Information Systems

… Planning and Support

MIS - Planning and Selecting

Information Systems

Congratulations !

You are a success and your company has grown.

Your IS needs are no longer met by just using
Access and Excel

What now ?

Where do you go from here ?

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Your IS needs are no longer met by just using
Access and Excel

Why is this true ?
What are the factors ?

- for example:
  your current software does not provide the functionality you require ?

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Your IS needs are no longer met by just using
Access and Excel

Recognizing that there is a problem is the first step to a solution

next: define the problem
formulate possible solutions
select and implement one of those solutions.

(hopefully obvious)
- involve the people that are involved….

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Acquiring an Information System

Four basic methods for acquiring software applications:

1. Buy it and use it
2. Buy it and customize it (**most common**)
3. Rent or lease it
4. Build it (- or- have it built)

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Acquiring an Information System

Acquiring new software is NOT the same
as acquiring new information systems:

- because there is a lot more to think
about in systems than just software

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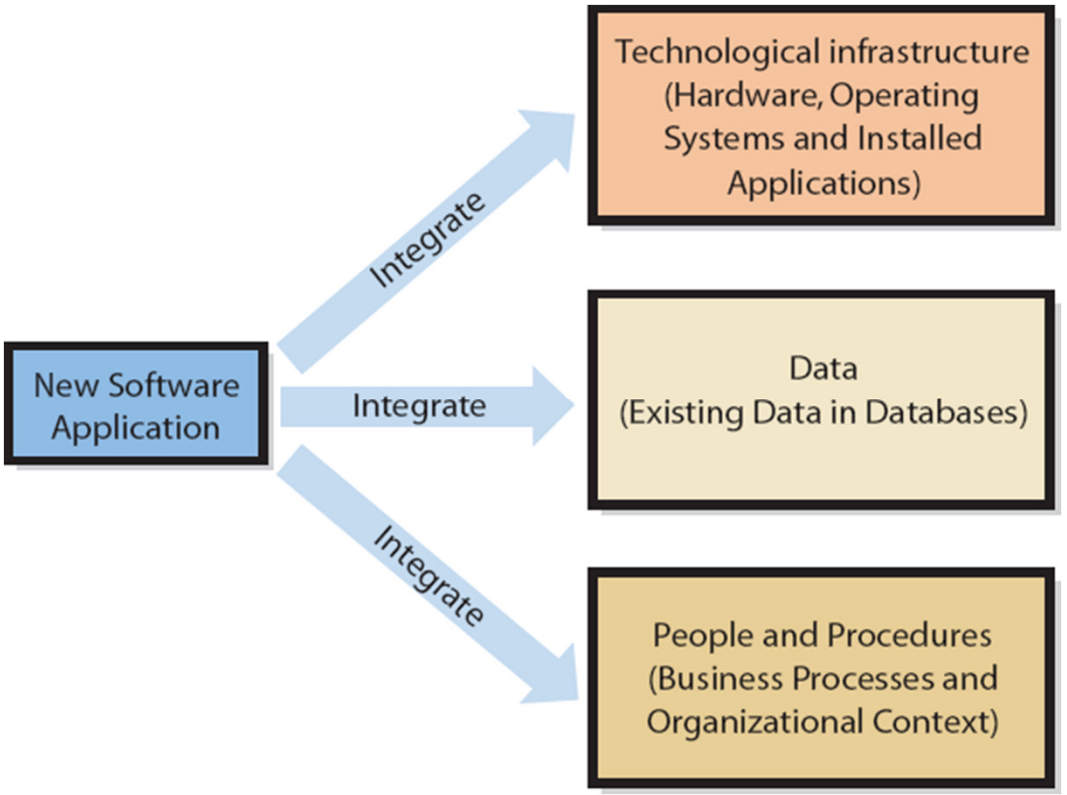
Acquiring an Information System

New Software Must Be Integrated into Existing IS



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Acquiring an Information System

Revisit the four basic methods for acquiring software:

1. Buy it and use it
2. Buy it and customize it (most common)
3. Rent or lease it
4. Build it (- or- have it built)

For options 1-3, organization must match its requirements with the capabilities of the available software application

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1. Buy it and use it

- the most cost effective solution.
  IF it fulfils the requirements and satisfies the original need.

- otherwise: a possible waste of money, time and resources

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2. Buy it and customize it (most common)

- must pay the developer above the purchase price for the customization

- need to identify if final cost is greater than having the system built

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3. Rent or lease it

- purchase a temporary or limited time licence

- similar to option 1.)
  the most cost effective solution.
  IF it does not fulfill the requirements
  less money lost, but same loss of
  time and resources

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4. Build it …

- have the system developed from scratch

- pieces that need to be considered:

Planning tools
Budgeting methods
Graphical scheduling methods
Risk management techniques
Communication planning
High-tech team development

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Build it - no guarantee of success

- Why Are IT Projects So Risky?

- Most IT project definitions are not easy to graphically represent
- Lack of a good model is an important risk to recognize in IT projects
- Good estimates are difficult to develop because the technology is continually changing
- Being able to monitor progress is another challenge for IT projects

Information Technology Projects

New Software Must Be Integrated into Existing IS

- A project consists of a temporary endeavor undertaken to create a unique product, service or result
- Projects often begin with a set of goals or objectives
- A scope is developed for the project
- Projects usually have a start and an end date

Acquiring an Information System

System Development

Systems analysis & design

Creation & Maintenance of information systems

Requires more than programming or technical expertise

- Human relation skills
- Business knowledge
- Understanding of group dynamics

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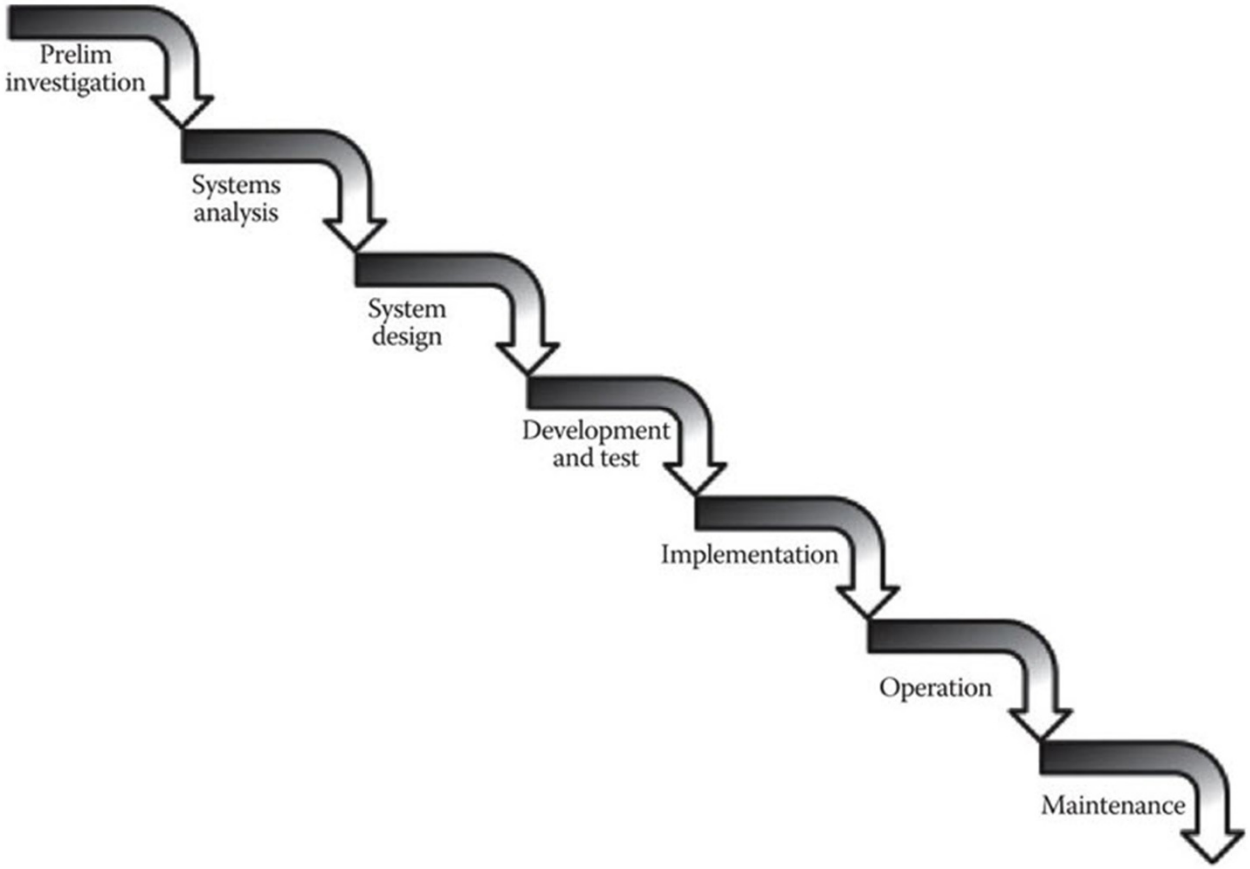
Systems Development Life Cycle (SDLC) WATERFALL

FIGURE 11.3 SDLC stage "waterfall" diagram.



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Systems Development Life Cycle (SDLC)

Stage 1. Preliminary Investigation

- determine if the proposed system is feasible from three standpoints:

- **Technical**: Can this system be built with technology that we have or can get?
- **Economic**: Does this system make economic sense?
- **Operational**: Does this system fit our procedures and culture? Will our people accept it?

Developing a system is feasible only if it *passes all three tests*.

Deliverable: **The deliverable of the preliminary investigation stage is called a feasibility study.**

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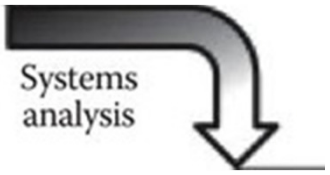
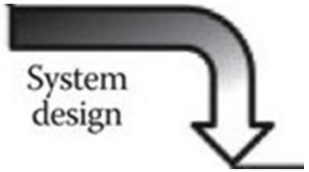
Systems Development Life Cycle (SDLC)



Stage 2. System Analysis

Deliverable: The deliverable of the systems analysis stage is called a **functional specification**.



Stage 3. System Design

Deliverable: The deliverable of the systems design stage is usually called a **design specification** or a **system specification**.

Stage 4. System Development and Test

Deliverable: A **system** that, as far as its developers can tell, works

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Systems Development Life Cycle (SDLC)

Stage 5. Implementation

Deliverable: A system that its user community can use in its work.

Stage 6. Operation

Deliverable: On-going, reliable, and secure access to the new system.

Stage 7. Maintenance

Deliverable: An improved system that satisfies the approved maintenance requests

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Systems Development Life Cycle (SDLC)

Stage 5. Implementation Methodologies (Types)

Pilot

- Entire system implemented on a limited portion of the business
- If systems fails, it only affects limited boundary
- Reduces exposure

Phased

- New system installed in phases
- Tested after each phase
- Continues until installed at entire organization
- Can't be used in tightly integrated systems

Systems Development Life Cycle (SDLC)

Stage 5. Implementation Methodologies

Parallel

- New system runs in parallel with old system during testing
- Expensive and time consuming
- Data must be entered twice
- Benefit is the easy fallback system

Plunge

- Direct installation
- Install new system and discontinue old
- There is no backup position
- Should be avoided

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Outsourcing

Outsourcing is the process of hiring another organization to perform a service

The outsourced vendor can be domestic or international

- Offshoring is when vendor is overseas (e.g., China, India, and Russia)

Application Service Providers (ASPs) are a special form of outsourcing

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Reasons for Outsourcing

- An easy way to gain expertise
- Concern cost reductions
- To reduce development risk

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Risk of Outsourcing - Loss of Control

Vendor in control

- Vendor's methods and procedures
- Vendor's choice of technologies
- Vendor's priority for making fixes

Potential loss of intellectual capital

Vendors' priorities may change over time

- Difficult & expensive to change vendor

Company's CIO may be ineffective, due to loss of control

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Risk of Outsourcing - No Easy Exit

Inflexibility

- Many outsourcing contracts 10 years or more

Locked-In

- Organization may lack knowledge to bring service back in-house

Vendor may be too tightly integrated

- May need to invest considerable work, duplication of effort, management time, expense

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Risk of Outsourcing - Benefits Outweighed by Long-term Costs

Fixed costs

- Unit cost fixed forever (pay and pay and pay)
- Removes benefits of economies of scale (pay once –use forever)

Vendor's change in pricing strategy

- Once vendor become sole provider (they have you by the …)

Vendor's organizational problems

- Unfulfilled goals
- Poor service

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Outsourcing Alternatives

Acquisition & operation of hardware
- Electronic Data Systems (EDS)

Acquisition of licensed software

Outsource entire system
- PeopleSoft
  - Hardware, software, data and some procedures

Business function outsourcing
- Employee travel

Application outsourcing
- Web-service hosting (Amazon.com)

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Application Service Providers (APS)

Special form of outsourcing

ASP agreement

- Contract with a vendor to "rent" applications from the vendor company on a fee-for-service basis

Vendor maintains the system at its own web location and the client organization accesses the application on the vendor's website

Payments

- Monthly or yearly
- Based on number of employees or "users"

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Is Outsourcing what was expected ?

- Trading one set of problems for another
- Critical knowledge is in minds of vendor's employees
- Contractual obligations may prevent termination of contract

Acquiring an Information System

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MIS - Business

Common Sense