

Enterprise Management Systems(EMS)

EMS - Learning objectives

- Describe the purpose of an enterprise system.
- Explain how supply chain management is used.
- Summarize the challenges in supply chain management.
- Describe customer relationship management systems.
- Explain Information Management & Technology of Enterprise software
- Explain role of IS & IT enterprise management
- Discuss Enterprise Engineering

ES - Background

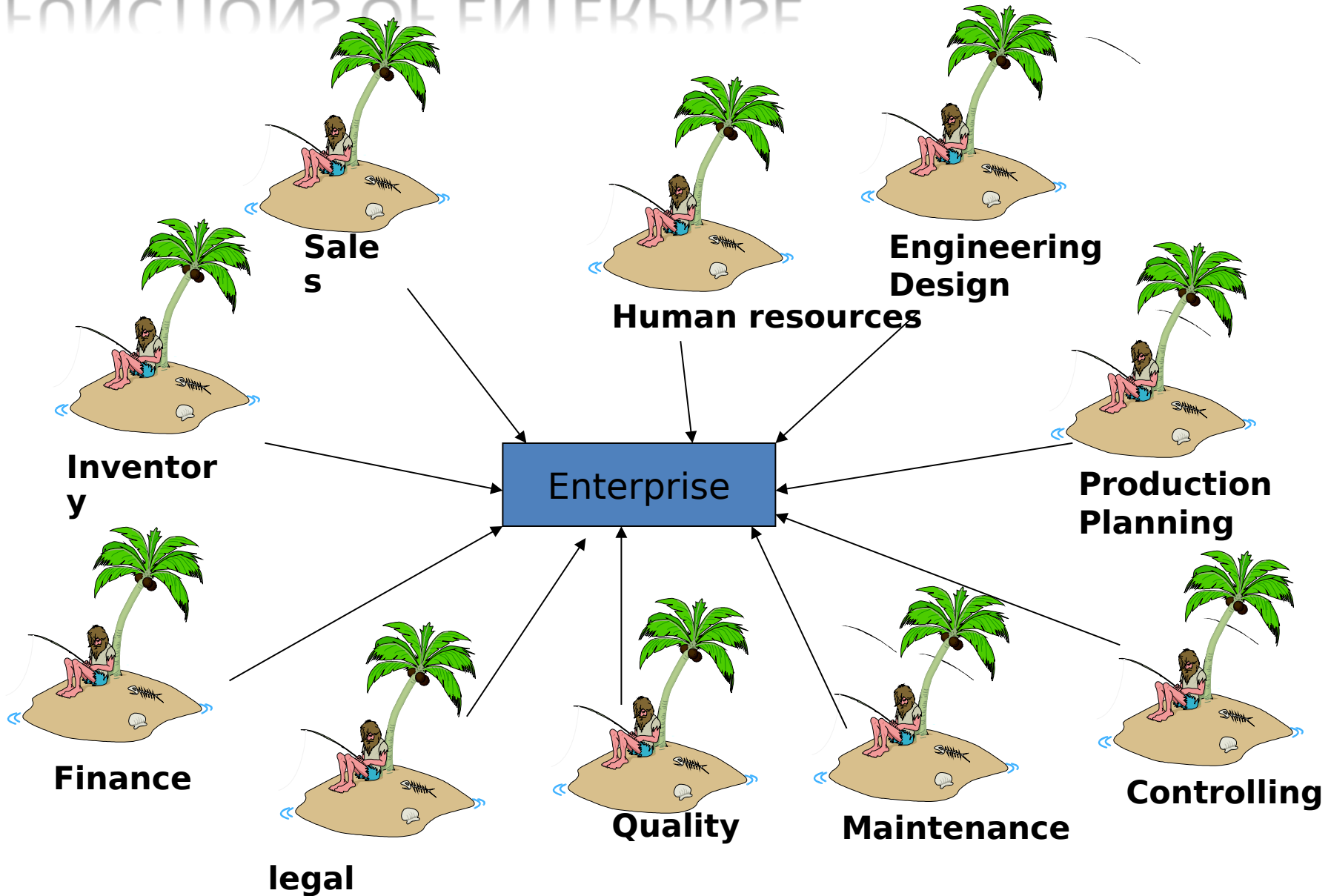
- Around the globe, companies increasingly being more connected
- Interested in reacting instantaneous when
 - Customer places an order
 - Shipment from the supplier delayed
- Managers
 - Wants to know the impact of these events on every part of business &
 - How business is performing at any point of time?

Enterprise systems provide integration to make this possible

What is Enterprise management system?

- It is an enterprise wide information system designed to coordinate all the resources, information and activities needed to complete business processes.
- The focus of ERP is on resource management within constraints to maximize the return on investment.
- The ERP package design is built on the principle of 'Best Practices'.

FUNCTIONS OF ENTERPRISE



What is Enterprise management system? Contd...

- ES focuses on integrating business processes of the firm
- These systems also known as Enterprise Resource Planning (ERP) systems
- Based on a suite of integrated software modules & common central DB
- DB collects data & feeds the data into numerous applications to support org's internal business activities

What is Enterprise management system? Contd...

- When a new information is entered , made immediately available to other business processes
- i. e. ERP - integrates all department functions onto a single system
- Serves the needs of the entire company
- Some of ERP's functions include:
 - Bookkeeping & Accounting
 - Human Resource Management
 - Planning Production
 - Supply-Chain Management

Figure :ERP system

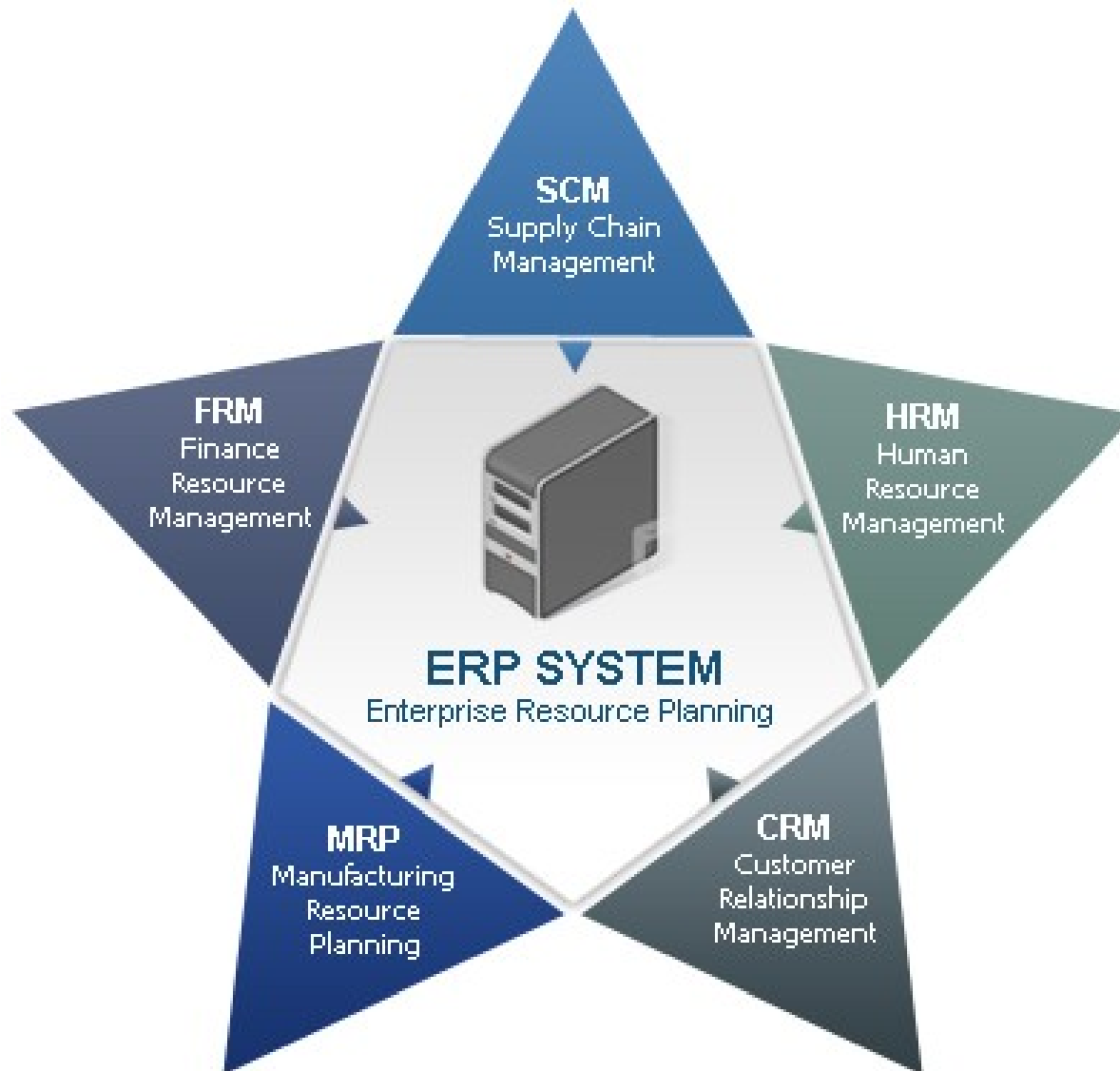


Figure: ERP software

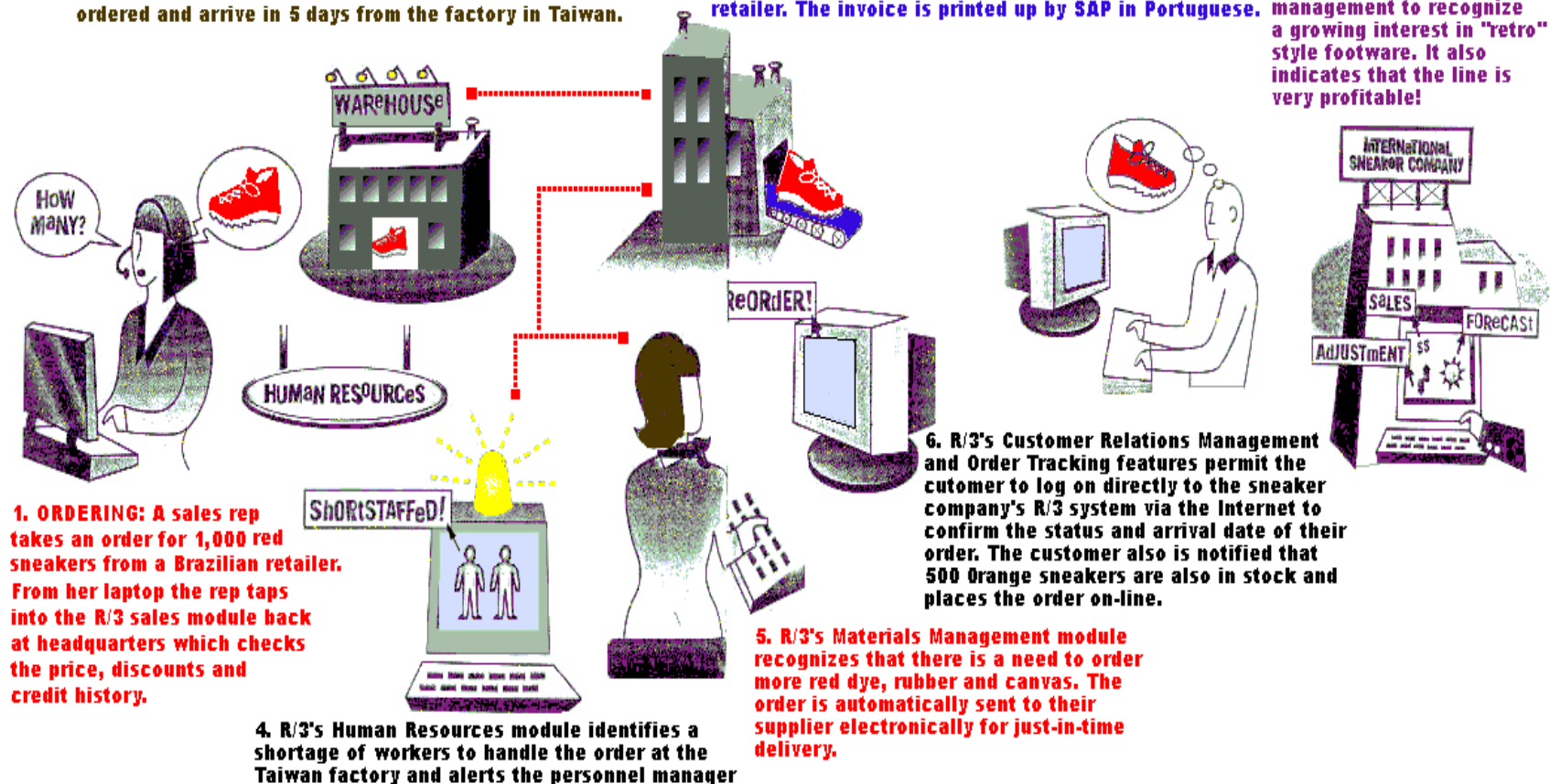


Example : More Of What ERP can do

2. Simultaneously, R/3's inventory management software checks the stock situation and notifies the sales rep that half the order can be filled immediately from a Brazilian warehouse. The others will be back-ordered and arrive in 5 days from the factory in Taiwan.

3. R/3's Production Planning module schedules the production run of the red sneakers in Taiwan. Meanwhile, the warehouse manager in Brazil is notified to ship his remaining stock to the retailer. The invoice is printed up by SAP in Portuguese.

7. R/3's OLAP facilities uses historical data from its Information Warehouse and current sales data to help management to recognize a growing interest in "retro" style footwear. It also indicates that the line is very profitable!



History of ERP

- ERP has its roots in the MRP and MRPII systems of the 70's and 80's.
- Came about as companies realized that the management and flow of information was just as important as materials and inventory management.
- ERP has also evolved considerably with computer and technology advances.

ERP models and modules

- Business forecasting, planning and control
- Sales, distribution, invoicing
- Production, planning and control
- Material management
- Finance and accounting
- Personnel management

Sub modules

<i>Business</i>	<i>Sales</i>	<i>Production</i>	<i>Materials</i>	<i>Finance</i>	<i>Personnel</i>
Forecasting	Forecasting	Planning	Purchase	Accounting	Human Resource
Planning	Planning	Order Control	Inventory	Funds Mgt.	Payroll
Goals	Sales Budget	WIP	Stores	Balance Sheet Processing	Accounting
Objectives	Order Processing	Quality	Valuation	Schedules	Skill
Targets	Order Execution	Scheduling	Analysis	Analysis	Attendance
Strategy	Delivery Invoicing	Despatch	Control	Control	Inventory
Control					Analysis
Fixed	Maintenance	Quality	Cost	Management	Consolidation
Assets		Control	Accounting	Accounting	of business operations

How the Enterprise Systems work?

- ES consists of a set of interdependent s/w modules to support basic internal business processes mentioned above
- s/w enables data to be used by multiple functions & businesses for precise org's coordination & control
- s/w is built around thousands of business processes
- Org's implementing s/w would 1st select the functions of the system they wish to use &
- Then map their business processes to the predefined business processes available in the s/w

How the Enterprise Systems work? Contd...

- Companies could use configuration tables provided by the s/w to tailor a particular aspect of the system to the way it does business
- If the ES does not support the way org does business , companies can rewrite some of the s/w
- However, if the company wants to reap the maximum benefit from ES, the company must change the way they work.
- Major ES S/W vendors- SAP, Oracle, PeopleSoft etc.

How should we implement ERP Systems?

- People
 - Project Structure
 - Should be aligned to processes
- Process
 - Implementation Process (outlined in detail)
 - Adapt your processes to those of the ERP.
- Technology
 - Hardware
 - Software
 - Integrated Systems

Process

1. Definition and Analysis

- Hold discussions with various functional personnel to establish the actual number of systems operating at client site, what they are used for, why and how often
- Produce the Project Scoping Document outlining current situation, proposed solution and budgeted time

Challenge : REQUISITE EXPERTISE -
No two clients are the same

Process

2. Design

- Prepare various functional reports - specifies current scenario and wish list
- Prepare Design document which specifies how the system is going to work
- Prepare test scripts to be followed on system testing
- Map out the interface paths to various modules

Challenge : INFORMATION SHARING -
Availability of staff

Process

3. Build

- Configure system as per set up document specifications i.e. transfer conceptual model into reality
- Test system to verify accuracy (preliminary tests)

Challenge : TECHNICAL ENVIRONMENT - System functionality

Process

4. Transition

- Train users on their specific areas
- Assist in test data compilation and system testing by users
- Finalise the Live system and captured opening balances

Challenge : USER RESISTANCE

Understanding and acceptance data preparation

Process

5. Production

- Official hand holding
- Effectiveness assessment
- Business and Technical Direction recommendations

Technology

- Technology is an enabler, not the driver (it is there to assist the organisation to achieve business goals)
- It is a means to an end, not the end

Erp product characteristics

- The process design of data, transaction, application or system processing is collaborative and parallel.
- The design reduces processing time of transaction enables faster decision-making and reduces cost of business processing.
- ERP applications in different functional areas are capable of accepting the required input through import/export facility, system interface or direct connectivity.

Features of ERP

- Business rules embedded in process.
- Extensive use of stored procedures, triggers and alerts.
- Stagewise cost data capture for analysis and decision making.
- Resource planning, scheduling and management.
- Creates knowledge databases using data warehousing and data mining applications.
- Can run in different network environments.
- Use object and component technologies.

Benefits of ERP

- Better management of resources.
- Increasing productivity.
- Customer satisfaction due to shorter delivery.
- Simultaneous activation of the decision centers.
- Business operation transparency.
- Releasing burden on middle level management.
- Different view of business.
- Access of database distributed over the organization.
- Makes management alert at number of points for making decisions.

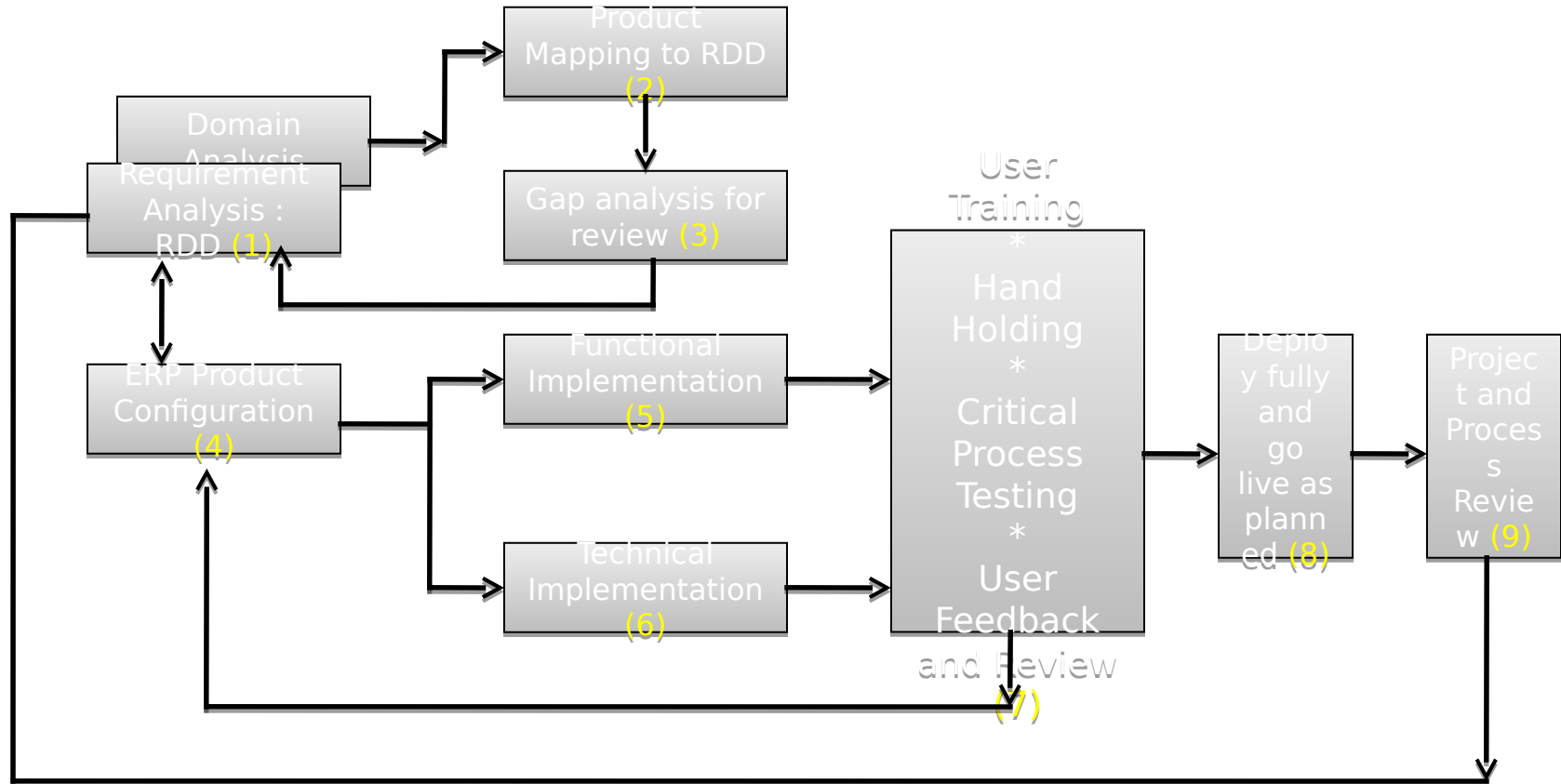
Benefits of ERP contd...

- Work flow automation.
- Faster communication and direct connection.
- Scalable architecture
- Higher level maintenance.
- Consistency in operations.
- Knowledge driven management.
- Scope can be enlarged through internet/intranet.
- Improvement in quality.
- Decision making tools are user friendly.

ERP product evaluation

- Business scope vs. application scope.
- The degree of deviation from the std. ERP products.
- Ease of use.
- Flexible design.
- Ability to migrate to the ERP environment from present
- Level of intelligent use of 'Help', error messages.
- Versatility of the solution.
- Rating on performance, response and integration.
- Product quality in terms of security, reliability, precision of results.
- Solution architecture and technology.
- Up-gradability.

ERP implementation



EMS and MIS

- Today's enterprise has ERP SCM, CRM implementations up and running effectively, an integrated system of ERP, SCM, CRM is called EMS.
- The MIS is required to maximize the process productivity and performance.
- The conventional MIS design is more or less embedded in the ERP solution.
- The ERP through MIS design, improves the decision making skills of individuals very effectively.
- The qualitative change is MIS design due to paradigm shift of traditional business to e-business.

EMS Model



EMS Model: Structure, Role, Objectives

Super structure of EMS

- Data warehousing and data mining
- Executive information system
- OLAP and Query processing
- Decision Support Systems
- Knowledge Management System

Supply Chain Management (SCM)

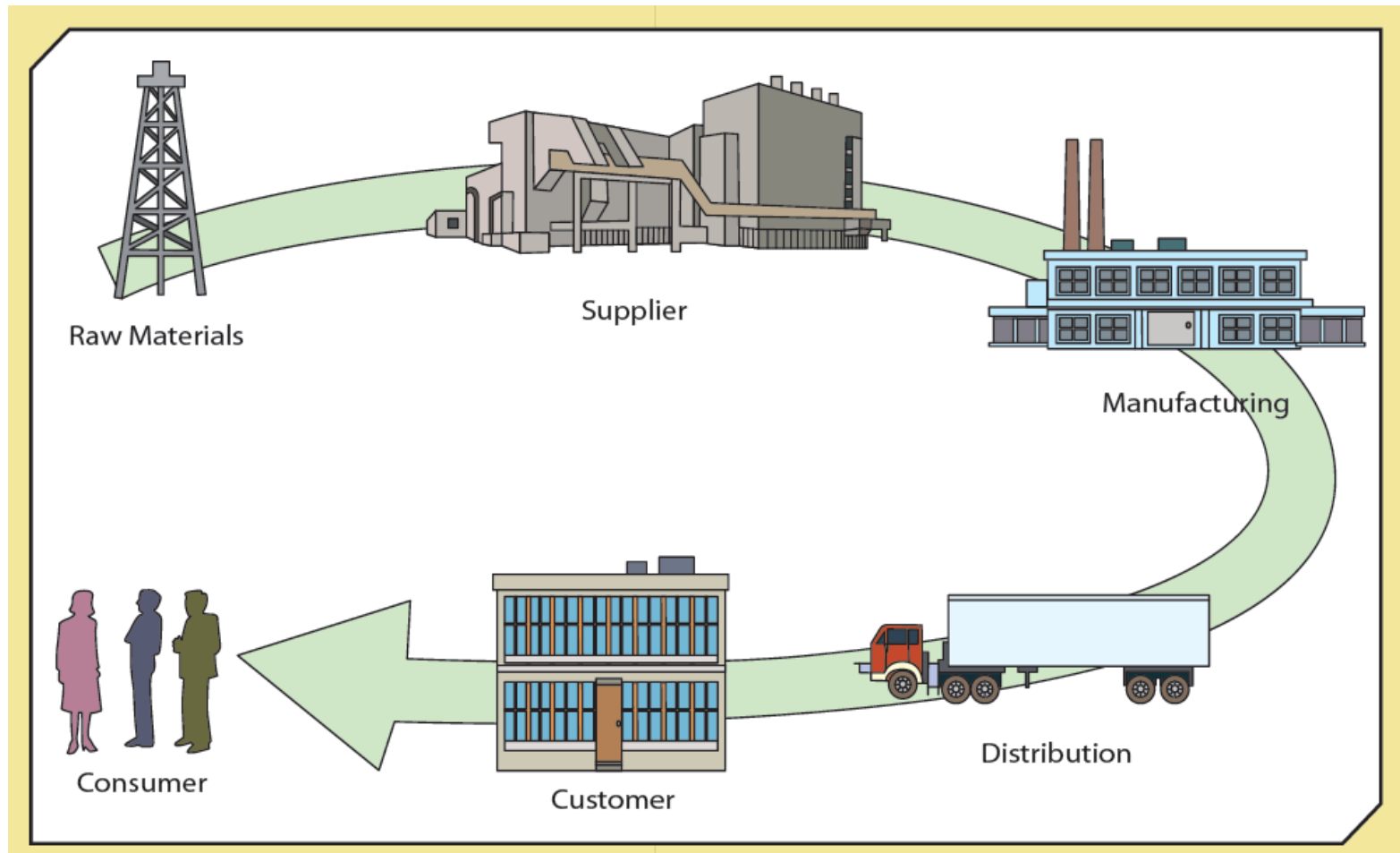
- Background - today's competitive business environment companies need to focus on how they manage their supply chain
- SCM refers to the close linkage & coordination activities involve in buying, making & moving a product
- SCM integrates business processes for speedy information ,production, fund flow up/down the supply chain to reduce time, redundancy effort removal , reduce cost etc.

Supply Chain Management (SCM) contd...

- **Supply chain**

- Integrated network
- Consisting of an organization, its suppliers, transportation companies, and brokers
- Used to deliver goods and services to customers
- Exist in both service and manufacturing organizations

Figure : SCM



SCM contd...

- **Supply chain management (SCM)**
 - Process of working with suppliers and other partners in the supply chain to improve procedures for delivering products and services
 - Coordinates:
 - Procuring materials
 - Transforming materials into intermediate and finished products or services
 - Distributing finished products or services to customers
 - Goods starts from raw materials, move through the logistics & production system until they reach customers
 - Returned items flow in the reverse direction from buyer to the seller

SCM contd...

- In manufacturing firm, information in an SCM system flows between the following areas:
 - Product flow
 - Information flow
 - Finances flow
- Four key decisions in supply chain management:
 - Location
 - Inventory
 - Production
 - Transportation

SCM contd...

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Supply Chain Processes

- Many processes & sub processes involve in managing supply chain
- Supply chain council developed the supply chain operations reference model(SCOR)
- SCOR identifies five major supply processes
 - Plan
 - Consists of processes that balance aggregate demand & supply to develop a course of action to meet sourcing, production & delivery requirements

Supply Chain Processes contd...

- Source
 - Consists of processes that produce goods & services needed to create a specific product or service
- Make
 - Consists of processes that transform the product into finished state to meet planned or actual demand
- Deliver
 - Consists of processes that provide finished goods & services to meet actual or planned demand
- Return
 - Consists of processes associated with returning products including post delivery customer support

Logistics plays an important role i.e. dealing with planning & control of all factors which have high impact on transporting products/service at reduced cost & time

Dell Computer's Supply Chain

- Modified its supply chain from a “push” to a “pull” manufacturing process
 - Also known as “built to order (BTO)”
- Main sales channel is direct sales to customers
- Dell has been able to reduce costs by eliminating intermediaries and shortening delivery time

SCM

Technologies(Applications)

- Information technologies and the Internet play a major role in implementing an SCM system
- **Electronic Data Interchange (EDI)**
 - Enables business partners to send and receive information on business transactions
 - Expedites delivering accurate information
 - Lowers the cost of transmitting documents
 - Advantage of being platform independent and easy to use

SCM Technologies(Applications) contd...

- Using EDI has some drawbacks
 - Uses the X.25 standard
 - Beneficial when more companies are in the EDI network
 - Often was not affordable for small suppliers and distributors
- Open EDI
 - Based on XML
 - Traditional EDI has declined in popularity

Internet-Enabled SCM

- Improves information sharing throughout the supply chain
- Can improve the following SCM activities:
 - Purchasing/procurement
 - Inventory management
 - Transportation
 - Order processing
 - Customer service
 - Production scheduling

E-marketplaces

- Third-party exchange
 - Provides a platform for buyers and sellers to interact with each other and trade more efficiently online
- Benefits
 - Increases efficiency and effectiveness in the supply chain
 - Provides opportunities for sellers and buyers to establish new trading partnerships
 - Provides a single platform for prices, availability, and stock levels that's accessible to all participants

E-marketplaces contd...

- Solves time constraint problems for international trade and makes it possible to conduct business around the clock
- Makes it easy to compare prices and products from a single source instead of spending time contacting each seller
- Reduces marketing costs more than traditional sales channels can

E-marketplaces contd...

- E-distributor
 - Marketplace owned and operated by a third party that provides an electronic catalog of product
 - Maintenance, repair, and operations (MROs) services
 - Includes services from different vendors
 - E-distributor coordinates them into one package for customers
 - Example of a horizontal market

Online Auctions

- Bring traditional auctions to customers around the globe
 - Make it possible to sell far more goods and services than at a traditional auction
- Brokerage business model
- **Reverse auctions**
 - Invite sellers to submit bids for products and services

Collaborative Planning, Forecasting, and Replenishment

- Coordinate supply chain members through point-of-sale (POS) data sharing and joint planning
- Any data collected is shared with all members of the supply chain
- Coordinating the supply chain can be difficult
- CPFR ensures that inventory and sales data are shared across the supply chain
 - So that everyone knows the exact sales and inventory levels

Collaborative Planning, Forecasting, and Replenishment contd...

- Costs for each partner are shared or minimized
- Unforeseen problems can crop up

Customer Relationship Management

- **CRM**
 - Consists of the processes a company uses to track and organize its contacts with customers
- Main goal of a CRM system
 - Improve services offered to customers
 - Use customer contact information for targeted marketing
- Marketing strategies in a CRM system
 - Focus on long-term relationships with customers instead of transactions

CRM contd...

- Identifies segments of customers
- Improves products and services to meet customers' needs
- Improves customer retention
- Identifies a company's most profitable (and loyal) customers
- Helps organizations make better use of data, information, and knowledge to understand customers

CRM contd...

- Gives organizations more complete pictures of their customers
 - Integrates demographic and other external data with customers' transaction data to better understand customer behavior
- Pays external agencies for additional data about you that might be public or semiprivate

CRM contd...

- With a CRM system, organizations can:
 - Provide services and products that meet customers' needs
 - Offer better customer service through multiple channels
 - Increase cross-selling and upselling
 - Help sales personnel close deals faster by offering data on customers' backgrounds
 - Retain existing customers and attract new ones

CRM contd...

- CRM systems include:
 - Sales automation
 - Order processing
 - Marketing automation
 - Customer support
 - Knowledge management
 - Personalization technology

CRM Applications

- Time Warner Cable Business Class
 - CRM system from Salesforce.com
 - Analyze business data, improve the accuracy of forecasts, improve problem solving, and monitor sales and business activities
- Important features of the system include:
 - Dashboards, features for “drilling down,” Web-based knowledge base for employees and customers, and Web log for sales personnel communication
- Has increased productivity by 10%

CRM Applications contd...

- On-premise CRM or Web-based CRM (SaaS)
- Several software packages are available for setting up a CRM system:
 - Amdocs CRM, Optima Technologies ExSelligence, Infor CRM, SAP mySAP, Oracle PeopleSoft CRM, and Oracle Siebel

CRM Applications contd...

- Features:
 - Salesforce automation
 - eCRM or Web-based CRM
 - Survey management
 - Automated customer service

CRM Applications (Personalization technologies)contd...

- **Personalization**

- Satisfies customers' needs, builds customer relationships, and increases profits
- Designs goods and services that meet customers' preferences better

- **Customization**

- Allows customers to modify the standard offering
 - Such as selecting a different home page to be displayed each time you open your Web browser

CRM Applications (Personalization technologies)contd...

- Using personalization requires gathering a lot of information about customers' preferences and shopping patterns
- Amazon
 - Known for using personalization to recommend products to customers
- Nordstrom.com
 - Suggests shoes or a tie that go with the suit or a similar suit in the same category

CRM Applications (Personalization technologies)contd...

- Apple iTunes
 - Other songs that listeners like you purchased are suggested
- Google account holders
 - Personalized search results that are reordered based on their searching histories

CRM Applications (Personalization technologies)contd...

- Implement a personalization system
 - Internet, databases, data warehouse/data marts, data-mining tools, mobile networks, and collaborative filtering
- **Collaborative filtering (CF)**
 - Searches for specific information or patterns, using input from multiple business partners and data sources

CRM Applications (Knowledge Management)contd...

- Improve CRM systems by identifying, storing, and disseminating “know-how”— facts about how to perform tasks
- Knowledge is an asset
 - Should be shared throughout an organization to generate business intelligence and maintain a competitive advantage in the marketplace
- Knowledge is more than information and data
 - Also contextual