

System Development Life Cycle (SDLC)

Week Four Lecture

EDT731 System Analysis and Design

Implementing Change

As new and emerging technologies become essential for survival in an increasingly global economy, organizational change becomes a necessity.

SDLC is a systemic method for organizations to successfully implement change.



Implementing Change: Systems Approach



- A systems approach includes a series of steps to ensure the problem is understood.
- Alternative solutions are considered in a systems approach.
- A systems approach includes a step to make sure the solution works.

(McLeod & Schell, 2007)

System Development Life Cycle

What is SDLC?

- A systemic strategy for large-scale development projects.
- A systemic process in four phases to develop an information system.

Planning

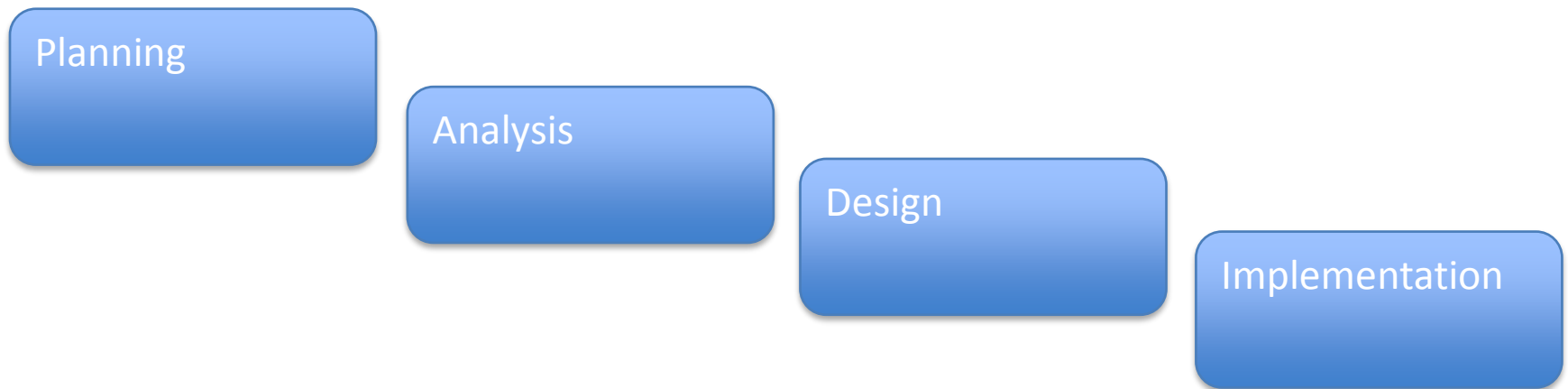
Analysis

Design

Implementation

The Importance of Systemic Methodology

- The pitfalls of piecemeal adoption are avoided, no elements are left out!
- All relevant stakeholders and information are included, no one is left out!



System Development Life Cycle

According to Dennis, Wixom, and Tegarden (2009) “the *systems development life cycle (SDLC)* is the process of understanding how an information system (IS) can support business needs by designing a system, building it, and delivering it to users” (p. 2).

SDLC



Planning

Phase

1. Do a feasibility study and look at options.
 - Economical (Can we afford to do this? Will it benefit our organization?)
 - Organizational and Operational (Will they use it? Do they need it?)
 - Technical (Can we build it? Do we have the technology to support it?)
2. Create a project plan.
 - A plan will keep the project on track
 - A plan can be used for evaluation .

SDLC



Analysis

Phase

1. Analyze by breaking down into parts (draw a diagram).
2. Gather requirements by talking to all stakeholders and technical providers.
3. Create a proposal to present to stakeholders.

SDLC



Design

Phase

1. Decide if the system will be created in house or out sourced.
1. Identify how it will operate and how it will be used by the end users.
1. Reexamine the feasibility study done in the Analysis Phase.

SDLC Phase

1. The system is built or purchased and tested.
2. Training is implemented for end users.
3. A technical support plan is put into place.
4. Use by end users is evaluated.

SDLC and ADDIE

SDLC

- Systemic and user centered
- Appropriate for large scale projects involving many stakeholders
- Systems design
- The planning phase provides feasibility analysis to identify technical, economic, and organizational issues
- Melds education and business perspectives

ADDIE

- Systemic and user centered
- Appropriate for small-scale projects involving a limited number of people
- Linear design
- Does not work well when implementing large-scale projects that need flexibility
- Used by education

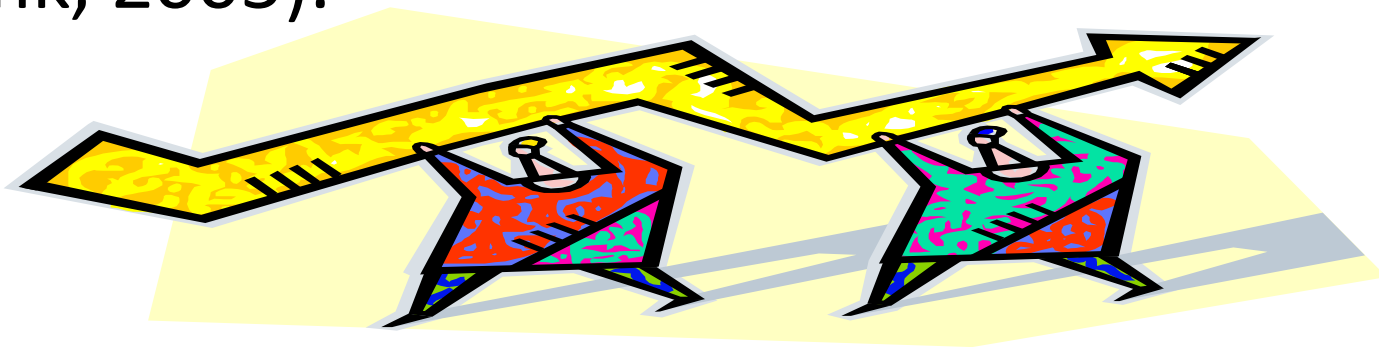
Implementing Change: Innovation

- Management and administrators need to be the early adapters of new technologies (Dennis et al., 2009).
- No single person can be responsible for change, it is a collaborative process.



Implementing Change: Cause and Effect

In order to stay competitive in a global society we need to shift from a linear society, that makes top-down decisions to one that is networked and collaborative (Vaitheeswaren, V. & Carson, I. , 2007; Pink, 2005).



References

Dennis, A., Wixom, B. H., & Tegarden, D. (2009). *Systems analysis and design with UML version 2.0: An object-oriented approach* (3rd ed.). Hoboken, NJ: John Wiley & Sons.

McLeod, R., & Schell, G. P. (2007). *Management information systems* (10th ed.). Upper Saddle River, NJ: Pearson/Prentice Hall.

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