FINANCE AND INFORMATION MANAGEMENT/ INFORMATION TECHONOLOGY

BUSINESS ANALYSIS IIB (BANP202)

By: PT SIMELANE

AN OVERVIEW OF SYSTEM ANALYSIS AND DESIGN (CHAPTER 1)

GROUND RULES:

1. PLEASE ALL CELLPHONES OFF OR PUT THEM ON SILENT DURING LECTURES
2. DON'T BE LATE FOR CLASS
4. DON'T MAKE NOISE IN CLASS
6. TAKE NOTES AND ASK QUESTIONS

ABOUT BANP202

Aim/Purpose:

> ➤ To provide students with Business Analysis tools and methodologies to solve business related problems

Learning Outcomes

- <u>Define the terms project, system, system analysis and system design?</u>
- <u>Define basic functions of system analyst?</u>
- <u>Software development methodologies</u>
- <u>List and deacribe the phases of the system SDLC</u>
- <u>Iterative and Agile Systems Development</u>
- <u>System Vision Document</u>

What is Project?

Definition

- **Project** – a planned undertaking that has a beginning and end and that produces some definite result
  - Used to develop an information system
  - Requires knowledge of systems analysis and systems design tools and techniques

What is the System, System analysis and System design ?

Definition

- System – A set of detailed methods, procedures, and routines established to carry our specific activity, perform a duty or solve a problem (Transaction Processing, Management Information, Decision Support System, etc.)

Additional examples:
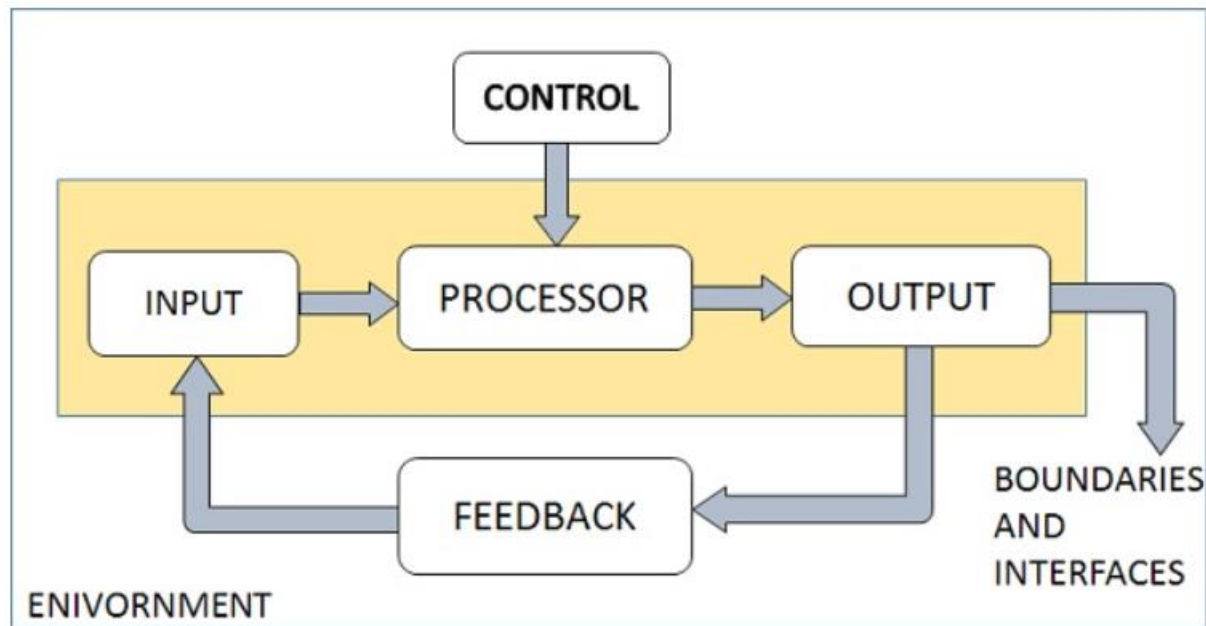Agricultural systems
Banking Systems
Air traffic control systems
Governmental systems

What is the System, System analysis and System design ?

Elements of a System

The following diagram shows the elements of a system –

What is the System, System analysis and System design ?

Definition

- System analysis – Systems analysis the process of observing systems for troubleshooting or development purposes. Analysis according to their makeup and design.

- System design – Is the process of defining the elements of a system such as the architecture, modules and components, the different interfaces of those components and the data that goes through that system. It is meant to satisfy specific needs and requirements of a business

Functions of the analyst

- The analyst plays a key role in information system development projects.
- Must understand how to apply technology to solve business problems.
- Analyst may serve as change agents who identify the organizational improvement.

Qualities of the system analyst
- Problem solver
- Good communicator
- Strong personal and professional ethics
- Self-disciplined and self-motivated

Software Development methodologies

System development lifecycle (SDLC) – the entire process consisting of all activities required to build, launch, and maintain an information system

- Identify the problem or need and obtain approval
- Plan and monitor the project
- Discover and understand the details of the problem or need
- Design the system components that solve the problem or satisfy the need
- Build, test, and integrate system components
- Complete system tests and then deploy the solution

Software Development methodologies

- A software development methodology is a group of processes used in the development of software.

    The Software Development Life Cycle (SDLC) refers to a methodology with clearly defined processes for creating and maintaining high-quality software. SDLC methodology focuses on the following phases of software development:
    - o Requirement analysis
    - o Planning
    - o Software design such as architectural design
    - o Software development
    - o Testing
    - o Deployment

Software Development methodologies
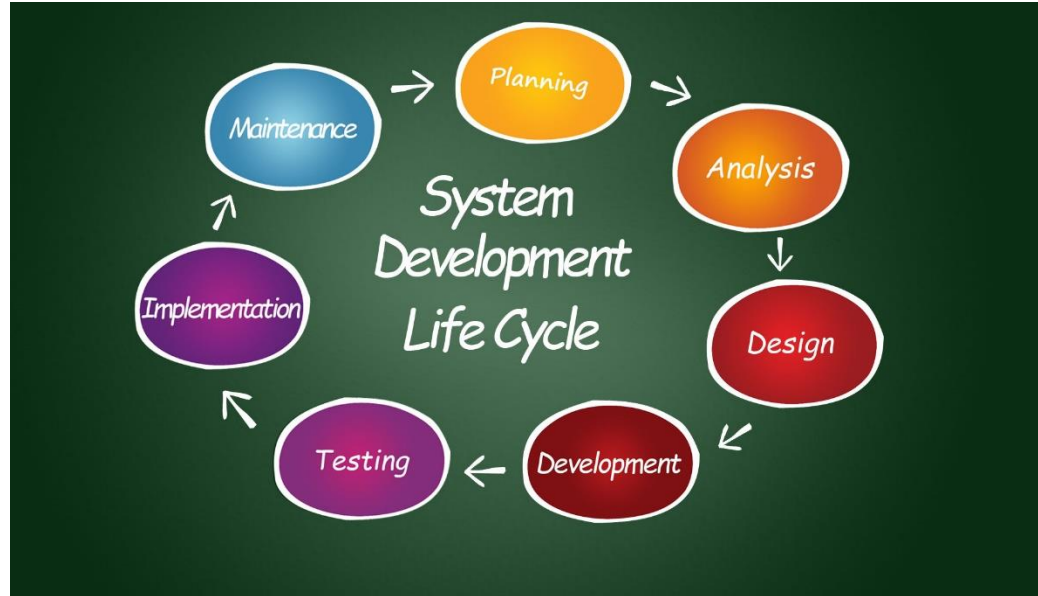
N.B: Most processes/methodologies now use Agile and Iterative development
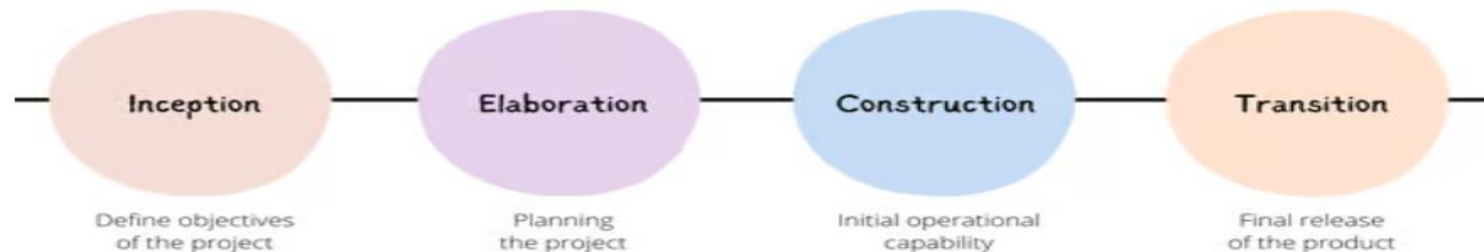
Software Development methodologies

Information systems development process – the actual approach used to develop a particular information system (aka: ***methodology***)

- Unified process (UP)
- Extreme programming (XP)
- Scrum

Software Development methodologies

- The **Unified Process (UP)** is a software development framework used for object-oriented modeling. The framework is also known as **Rational Unified Process (**RUP) and the **Open Unified Process** (Open UP). Some of the key features of this process include:
  - It defines the order of phases.
  - It is component-based, meaning a software system is built as a set of software components. There must be well-defined interfaces between the components for smooth communication.
 - It follows an iterative, incremental, architecture-centric, and use-case driven approach

| Inception | Elaboration | Construction | Transition |
| Define objectives of the project | Planning the project | Initial operational capability | Final release of the product |

The phases of the unified process

Software Development methodologies

- The (**Extreme programming**) - An Agile project management technique called XP aims for simplicity and speed with brief development cycles and minimal documentation.

- **Scrum -** is an agile framework for project management that uses a set of values, principles, and practices to assist teams in organizing and managing their work. Scrum enables teams to learn from experiences, self-organize while working on a problem, and reflect on their victories and losses to continuously improve. This is similar to how a rugby team (from which it derives its name) prepares for a big game.
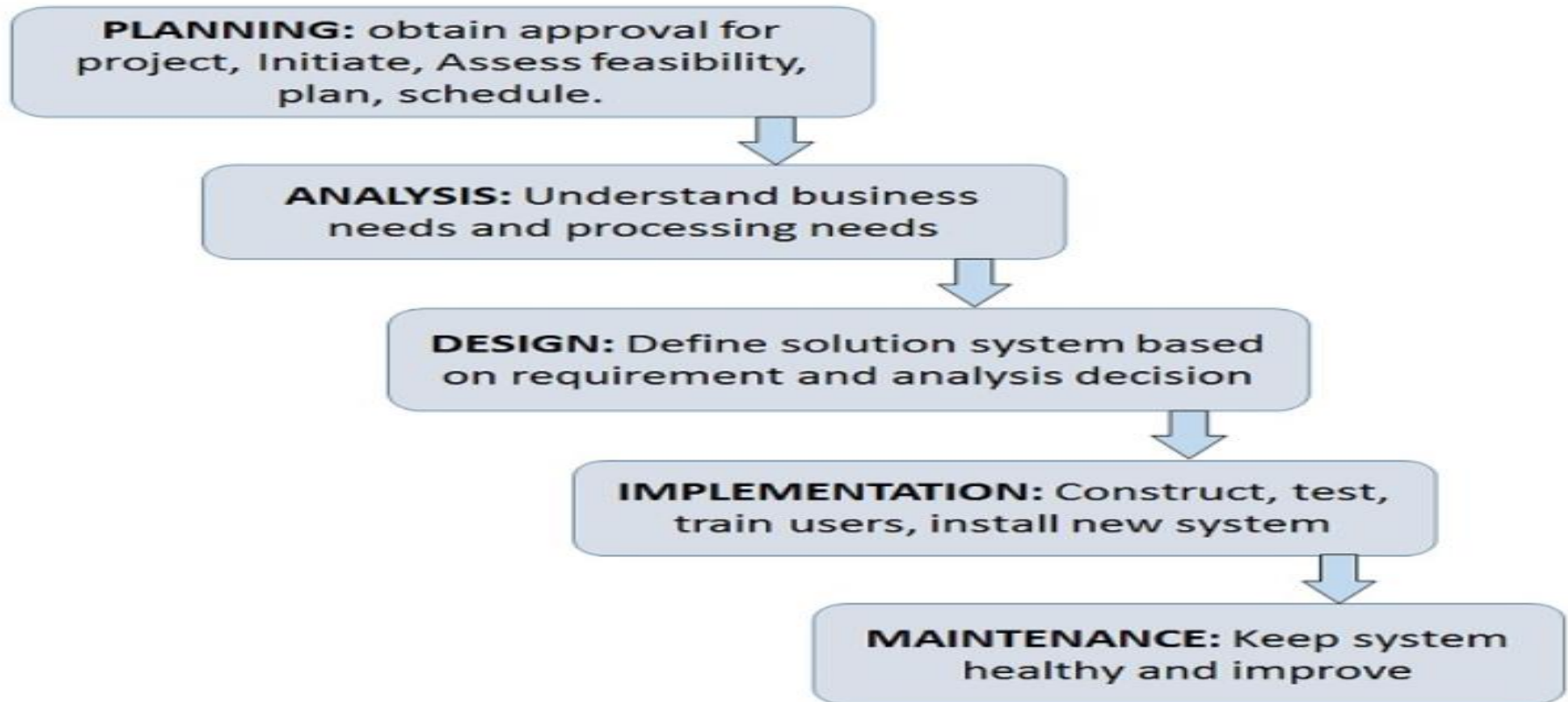
Software Development methodologies

- **Scrum -** is an agile framework for project management that uses a set of values, principles, and practices to assist teams in organizing and managing their work. Scrum enables teams to learn from experiences, self-organize while working on a problem, and reflect on their victories and losses to continuously improve.
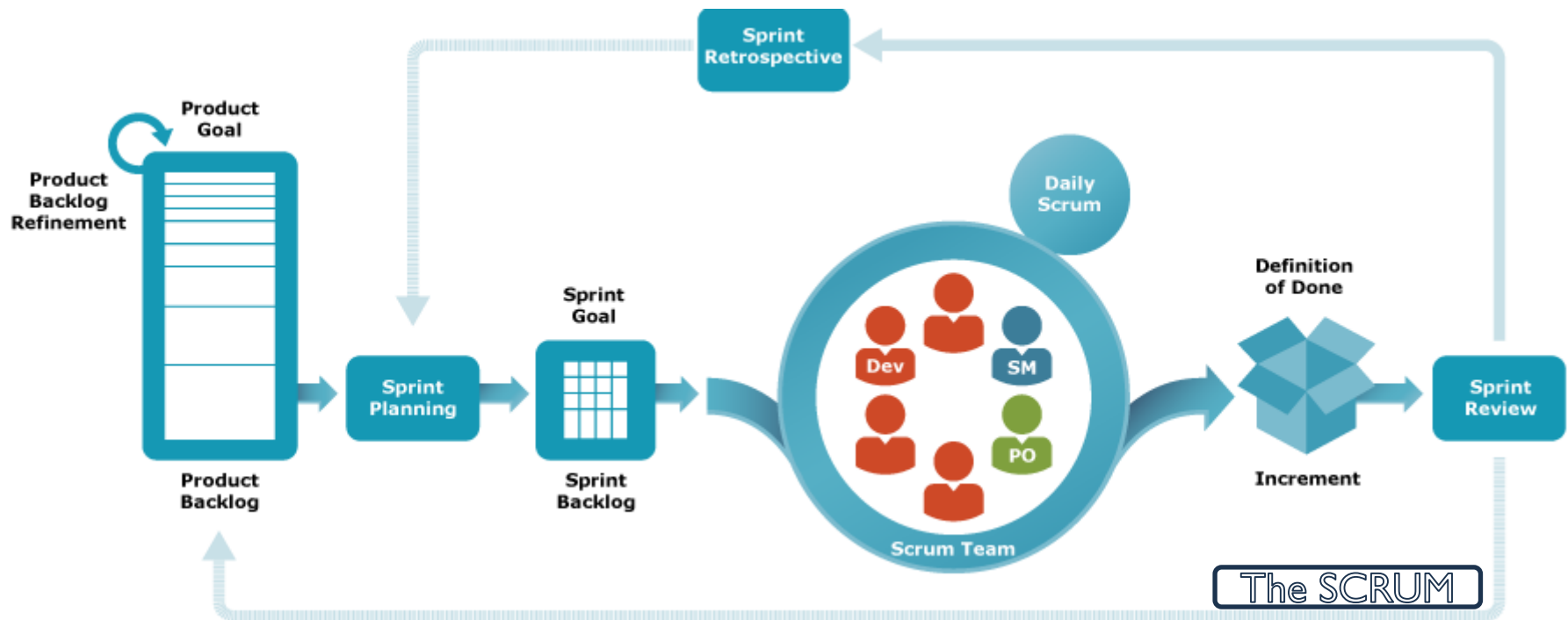
Software Development methodologies

Phases of SDLC

Systems Development Life Cycle is a systematic approach which explicitly breaks down the work into phases that are required to implement either new or modified Information System.

PLANNING: obtain approval for project, Initiate, Assess feasibility, plan, schedule.

ANALYSIS: Understand business needs and processing needs

DESIGN: Define solution system based on requirement and analysis decision

IMPLEMENTATION: Construct, test, train users, install new system

MAINTENANCE: Keep system healthy and improve

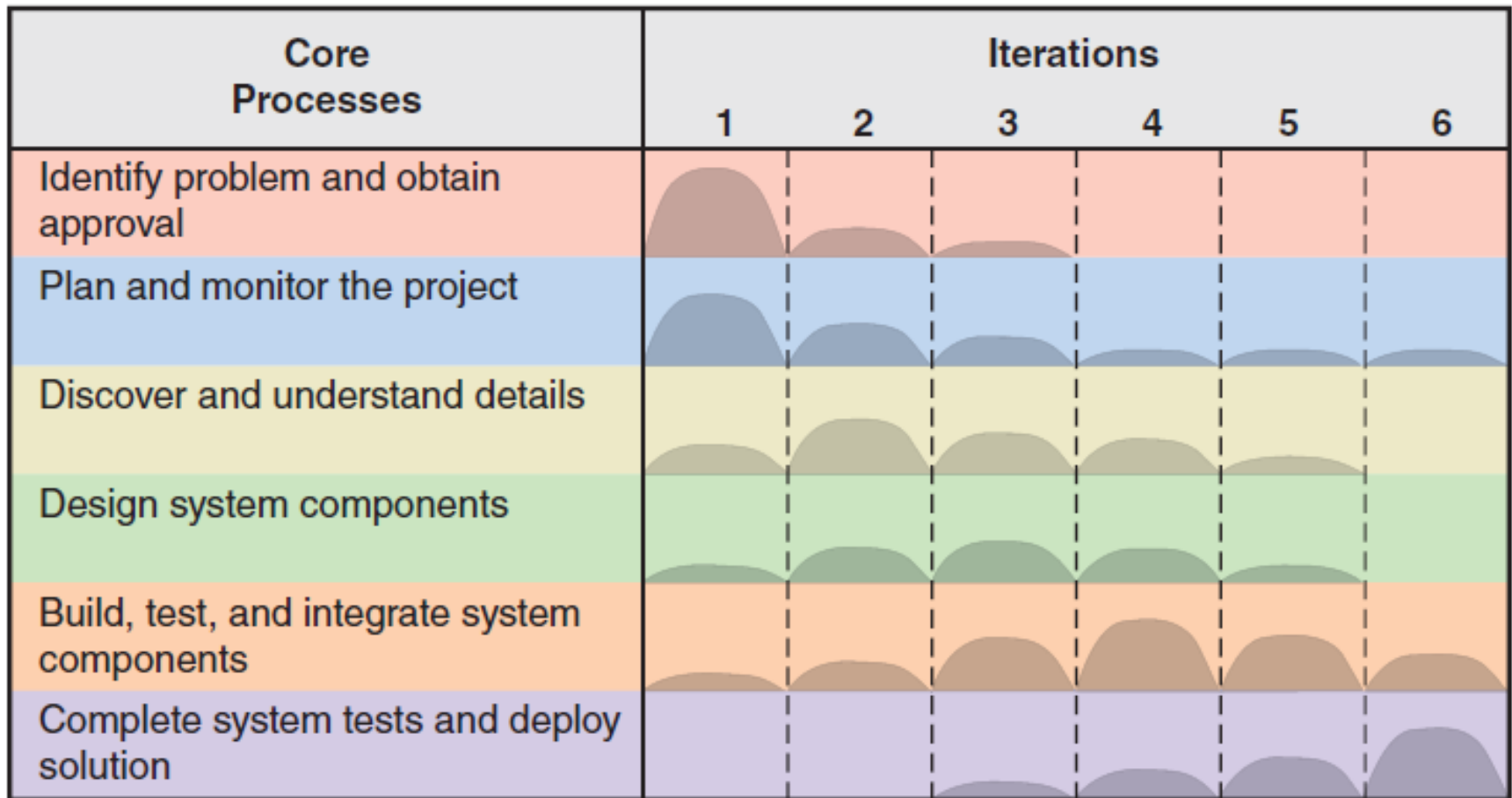# Iterative and Agile Systems Development

Agile development – an information system development process that emphasizes flexibility to anticipate new requirements during development
- Fast on feet; responsive to change

Iterative development - an approach to system development in which the system is "grown" piece by piece through multiple iterations
- Complete small part of system (mini-project), then repeat processes to refine and add more, then repeat to refine and add more, until done

Iterative and Agile Systems Development Lifecycle (SDLC)

Core Processes	Iterations					
	1	2	3	4	5	6
Identify problem and obtain approval						
Plan and monitor the project						
Discover and understand details						
Design system components						
Build, test, and integrate system components						
Complete system tests and deploy solution						

Ridgeline Mountain Outfitters

- **Large Retail Company**
  Outdoor and sporting clothing and accessories
  Skiing, mountain biking, water sports
  Hiking, camping, mountain climbing
- **Rocky Mountain and Western States**
  Started mail order and phone order
  Added retail stores
  Added extensive E-business component

System Vision Document

A document to help define the scope of a new system. There are 3 components to this document:

- The problem description
- The system capabilities
- The anticipated business benefits

Members of the development team, working with the users and the client, combine these three components—the problem description, the business benefits, and the system capabilities—into a System Vision Document.

Problem Description

Trade shows have become an important information source for new products, new fashions, and new fabrics. In addition to the large providers of outdoor clothing and fabrics, there are many smaller providers. It is important for RMO to capture information about these suppliers while the trade show is in progress. It is also important to obtain information about specific merchandise products that RMO plans to purchase. Additionally, if quality photographs of the products can be obtained while at the trade show, then the creation of online product pages is greatly facilitated.

It is recommended that a new system be developed and deployed so field purchasing agents can communicate more rapidly with the home office about suppliers and specific products of interest. This system should be deployed on portable equipment.

System Capabilities

The new system should be capable of:

- Collecting and storing information about the manufacturer/wholesaler (suppliers)

- Collecting and storing information about sales representatives and other key personnel for each supplier

- Collecting information about products

- Taking pictures of products (and/or uploading stock images of products)

- Functioning as a stand-alone without connection

- Connecting via Wi-Fi (Internet) and transmitting data

- Connecting via telephone and transmitting data

Business Benefits

It is anticipated that the deployment of this new system will provide the following business benefits to RMO:

- Increase timely communication between trade show attendees and home office, thereby improving the quality and speed of purchase order decisions
- Maintain correct and current information about suppliers and their key personnel, thereby facilitating rapid communication with suppliers
- Maintain correct and rapid information and images about new products, thereby facilitating the development of catalogs and Web pages
- Expedite the placing of purchase orders for new merchandise, thereby catching trends more rapidly and speeding up product availability

Vision Document Example

Thank you…!

THANK YOU

DUT DATA DAY