


Unit Summary and Revision Guidance Topic 12 - 12.4


Exercise - My 7 key Concepts of Agile Development...

Write down the 7 key concepts of Agile development that you have learnt during this module.

You have 4 minutes.

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What is Agile? - 1

- A family of approaches:
 - DSDM
 - Lean
 - FDD
 - XP
 - Scrum
 - ... and others

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What is Agile? - 2

- Collectively they address:
 - Engineering best practices
 - Leadership philosophy
 - Project management framework
 - Development framework

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The Agile Manifesto

"We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is value in the items on the right, ***we value the items on the left more.***"

www.agilemanifesto.org (2001)

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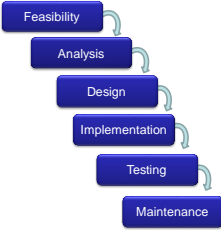


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What is The Waterfall Model?


The Waterfall Model is a sequential development model.


It insists on each stage of the development process to be completed before moving on to the next step.



```
graph TD; Feasibility --> Analysis; Analysis --> Design; Design --> Implementation; Implementation --> Testing; Testing --> Maintenance;
```

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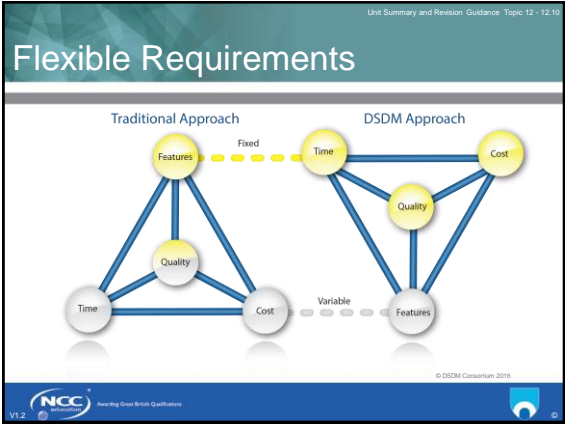
What is DSDM?

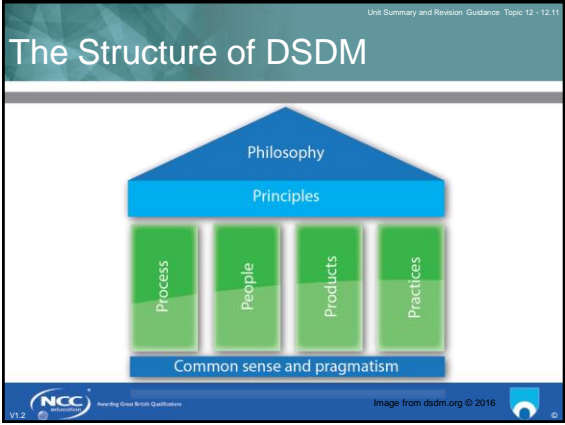
- Dynamic Systems Development Method (DSDM) Agile Project Framework (2014 Onwards)
- Delivers the right solution at the right time
- Any kind of project
 - Focused on business benefit
 - On-time and in budget
 - Quality and rigour
 - Incremental
 - Collaborative

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Group Exercise - Why is DSDM a robust and well-defined Agile approach?

- Get into groups of 4
- You have 10 mins to come up with 10 questions to ask the other groups
- The questions should be atomic, not a combined question, and should have just one answer

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The Philosophy

Any project ...

Philosophy

Principles

ProcessPeopleProductsPractices

Common sense and pragmatism

- must be aligned to clearly defined strategic goals
- must focus upon early delivery of real benefits to the business


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The 8 Principles of DSDM




1. Focus on business need




2. Deliver on time




3. Collaborate




4. Never compromise of quality




5. Build incrementally from firm foundations



6. Develop iteratively



7. Communicate continuously and clearly



8. Demonstrate control

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The DSDM Lifecycle

Pre-Project

Feasibility

Foundations

AssemblyReviewDeploy

Deployment

Post-Project

Evolutionary Development

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Team Roles and Responsibilities

The diagram illustrates the roles and responsibilities within an agile team structure. It is organized into three concentric layers:

- Project Level:** Includes roles like Project Manager, Business Sponsor, Technical Co-Ordinator, Business Visionary, and Team Leader.
- Solution Development Team:** Includes roles like Business Ambassador, Solution Developer, Business Analyst, Solution Tester, and Workshop Facilitator.
- External Support:** Includes roles like Business Advisor and Workshop Facilitator.

Arrows indicate the flow of information and collaboration between these layers.

Project team:

- Project Manager
- Business Sponsor
- Technical Co-Ordinator
- Business Visionary
- Team Leader

Solution Development Team:

- Business Ambassador
- Solution Developer
- Business Analyst
- Solution Tester

External Support:

- Business Advisor
- Workshop Facilitator

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Product Overview

The diagram shows the product lifecycle from Pre-Project to Post-Project. It includes phases like Feasibility, Prototyping, Evolutionary Development, and Deployment. Roles are color-coded: Orange for Business focused, Green for elements contributing to the Solution, and Blue for Project management/control interests. Products with a 'G' icon play a part in governance processes.

Orange = Business focused,
Green = elements that contribute to the Solution
Blue = Project management/control interests.
Products with a 'G' may also play a part in governance processes

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Source: Image from dsdm.org © 2016

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DSDM - 5 Key Techniques

- MoSCoW Prioritisation
- Modelling
- Facilitated Workshops
- Iterative Development
- Timeboxing

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Prioritisation

DSDM uses the MoSCoW prioritisation model.

Concentrating approximately 60% of the project on the 'Must Have' requirements, and around 20% on the 'Could Have' requirements.

In scope for this timeframe
(Project / Increment / Timebox)

Must Have

Should Have

Could Have

Typically no more than 60% effort

Typically around 20% effort

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Practices: Modelling

- Many industries use models (and prototypes) to:
 - establish requirements
 - confirm expectations
 - test the achievability of objectives
- Examples of models:
 - storyboards
 - diagrams
 - scale models (prototypes)
 - working software (prototypes)

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What is a Facilitated Workshop?

A place where a specific job is done and a **product** produced.

A team-based information gathering and decision making technique

Interactive communication
Empowered personnel
Independent facilitator

Views

Consensus

Exchange

Decisions

Deliverables

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Iterative Development

- This is a key technique to evolve
 - from a high level idea
 - to a delivered product
 - incrementally



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Timebox Plans

KICK OFF


INVESTIGATION



REFINEMENT



CONSOLIDATION




CLOSE OUT

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What is a Timebox?

- A timebox is a fixed period of time, at the end of which an objective has been met.
- The time available dictates work done
- The aim of a timebox is to make something useful
- A timebox is product-focused, not task-focused

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Further Guidance: DSDM

Philosophy

Principles

Process

People

Products

Practices

Common sense and pragmatism

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Agile Project Management

• Major Planning Issues

• Part 1:

- Control
- Risk

• Part 2:

- Configuration Management
- Quality
- Testing
- Metrics
- Maintainability

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What is Quality?

“Fitness for Purpose”

Quality Control
(testing and rejection of faulty products)

Quality Assurance
(definition of products and quality criteria)

Solution Quality

Process Quality

Quality Management and a QM system
(the feedback from QC & QA to improve the process using a system of tools, techniques and standards etc.)

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What is a Requirement?

- In simple terms, a requirement is a:
 - Feature
 - Function
 - Service
 - Constraint

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Estimating


Agree to what you believe you can do –


Set realistic objectives!



Then honour your commitments!

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Summary

- The ***Agile Development unit*** has:
 - Provided an introduction to the principles, people, processes and practices of Agile development
 - Prepared students for future trends in software development practices
 - Reinforced understanding of the information systems development process

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Topic 12 – Unit Summary

Any Questions?

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