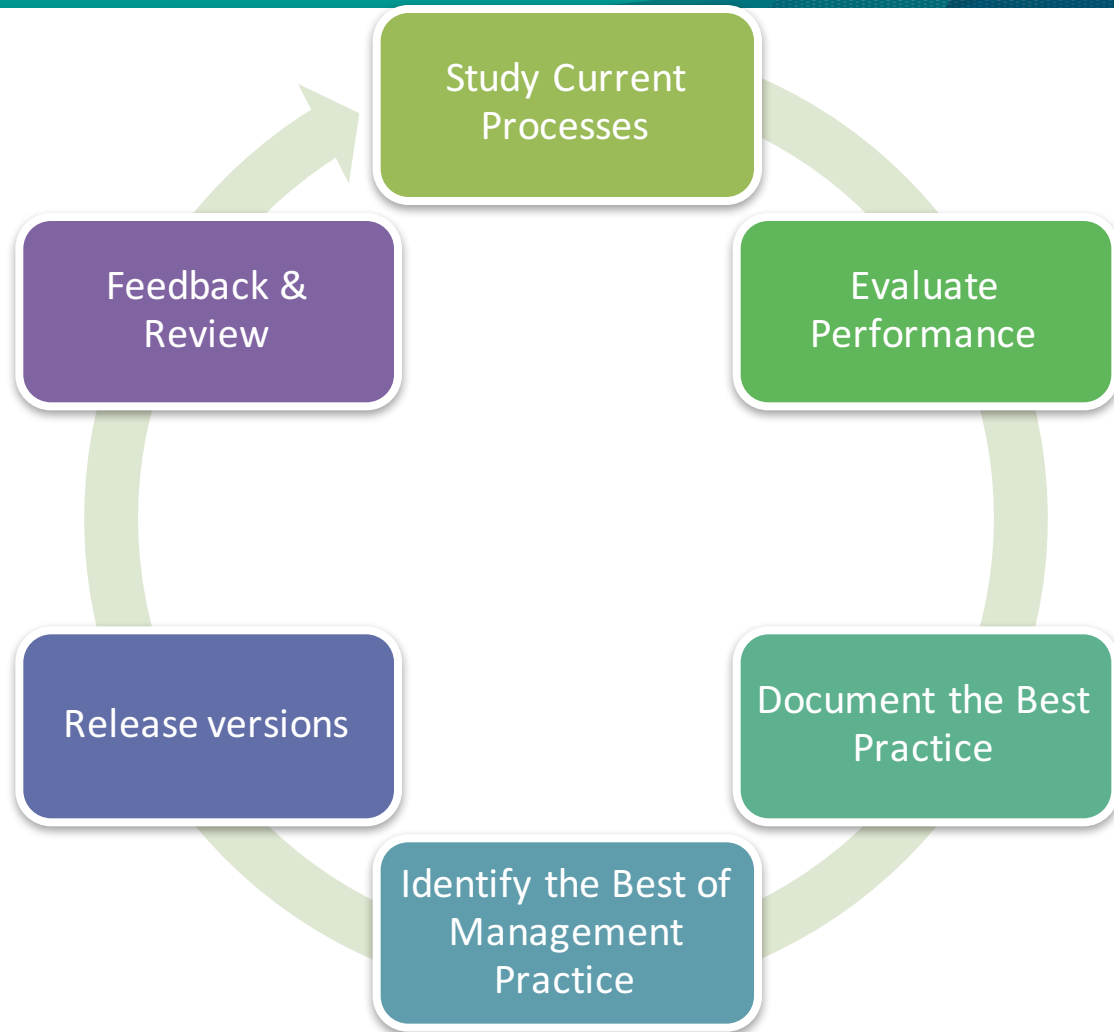*Communitising Technology*

Chapter Description

- Aims
  - The process quality Approach
- Expected Outcomes
  - Develop a Quality Assurance plan for a software project using international standards
- Other related Information
  - Introduces students to the concept of Software Quality Assurance (SQA) including principles, component, process, models, standards and certification of SQA.
- References
  - Mastering software quality assurance : best practices, tools and techniques for software developers / Murali Chemuturi Chemuturi, Murali, J. Ross Pub. QA76.76.Q35 C44 2011
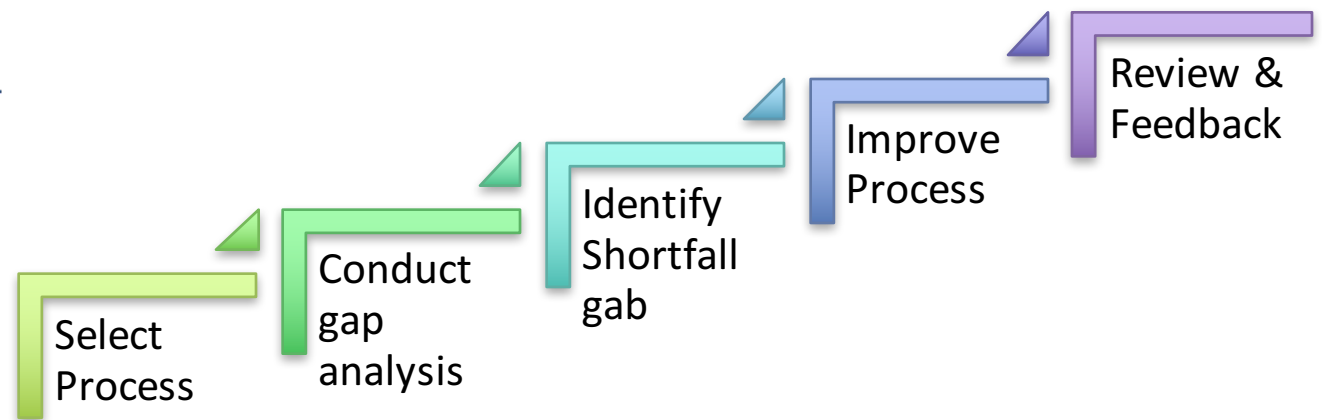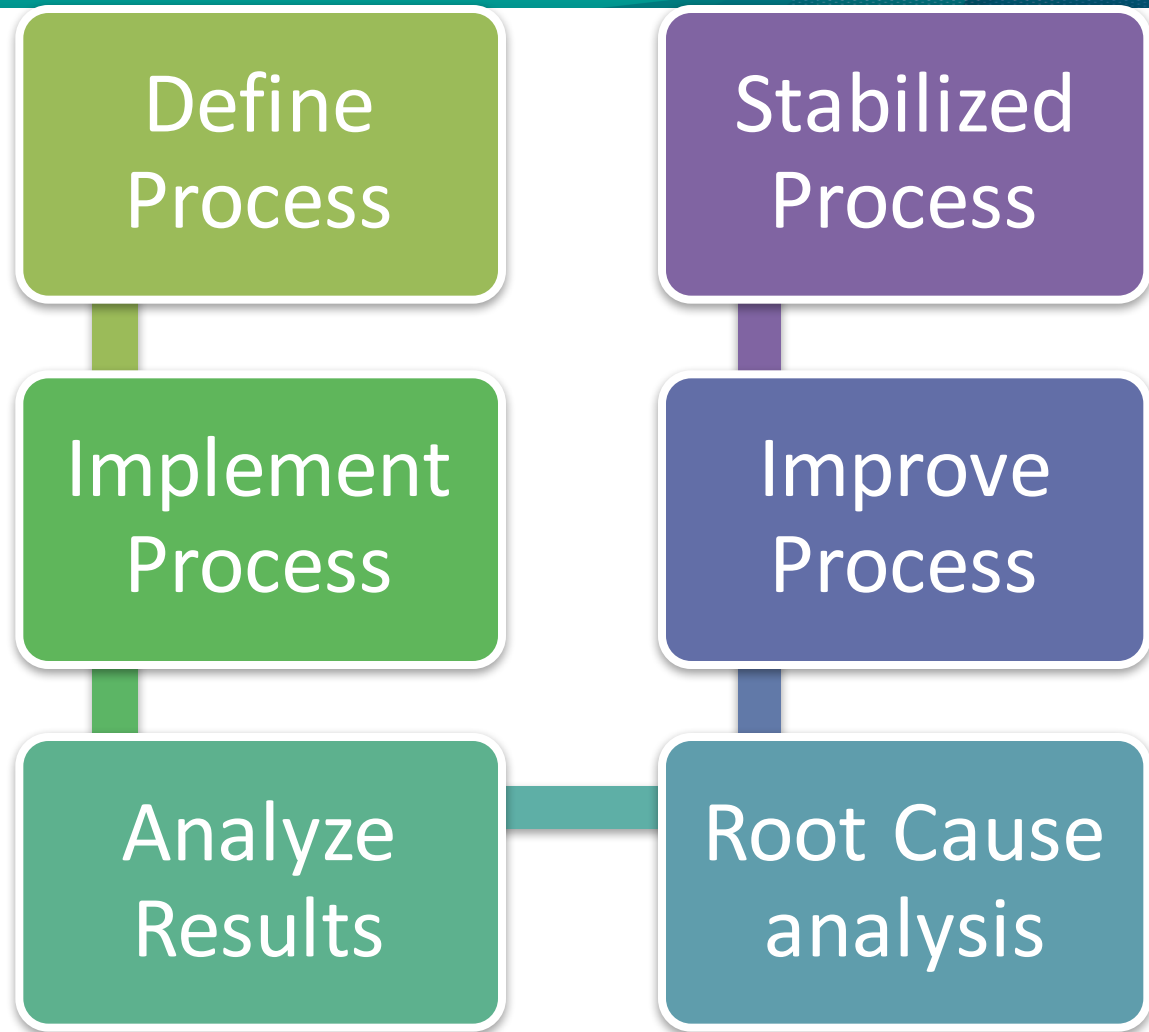
Top-down approach to process definition

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┌─────────────────┐      ┌─────────────────┐      ┌─────────────────┐
│  Break down     │ ───► │  Define         │ ───► │  Break down     │
│  Processes      │      │  Processes      │      │  sub-processes  │
└─────────────────┘      └─────────────────┘      └─────────────────┘
                                                           │
┌─────────────────┐      ┌─────────────────┐      ┌─────────────────┐
│  Define sub-    │ ───► │  Define         │ ───► │  Define standard│
│  processes      │      │  Procedure &    │      │  & guideline    │
│                 │      │  Practices      │      │                 │
└─────────────────┘      └─────────────────┘      └─────────────────┘
       ▲                                                   │
┌─────────────────┐      ┌─────────────────┐
│  Define         │ ───► │  Feedback &     │
│  measures and   │      │  Review         │
│  metrics        │      │                 │
└─────────────────┘      └─────────────────┘
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Bottom-up approach to process definition

- Study Current Processes
- Evaluate Performance
- Document the Best Practice
- Identify the Best of Management Practice
- Release versions
- Feedback & Review

Aligning organizational processes with a selected model

Select Process

Conduct gap analysis

Identify Shortfall gab

Improve Process

Review & Feedback

Process Stabilization

Define Process → Implement Process → Analyze Results → Root Cause analysis → Improve Process → Stabilized Process

Conclusion of The Chapter

- ## Conclusion #1
  - Top-down approach to process definition
- ## Conclusion #2
  - Bottom-up approach to process definition
- ## Conclusion #3
  - Aligning organizational processes with a selected model
- ## Conclusion #4
  - Process Stabilization

Discussion

Illustrate how does a software development organization operate using top-down approach ?