Agile Development

Topic 1:

Introduction to the Unit and an Overview of Agile

Course code: CIS 333

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Unit Scope and Coverage

The *Agile Development unit* will:

- Provide an introduction to the principles, people, processes and practices of Agile development;
- Prepare students for future trends in software development practices;
- Reinforce understanding of the information systems development process.

Underpinning Themes of Agile

Key points to consider are:

- User Involvement

- Iterative Development

- Incremental Development

- Flexibility to embrace change

- Prioritisation

- Collaborative working

What is Agile?

Agile:

Agile is an iterative approach to project management and software development that helps teams deliver value to their customers faster and with fewer headaches. Instead of betting everything on a "big bang" launch, an agile team delivers work in small, but consumable, increments. Requirements, plans, and results are evaluated continuously so teams have a natural mechanism for responding to change quickly.

Agile Software Development:

Agile Software Development is a set of defined principles to be applied to the development process, there are several methodologies that make use of these principles.

What is agile? continue

The Agile Principles work collectively to address:

- Engineering best practices
- Leadership philosophy
- Project management framework
- Development framework

Examples of agile Software Development approaches

Examples:

- Dynamic Systems Development Method (DSDM)

- Lean Software Development (LSD)

- Feature Driven Development (FDD)

- Extreme Programming (XP)

- SCRUM

- Adaptive Software Development (ASD)

- Disciplined Agile Delivery (DAD), which includes Agile Modelling (AM)

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.

History of agile

- In 1956, Herbert D Benington described a process of development at a conference on advanced programming methods for digital computers. In 1970, Winston Royce wrote an article entitled: "Managing the Development of Large Software Systems".

- These ideas formed the basis of what we know as the The Waterfall Model. Agile Development uses the stages from the Waterfall Model, but addresses its inadequacies.
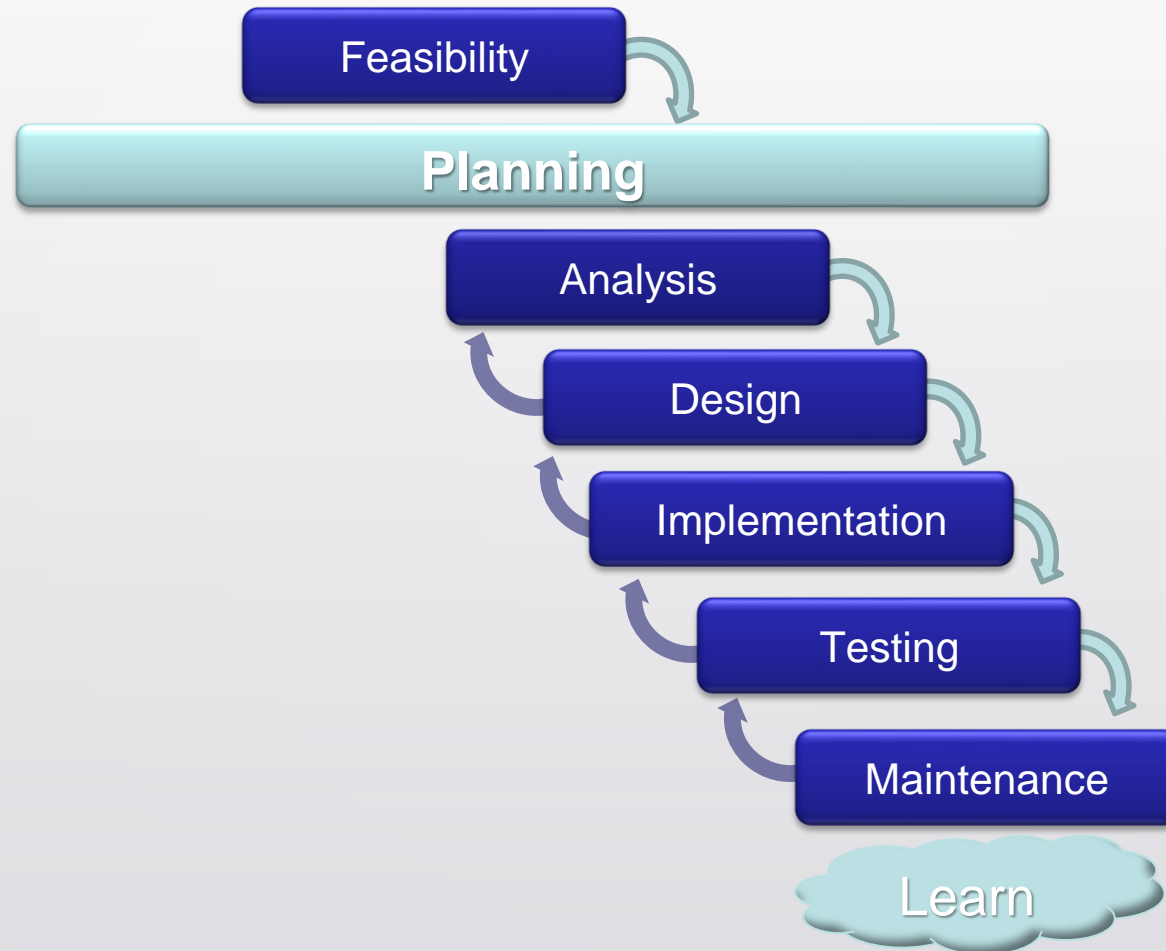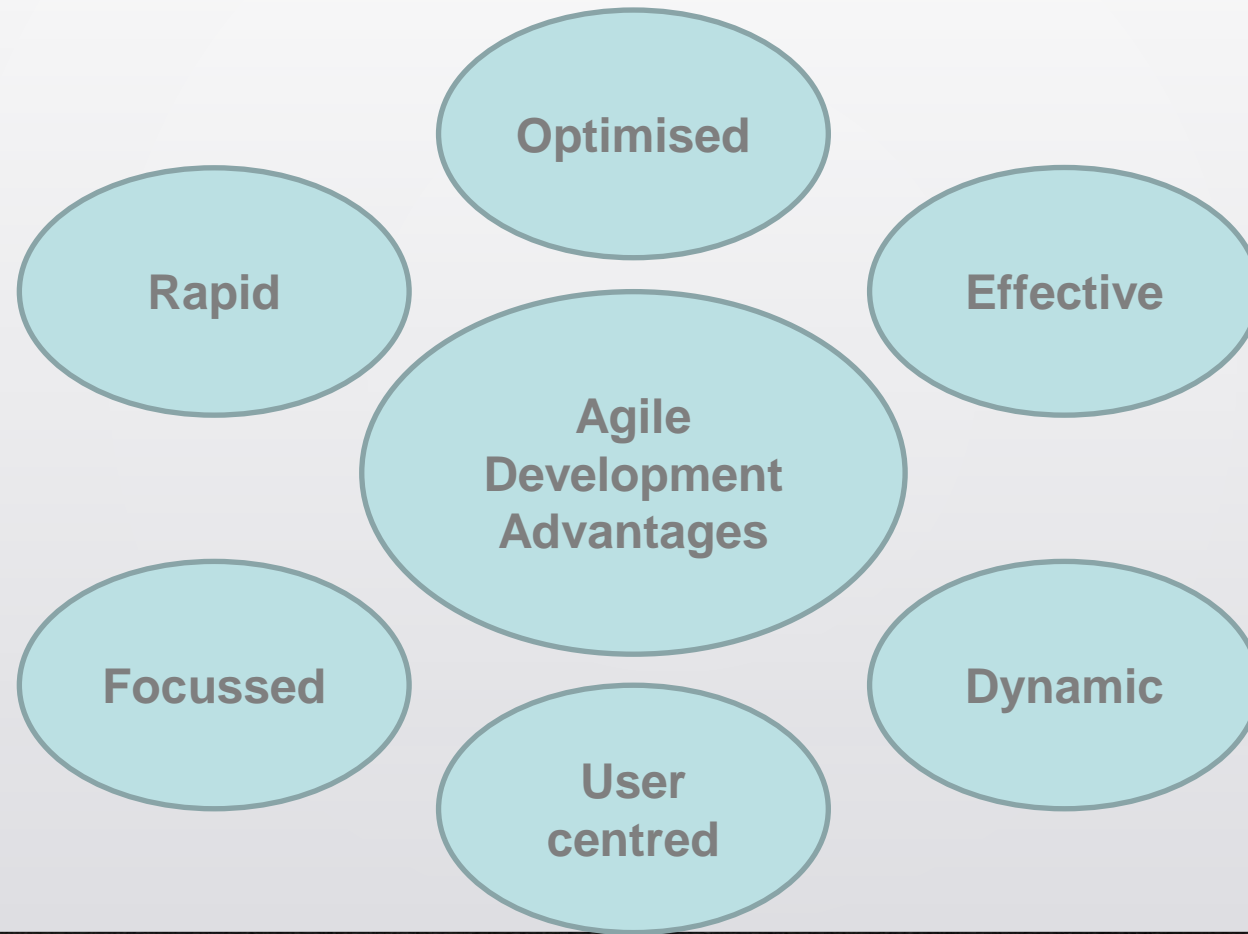
The waterfall model

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.
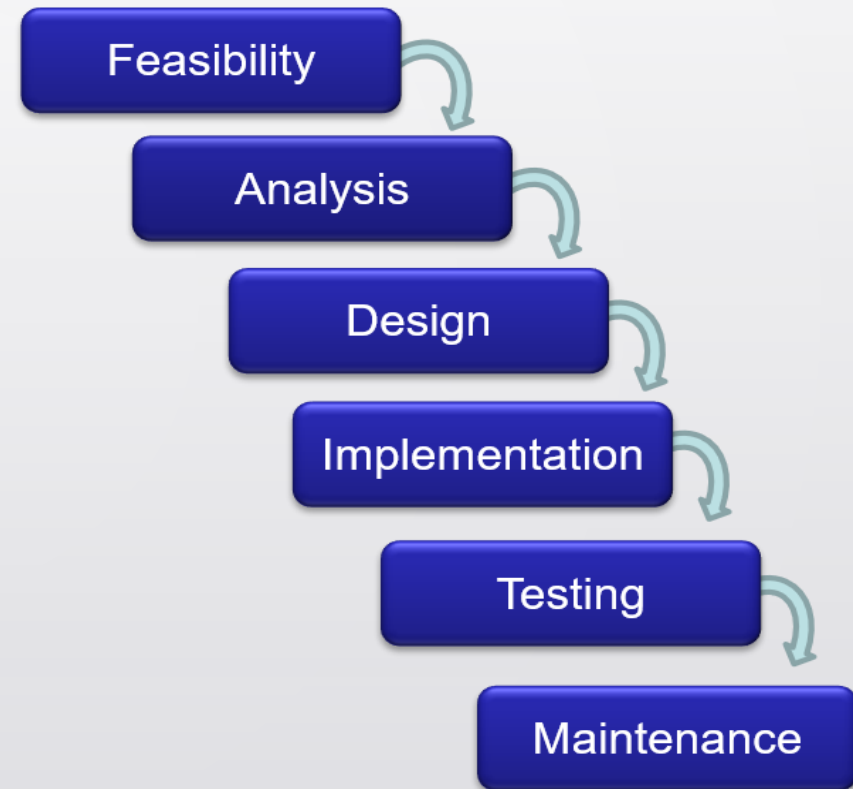
Agile is Iterative, Incremental, Evolutionary

Feasibility

Planning

Analysis

Design

Implementation

Testing

Maintenance

Learn

Advantages of Agile Development

What is DSDM?

- Dynamic Systems Development Method (DSDM) Agile Project Framework (2014 Onwards)

- It an Agile Project Delivery Framework that delivers the right solution at the right time. It is applicable to any kind of project. Key characteristics are:

  - Focused on business benefit;
  - On-time and in budget;
  - Quality and rigour;
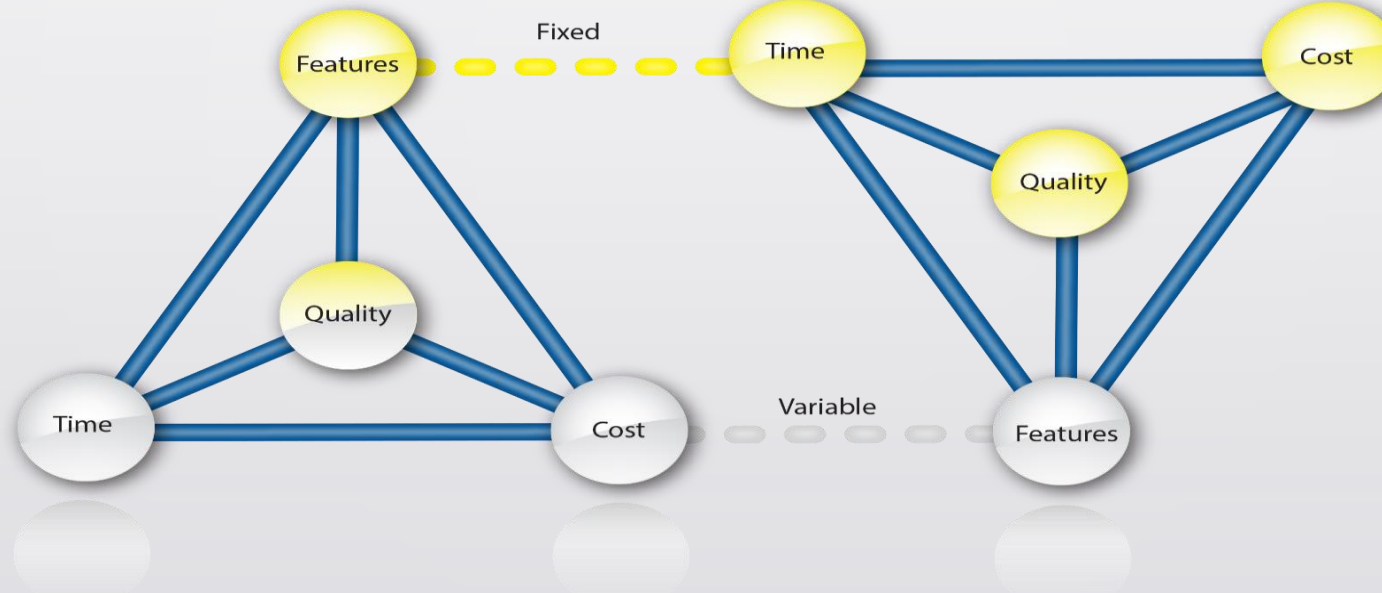 - Incremental and Collaborative.

How does DSDM differ?

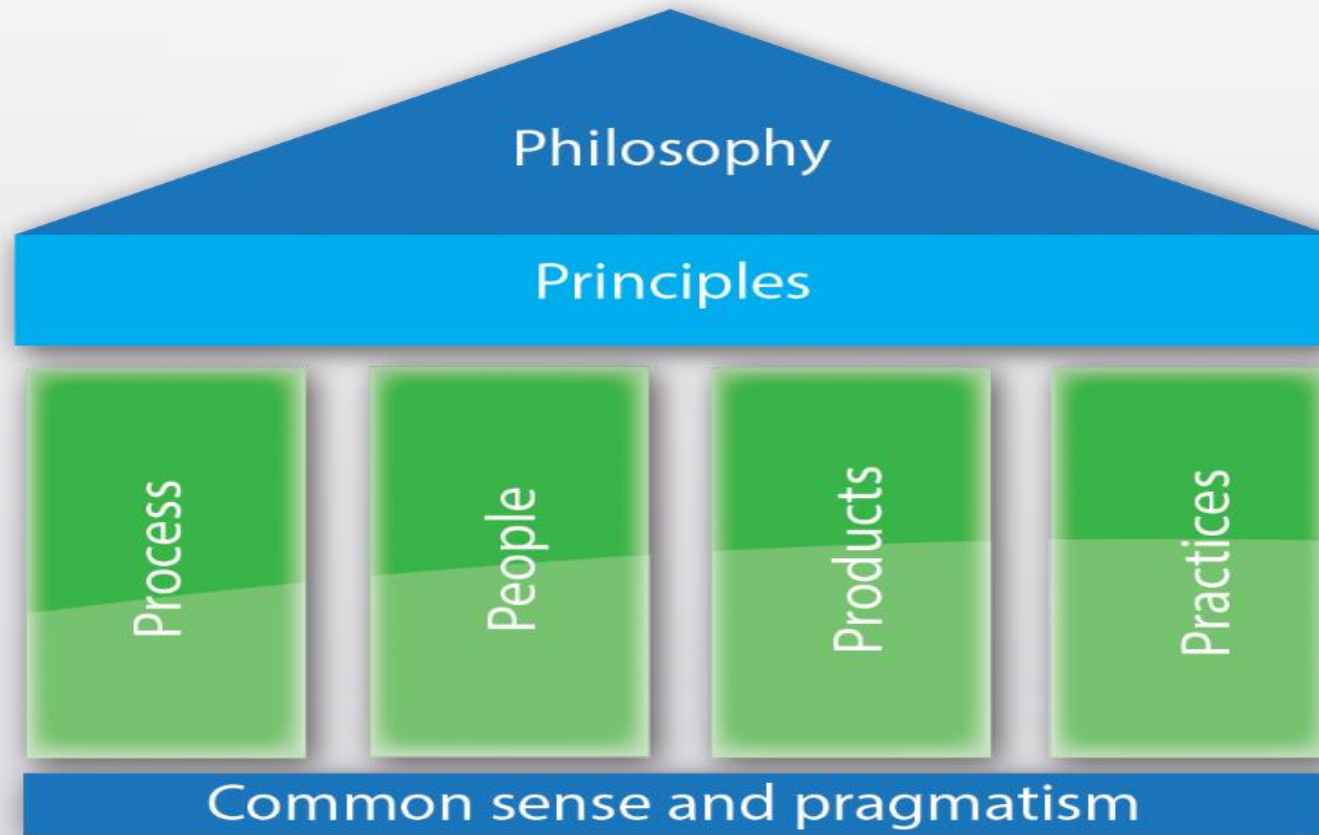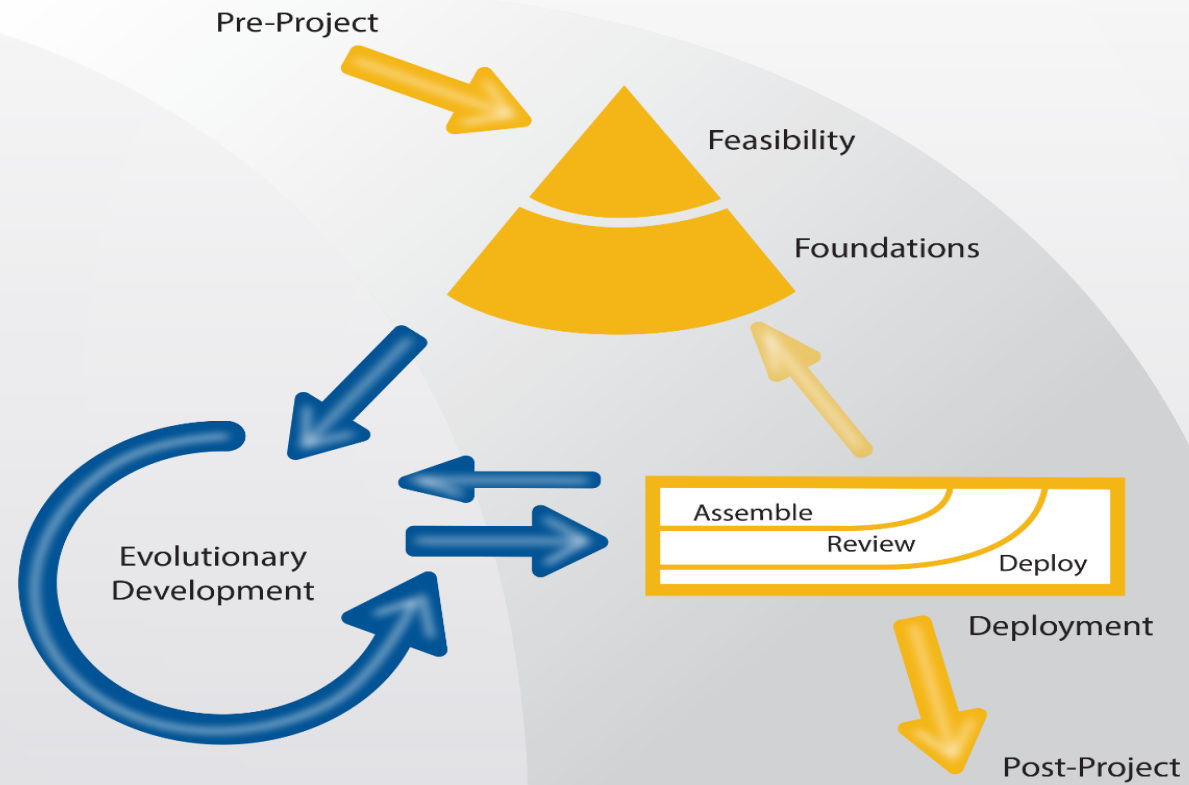Traditional Approach

DSDM Approach

The Structure of DSDM

The Process

Summary

This first topic has covered:

- an introduction to the structure and content of the Agile Development unit;

- the aim, scope and coverage of the unit;

- history and key concepts of Agile, in comparison to the waterfall approach;

- structure and process of DSDM Agile Project Framework 2014.

More reading Resources

- The DSDM Agile Project Framework. (2014). *DSDM Agile Project Framework (2014 Onwards) Handbook*. DSDM Consortium https://www.agilebusiness.org/page/TheDSDMAgileProjectFramework (Last accessed 13th September 2020)

- The DSDM Consortium . (2008). *DSDM Atern Handbook. 2ⁿᵈ Edition*. DSDM Consortium https://sites.google.com/view/qivtxbhhvj/agile-project-management-handbook-dsdm-pdf (Last accessed 13th September 2020)

End of topic

Any Questions?