

ERP- Oracle Apps ERP Overview

Lesson 00:

People matter, results count.



Copyright © Capgemini 2015. All Rights Reserved 1

©2016 Capgemini. All rights reserved.
The information contained in this document is proprietary and confidential.
For Capgemini only.

Document History

Date	Course Version No.	Software Version No.	Developer / SME	Change Record Remarks
12-Jan-2012	1.0		Amit Sali	Content Creation
20-Jan-2012			CLS Team	Review



Copyright © Capgemini 2015. All Rights Reserved 2

Course Goals and Non Goals

- Course Goals
 - Basic Concepts of ERP

- Course Non Goals
 - Learning any specific ERP like SAP and Oracle Apps.



Copyright © Capgemini 2015. All Rights Reserved 3

Pre-requisites

- NA



Copyright © Capgemini 2015. All Rights Reserved 4

Intended Audience

- Programmers and Analysts



Copyright © Capgemini 2015. All Rights Reserved 5

Day Wise Schedule

- Day 1
 - Lesson 1: ERP Concepts
 - Lesson 2: Options in ERP
 - Lesson 3: Manufacturing basics
 - Lesson 4: Basics of Financial Accounting



Copyright © Capgemini 2015. All Rights Reserved 6

Table of Contents

- Lesson 1: ERP Concepts
 - 1.1: What is ERP?
 - 1.2: ERP Evolution
 - 1.3: Major Reasons for ERP
 - 1.4: Growth of the ERP industry
 - 1.5: What are the Benefits of ERP?

- Lesson 2: Options in ERP
 - 2.1: ERP – Options
 - 2.2: Product Selection
 - 2.3: Preparation Phase
 - 2.4: GAP Analysis
 - 2.5: Production Phase



Copyright © Capgemini 2015. All Rights Reserved 7

Table of Contents

- Lesson 2: Options in ERP
 - 2.6: Production Phase
 - 2.7: Implementation Phase
 - 2.8: Different Methods in implementing ERP
 - 2.9: Infrastructure of Data Centre
- Lesson 3: Manufacturing basics
 - 3.1: What is manufacturing?
 - 3.2: Manufacturing Industries
 - 3.3: Manufacturing Planning Processes
 - 3.4: Importance of Demand Forecast
 - 3.5: Types of manufacturing
 - 3.6: Introduction to Business Cycle



Copyright © Capgemini 2015. All Rights Reserved 8

Table of Contents

- Lesson 4: Basics of Financial Accounting
 - 4.1: What is Accounting?
 - 4.2: Accounting Rules
 - 4.3: The Accounting Information System
 - 4.4: Financial Statements
 - 4.5: The Balance Sheet
 - 4.6: Income Statement
 - 4.7: Managing Accounts



Copyright © Capgemini 2015. All Rights Reserved 9

References

- NA



Next Step Courses (if applicable)

- Oracle Application as ERP



Copyright © Capgemini 2015. All Rights Reserved 11

Other Parallel Technology Areas

- NA



Copyright © Capgemini 2015. All Rights Reserved 12

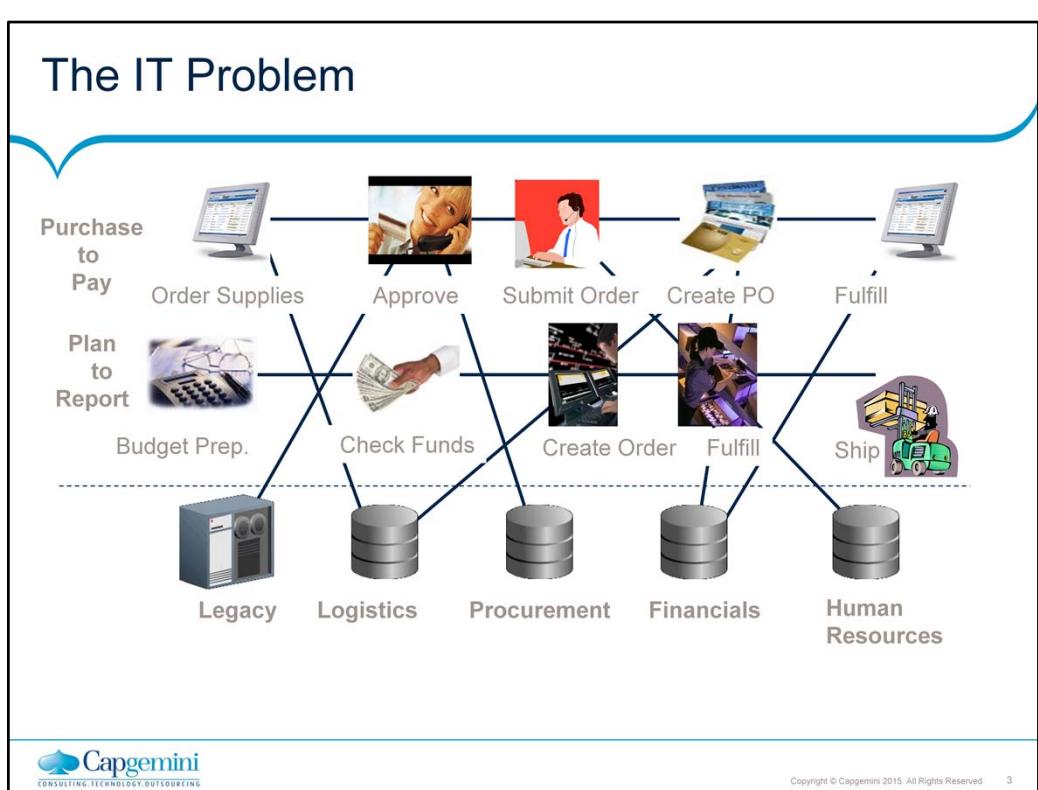
ERP Overview

Lesson 1: ERP Concepts

Lesson Objectives

- To understand the following topics:
 - What is ERP?
 - Business Process
 - ERP Evolution
 - The Goals of Supply Chain
 - Major Reasons for ERP
 - Growth of the ERP industry
 - Why Enterprise Architecture
 - What are the Benefits of ERP?
 - What are the Costs of ERP?
 - ERP Vendors





Redundancy across organizations
Organizational Change
Best-of-Breed policies
Legacy applications hanging on

What is ERP?

ERP is a solution, which

- **Facilitates company-wide integrated information systems, covering all functional areas**
- **Performs core Corporate activities and increases customer service augmenting Corporate Image**

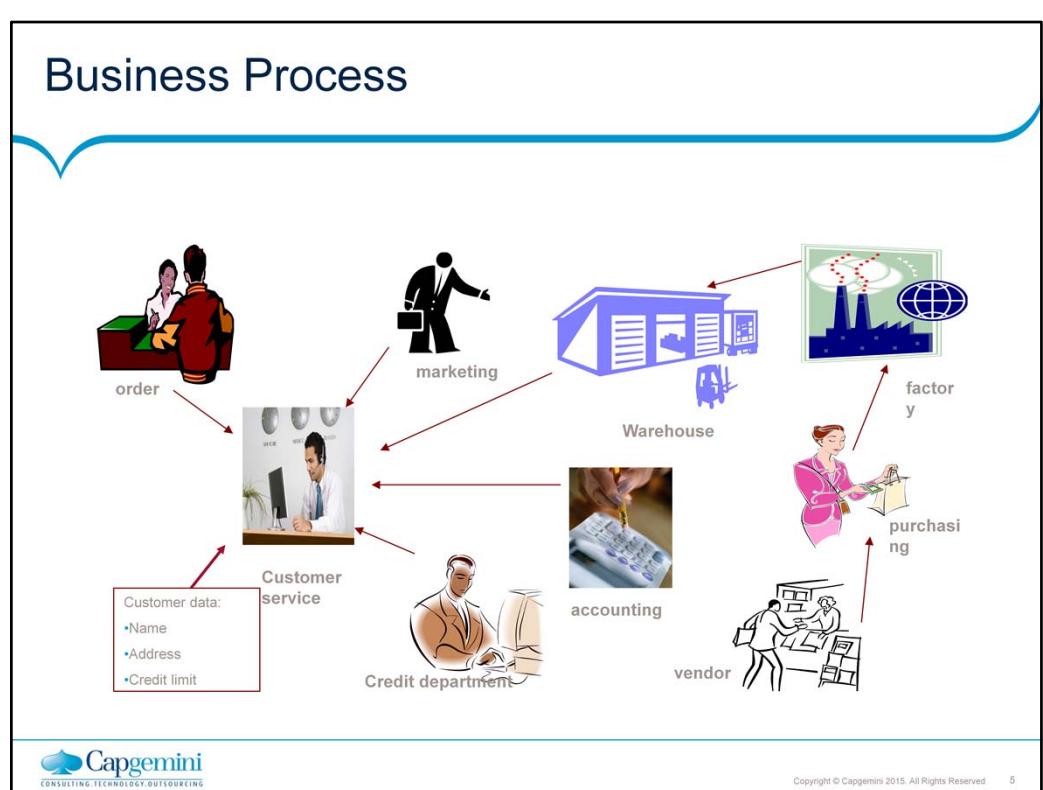
ERP is a Software solution that addresses the Enterprise needs, taking a process view of the overall organization to meet the goals, by tightly integrating all functions and under a common software platform”



Copyright © Capgemini 2015. All Rights Reserved 4

ERP's main goal is to integrate data and processes from all areas of an organization and unify it for easy access and work flow. ERP's usually accomplish integration by creating one single database that employs multiple software modules providing different areas of an organization with various business functions.

Although the ideal configuration would be one ERP system for an entire organization, many larger organizations usually create one ERP system and then build upon the system and external interface for other stand alone systems which might be more powerful and perform better in fulfilling an organization's needs. Usually this type of configuration can be time consuming and does require lots of labor hours.



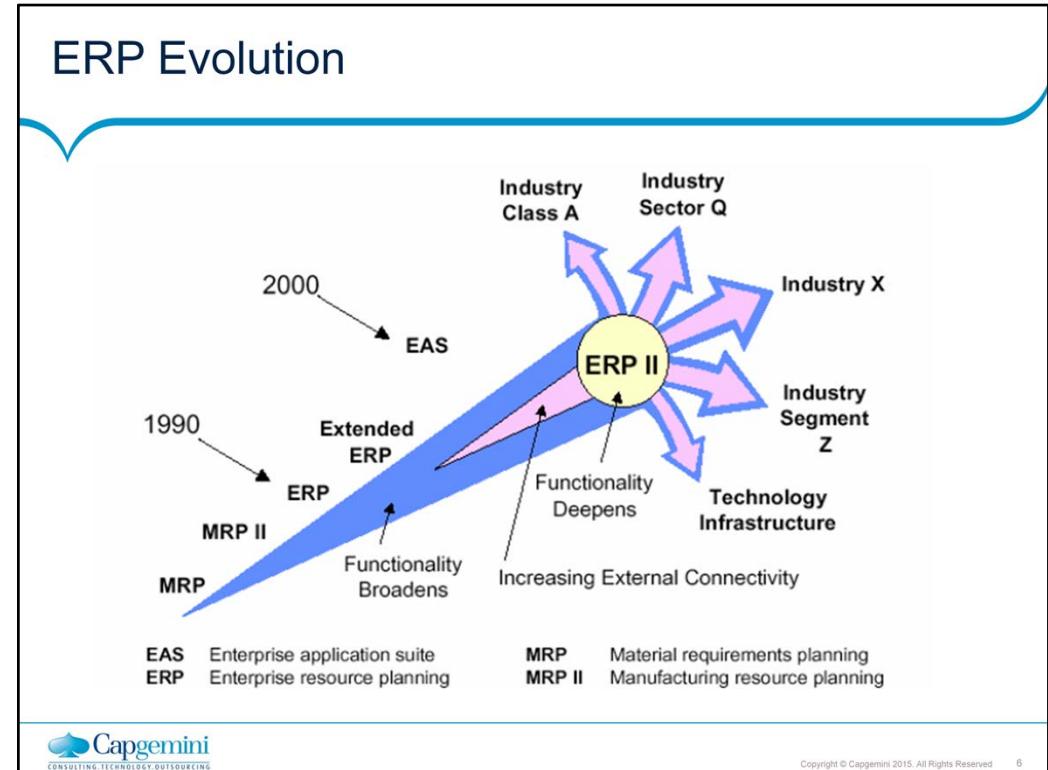
Customer puts an order .

Customer Service Representative search for the item in the warehouse ,if it is not there then order will be placed in the factory.

Now the factory will purchase the required material from the vendor to meet the order and produce the finished goods.

These produced finished goods will be marketed which going to be maintained by marketing department.

All the finance related operation of that product is going to be maintained by credit department.



1960's - Systems Just for Inventory Control

1970's - MRP – Material Requirement Planning
(Inventory with material planning & procurement)

1980's - MRP II – Manufacturing Resources Planning
(Extended MRP to shop floor & distribution Mgmt.)

Mid 1990's - ERP – Enterprise Resource Planning
(Covering all the activities of an Enterprise)

2000 onwards – ERP II – Collaborative Commerce
(Extending ERP to external business entities)

The Goals of Supply Chain IT

- Collect Data
 - From all Areas in the Chain
 - Share Information
- Access Data
 - Same Data for EVERYONE
 - Turn Data into Information
- Available to Analyze
 - Use for Scheduling



Copyright © Capgemini 2015. All Rights Reserved 7

A supply chain is a network of facilities and distribution options that performs the function of procurement of materials ,transformation of these materials into intermediate and finished products, and distribution of these products to customers.

A supply chains exist in both service and manufacturing organizations, complexity of the chain may vary greatly from industry to industry and firm to firm.

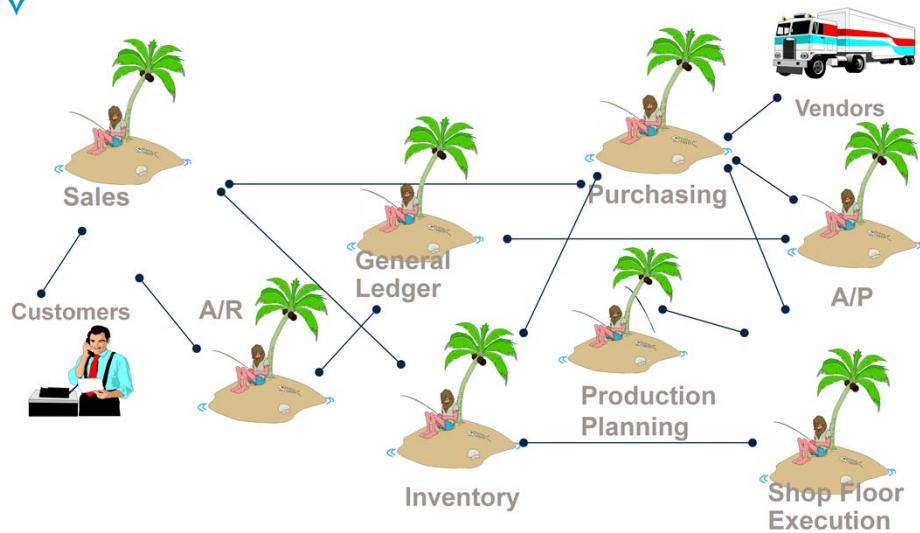
Major Reasons for ERP

- Integrate Financial Data – One Story vs. Many
- Standardize Inventory Systems and the Manufacturing Process – Same process, same system, for similar functions and items
- Standardize Human Resources Data - Tracking Employee Time, Benefits, Services, etc.
- Standardize Sales & Distribution Data –
- Importance in Companies with Separate Business Units



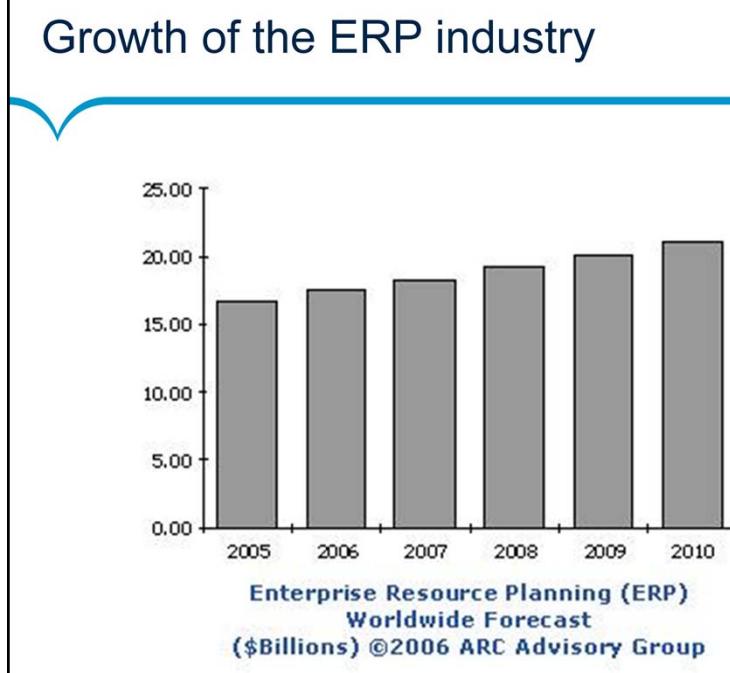
Copyright © Capgemini 2015. All Rights Reserved 8

Overall Picture



Copyright © Capgemini 2015. All Rights Reserved 9

Information in large organizations is often spread across numerous homegrown computer systems, housed in different functions or organizational units. While each of these “information islands” can ably support a specific business activity, enterprise-wide performance is hampered by the lack of integrated information. Further, the maintenance of these systems can result in substantial costs. With the advent of E-Business and the need to leverage multiple sources of information within the enterprise, ERP software has emerged as a major area of interest for many businesses.



Copyright © Capgemini 2015. All Rights Reserved 10

Why Enterprise Architecture

- Why Enterprise Architecture ?
 - Numerous disparate information systems
 - Integrating the data becomes costly
 - Inconsistencies and duplication of data
 - Lack of timely information
 - Required: Central enterprise definitions
 - Required: Centrally controlled business change



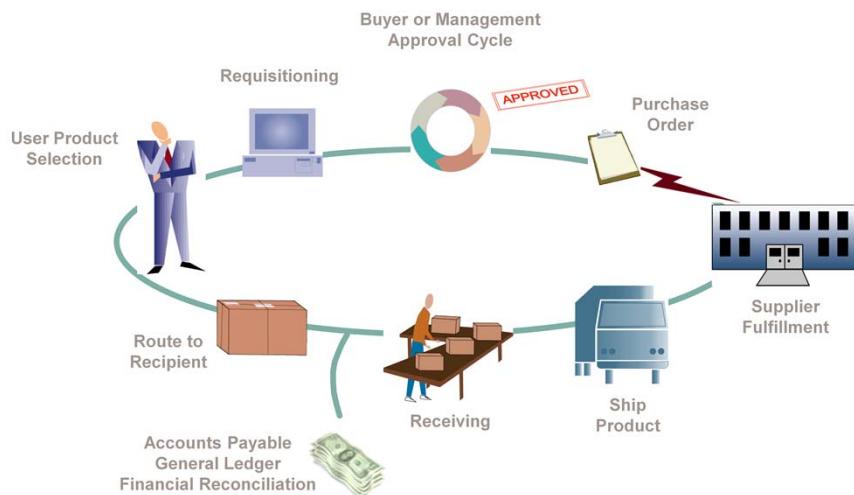
Copyright © Capgemini 2015. All Rights Reserved 11

An enterprise architecture (EA) is a conceptual tool that assists organizations with the understanding of their own structure and the way they work. It provides a map of the enterprise and is a route planner for business and technology change.

The information in the enterprise architecture provides an ever-increasing level of detail about the enterprise, including:

- Its objectives and goals.
- Its processes and organization.
- Its systems and data.
- The technology used.

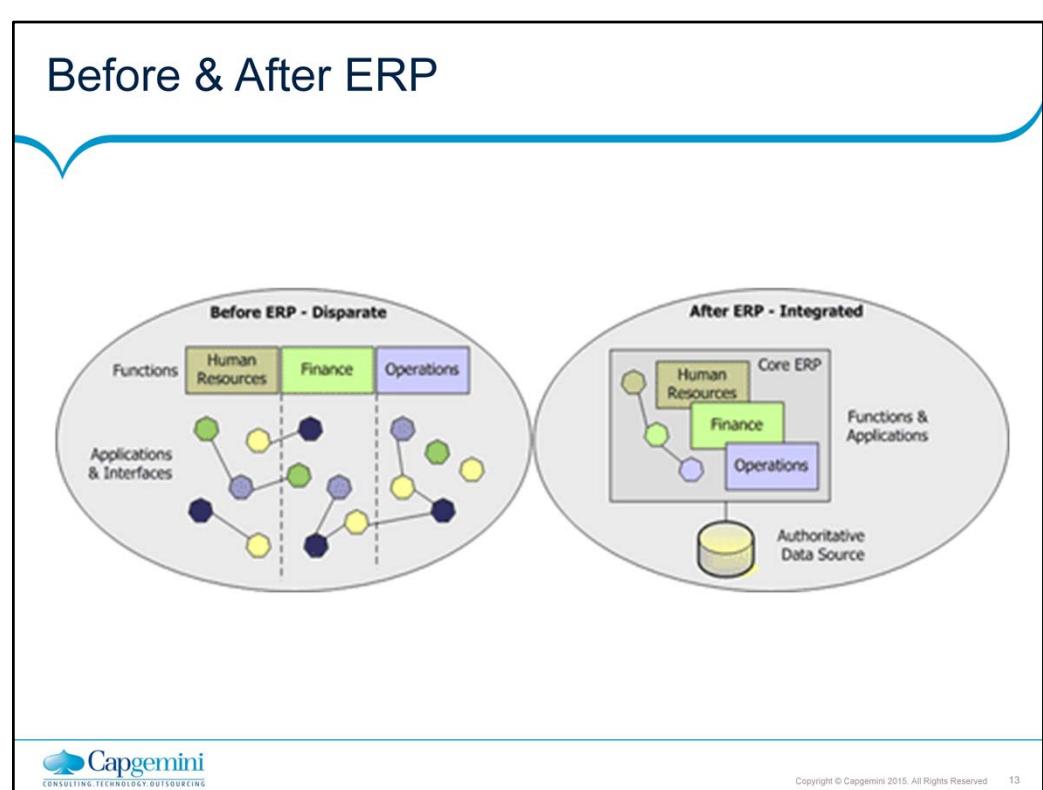
What are the Benefits of ERP?



Copyright © Capgemini 2015. All Rights Reserved 12

Benefits:

- Improve access to information
- Improve workflow and efficiency
- Improve controls and program alerts
- Process reengineering -- update old processes
- Foundation for new processes, such as e-procurement, with significant ROI



ERP solutions can yield the following results:

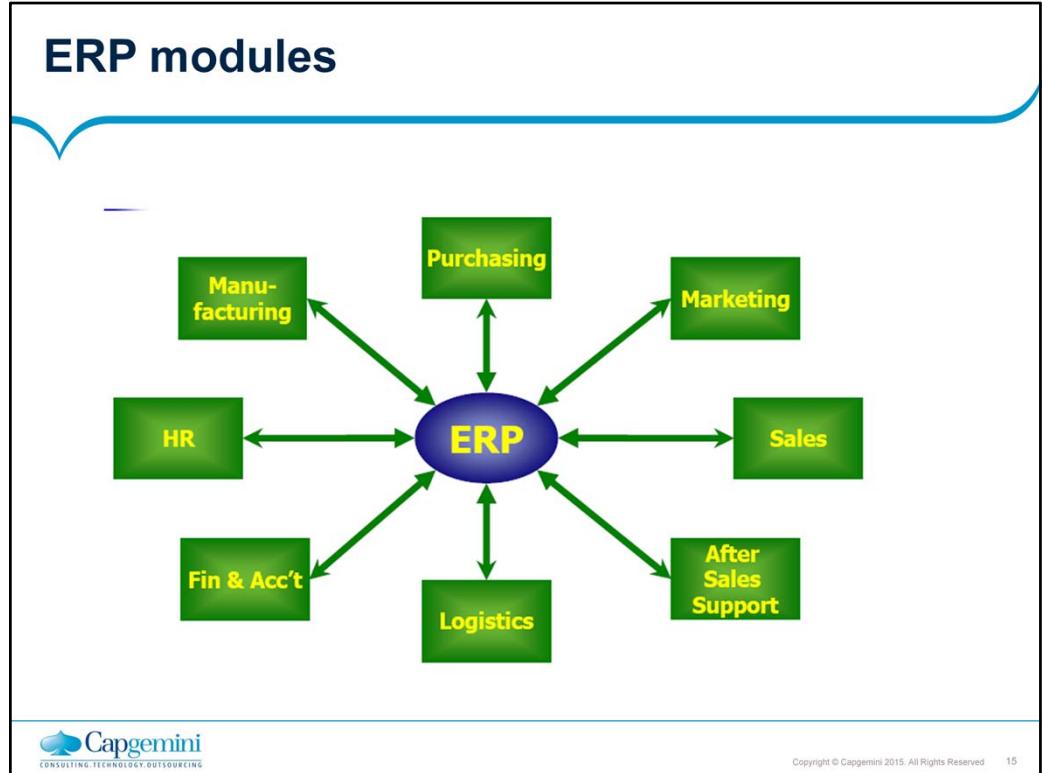
- Integrated processes and information systems
- Consolidation and/or elimination of current systems
- Reduced complexity of application and technology portfolios
- Reduced reliance on programmers to make software changes
- Authoritative data source
- Reduced data redundancy and duplicative data entry
- More effective and efficient business processes

ERP – Expectations

- Integrating all the functions
- Integrating the systems running in all the locations
- Transparency of information using a single
- Data source across the organization
- Software must be responsive
 - Modular
 - Flexible
 - Easy to add functionalities
 - Provide growth path



Copyright © Capgemini 2015. All Rights Reserved 14



An ideal ERP system is when a single database is utilized and contains all data for various software modules. These software modules can include:
Manufacturing: Some of the functions include; engineering, capacity, workflow management, quality control, bills of material, manufacturing process, etc.

Financials: Accounts payable, accounts receivable, fixed assets, general ledger and cash management, etc.

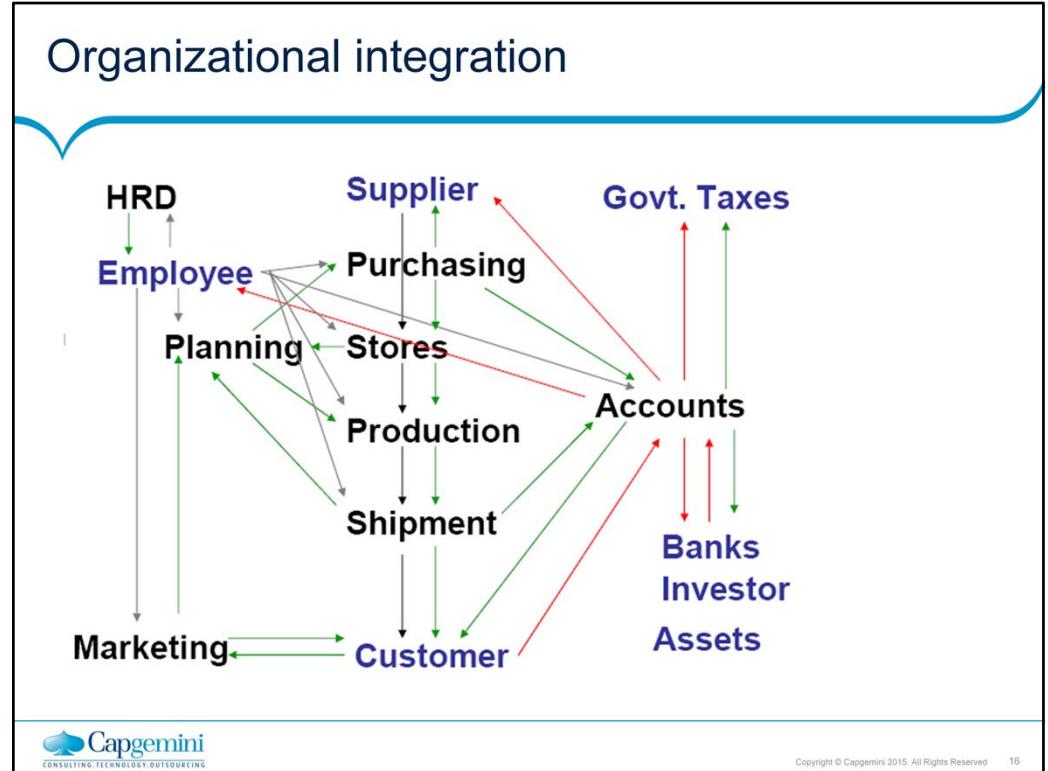
Human Resources: Benefits, training, payroll, time and attendance, etc

Supply Chain Management: Inventory, supply chain planning, supplier scheduling, claim processing, order entry, purchasing, etc.

Projects: Costing, billing, activity management, time and expense, etc.

Customer Relationship Management: sales and marketing, service, commissions, customer contact, calls center support, etc.

Data Warehouse: Usually this is a module that can be accessed by an organization's customers, suppliers and employees.



ERP provides the backbone for an enterprise-wide information system. At the core of this enterprise software is a central database which draws data from and feeds data into modular applications that operate on a common computing platform, thus standardizing business processes and data definitions into a unified environment. With an ERP system, data needs to be entered only once. The system provides consistency and visibility or transparency across the entire enterprise.

What are the Costs of ERP?

- Direct costs only represent a fraction of the total costs of ERP
- Direct costs include hardware, software, and people on the project -- the largest category is personnel costs
- Indirect costs include the costs of back-filling positions, increasing salaries and the total life cycle costs of the ERP -- maintenance, ongoing production, and upgrades.



Copyright © Capgemini 2015. All Rights Reserved 17

Meta Group recently did a study looking at the total cost of ownership (TCO) of ERP, including hardware, software, professional services and internal staff costs. The TCO numbers include getting the software installed and the two years afterward, which is when the real costs of maintaining, upgrading and optimizing the system for your business are felt. Among the 63 companies surveyed—including small, medium and large companies in a range of industries—the average TCO was \$15 million (the highest was \$300 million and lowest was \$400,000). While it's hard to draw a solid number from that kind of range of companies and ERP efforts, Meta came up with one statistic that proves that ERP is expensive no matter what kind of company is using it. The TCO for a "heads-down" user over that period was a staggering \$53,320.

The Cost of ERP

- The Meta Group researched 63 Companies
- Avg. \$15 million
- High \$300 million, Low \$400K
- What does this Include?
- Software, Configuration, Testing
- Data Conversion – Legacy to ERP
- Implementation – Training, Consultants, Loss in Productivity



Copyright © Capgemini 2015. All Rights Reserved 18

Inspite of rendering marvelous services ERP is not free from its own limitations. ERP calls for a voluminous and exorbitant investment of time and money. The amount of cash required would even be looming on the management given the fact that such an outlay is not a guarantee to the said benefits but subject to proper implementation, training and use. In the ever expanding era of information theft ERP is no exception. It is alarming to note the time taken to implement the system in the organization. These means large amounts of workers have to shun their regular labor and undertake training. This not only disturbs the regular functioning of the organization but also runs the organization in the huge risk of losing potential business in that particular period. There are great benefits rendered by the system. On the other hand when one thinks of this information reach in the hands of undeserving persons who could do more than misuse ,it is evident that there is no way of ensuring secrecy of information and larger chances of risk will be generated as long as they are in the public domain.

ERP Vendors

- SAP
- Peoplesoft, J.D. Edwards
- Oracle
- Microsoft – Great Plains, Axapta, Solomon
- IBM
- BAAN



Copyright © Capgemini 2015. All Rights Reserved 19

There are many ERP vendors. SAP is the largest and the most robust.

Peoplesoft is considered the H/R Leader

JD Edwards – Mid market

Oracle – Technology leader

Microsoft – Mediocre product, but has inertia

IBM – OK product

History of SAP

- Systems Applications and Products in Data Processing
- German : Systeme, Anwendungen, Produkte in der Datenverarbeitung
- Founded in 1972 by Wellenreuther, Hopp, Hector, Plattner and Tschira Renamed in 1977
- Before 1977 : Systems Analysis and Program Development (German : Systemanalyse und Programmierung)
- SAP is both the name of the Company as well as their ERP Product
- SAP system comprises of a number of fully integrated modules, which covers virtually every aspect of the business
- Three systems developed : R/1, R/2, R/3



Copyright © Capgemini 2015. All Rights Reserved 20

SAP is the leading ERP software package. SAP was the first to integrate a corporation's worldwide functions tightly into one application.

SAP, translated from its original German name, stands for Systems Applications and Products in Data Processing.

Five former IBM programmers founded SAP AG in Germany, and released the first version of their software, SAP R/2, in 1979.

SAP renamed itself in 1977, prior to which it was called as Systems Analysis and Program Development.

Its domination of the market occurred during the 1980s, expanding first throughout Europe (early 1980s) and then North America (1988). SAP R/3, an advanced, client-server based version of the popular R/2 product, was released in 1992 and sparked a stunning takeover of America's largest businesses.

SAP system comprises of a number of fully integrated modules, which virtually covers every aspect of the business management

Using SAP's products, companies can now integrate their accounting, sales, distribution, manufacturing, planning, purchasing, human resources, analysis and other transactions into one application. SAP applications thus provide an environment where "transactions are synchronized throughout the entire systems."

With 56,000 installations serving 10 million users at 18,800 organizations in 120 countries across the globe, SAP ranks as the world's third-largest independent software provider.

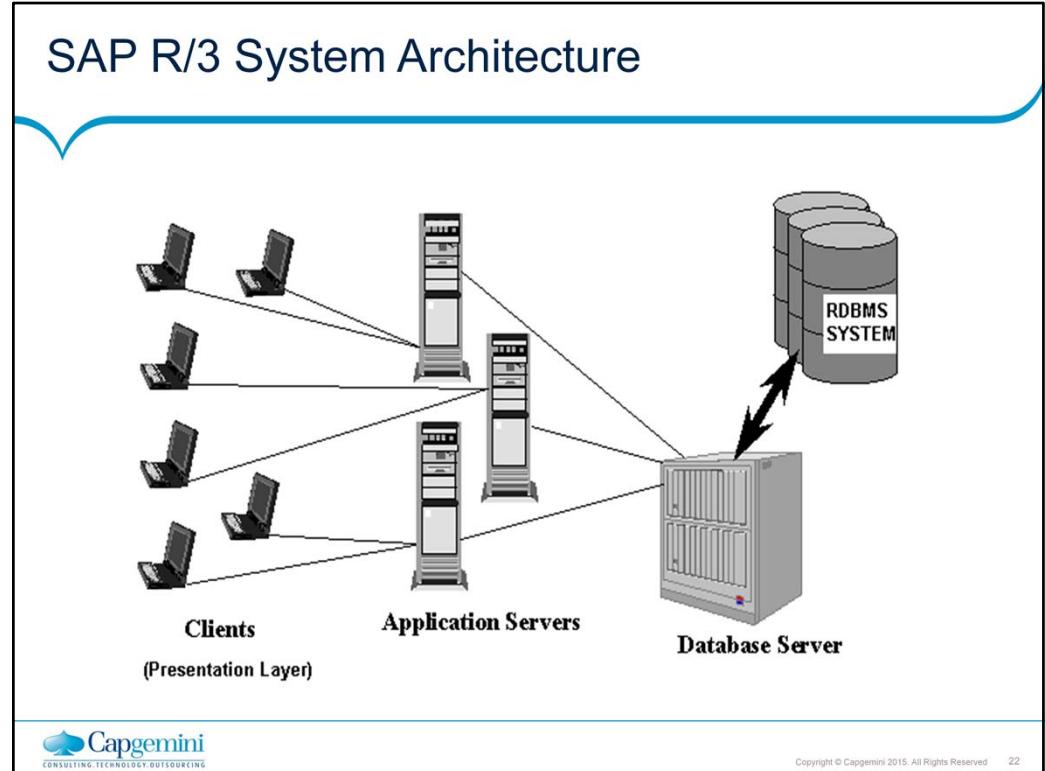
So far, there have been 3 systems developed by SAP. namely, R/1, R/2, R/3.

3 Tier Client / Server Architecture

- The SAP R/3 architecture is based on a 3-tier client/server principle
 - Presentation Server
 - Application Server
 - Database Server
- Dedicated Servers are linked by Communication Networks
- Perform tasks without sacrificing data integration and processes within the system, as a whole



Copyright © Capgemini 2015. All Rights Reserved 21



The picture here illustrates a typical R/3 system.

Multiple presentation layers from multiple computers communicate with the application servers over the local or wide area network.

For a single R/3 system, there may be multiple application servers in order to balance the operational load.

All these application servers interact with a single database server.

And as the picture illustrates, the database server acts as the interface between the external RDBMS and the application servers.

A single database, the R/3 database server that accesses it and the set of one or more application servers and their processes, that govern the business administration and the data sent and received from the database server... all these components that constitute a logically single R/3 system, is called as an R/3 instance.

Overview of Presentation & Database Servers

- The Presentation Server
 - GUI only
 - At workstation
 - Very light
 - Sends requests to application server
 - Obtains screens from application server and displays
- The Database Server
 - Interface between application server and RDBMS
 - Also holds the vendor specific DB driver
- Application Server



Copyright © Capgemini 2015. All Rights Reserved 23

Overview of Presentation & Database Servers

Let us now have a very brief overview of the presentation layer and the database server.

The presentation server is simply a GUI that is running at the user's workstation. It is a very light component, called as a thin client in common terminology. It is capable of sending requests to the application server, receiving the requests back and displaying the screen back to the user. Multiple instances of presentation servers can execute in the same work station.

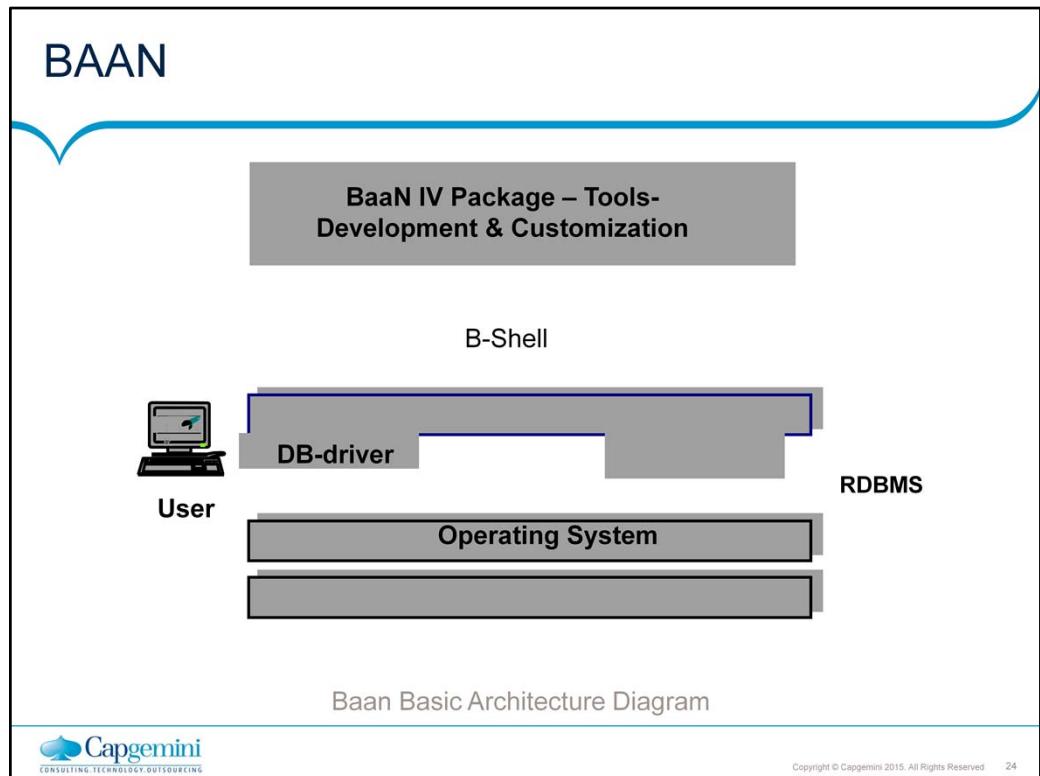
And generally the presentation layers are, to a good extent, downward compatible with the application servers, in terms of the version. For e.g., A "4.6 C" version GUI would be able to communicate with a "4.5 B" version application server.

The messages exchanged between the presentation layer and the application server are in a SAP proprietary format. The presentation layer is capable of accepting the screen information sent from the application server, format and generate the screens appropriately for the platform it is running on.

The database server, as we saw earlier, acts as an interface between the application server and the RDBMS.

As we know already, the R/3 system does not include the RDBMS. In other words, R/3 is independent of the RDBMS. R/3 is operational on a number of commercial RDBMSs.

The vendor specific DB driver resides in the database server.



Baan is an Enterprise Resource Planning system (ERP) like SAP. You can build up complex business structures on different Modules like personnel, manufacturing, sales, marketing, etc.

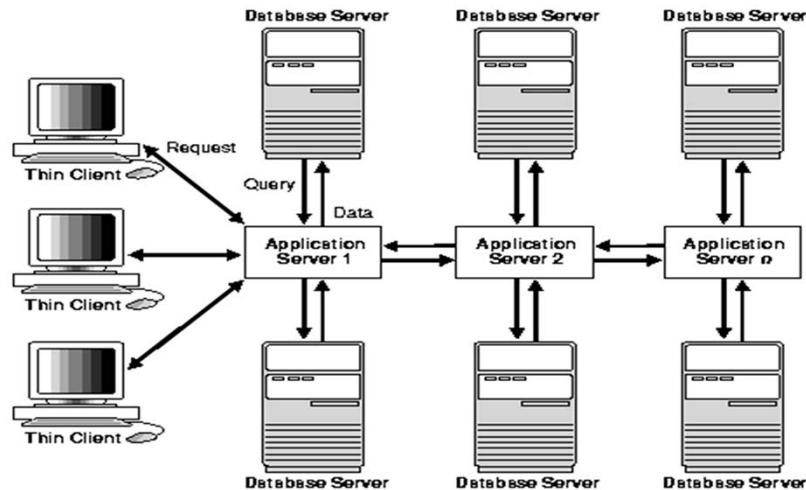
Baan is running on all OS like Unix and Windows, can work with any known database, but preferred Oracle, Informix, DB2, SQL-Server. Baan is a standard-product which is customized for each customer at itself. That depends on different business-structures.

BaanERP is implemented as a client-server application. The server part based on a RDBMS database to store its data. This means there are three main parts in the BaanERP architecture: Presentation Layer, Application Layer and Database Layer.

- ApplicationLayer
- PresentationLayer
- DatabaseLayer

The Baan software can be configured as 2-Tier or 3-Tier Client-Server application.

Oracle Application Architecture

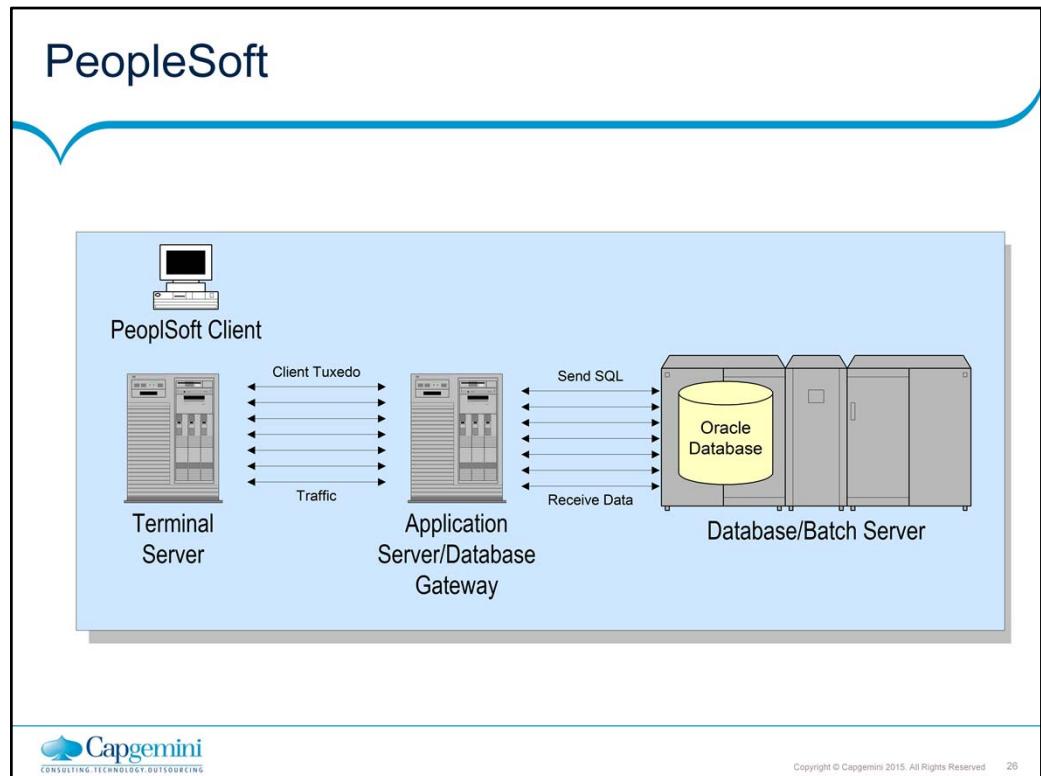


Copyright © Capgemini 2015. All Rights Reserved 25

Client/server architecture:

The client runs the database application that accesses database information and interacts with a user through the keyboard, screen, and pointing device, such as a mouse. The server runs the Oracle software and handles the functions required for concurrent, shared data access to an Oracle database.

Although the client application and Oracle can be run on the same computer, greater efficiency can often be achieved when the client portions and server portion are run by different computers connected through a network. The following sections discuss possible variations in the Oracle client/server architecture.



PeopleSoft is an integrated software package that provides a wide variety of business applications to assist in the day-to-day execution and operation of business processes. Each individual application, such as Financials, Customer Relationship Management and Human Resources, interacts with others to offer an effective and efficient means of working and reporting in an integrated fashion across the enterprise

Also called PeopleSoft Pure Internet Architecture (PIA)
Server centric architecture

No Java applets, Windows DLLs, or browser plug-ins are necessary
Client uses standard Internet technologies such as HTTP, HTML, and XML to communicate with the PIA

Future of ERP

- Information-driven not transaction-driven
- Answer the important questions
- Configuration not customization
- Ability to adapt software to user needs
- Fewer moving parts
- Using integrated modules instead of bolt-ons
- Hosting and outsourced support
- Reduce the costs of operational support
- Integration using Web services
- Standards-based solutions



Copyright © Capgemini 2015. All Rights Reserved 27

Before speaking about the future of ERP it is important to remember the history of ERP in order to keep a track on the developments that happened gradually. ERP evolved from manufacturing resource planning (which originated from material resource planning). The functioning of ERP has gained much prominence and utility with the intervention of web enabled and open source technologies.

ERP II the latest advancement in ERP software deserves special mention. In this context it becomes important to analyze the direction in which ERP is geared to progress or will ERP diminish in the future etc...

Some of the points requiring attention are as follows:

Current level

Market forecasting

The international Scenario, employment and Education

Conclusion

The future of ERP holds an undisputed demand not only in the national level but also at the global level.

If the technology can be improvised to the desired ext

Summary

- In this lesson, you have learnt:
 - What is ERP?
 - Business Process
 - ERP Evolution
 - The Goals of Supply Chain
 - Major Reasons for ERP
 - Growth of the ERP industry
 - Why Enterprise Architecture
 - What are the Benefits of ERP?
 - What are the Costs of ERP?
 - ERP Vendors



Review Questions

- Question 1: _____ guides you step-by-step through the process of creating a report.
- Question 2: _____ is an easy user interface for writing SQL.



ERP Overview

Lesson 2: Options in ERP

Lesson Objectives

- To understand the following topics:
 - ERP – Options
 - Tailor-made ERP option
 - Product Selection
 - Preparation Phase
 - ERP product acceptance -options
 - GAP Analysis
 - Production Phase
 - Critical Success Factors
 - Implementation Phase
 - Different Methods in implementing ERP
 - Post-Implementation Phase
 - Building ERP using External Sources
 - Infrastructure of Data Center

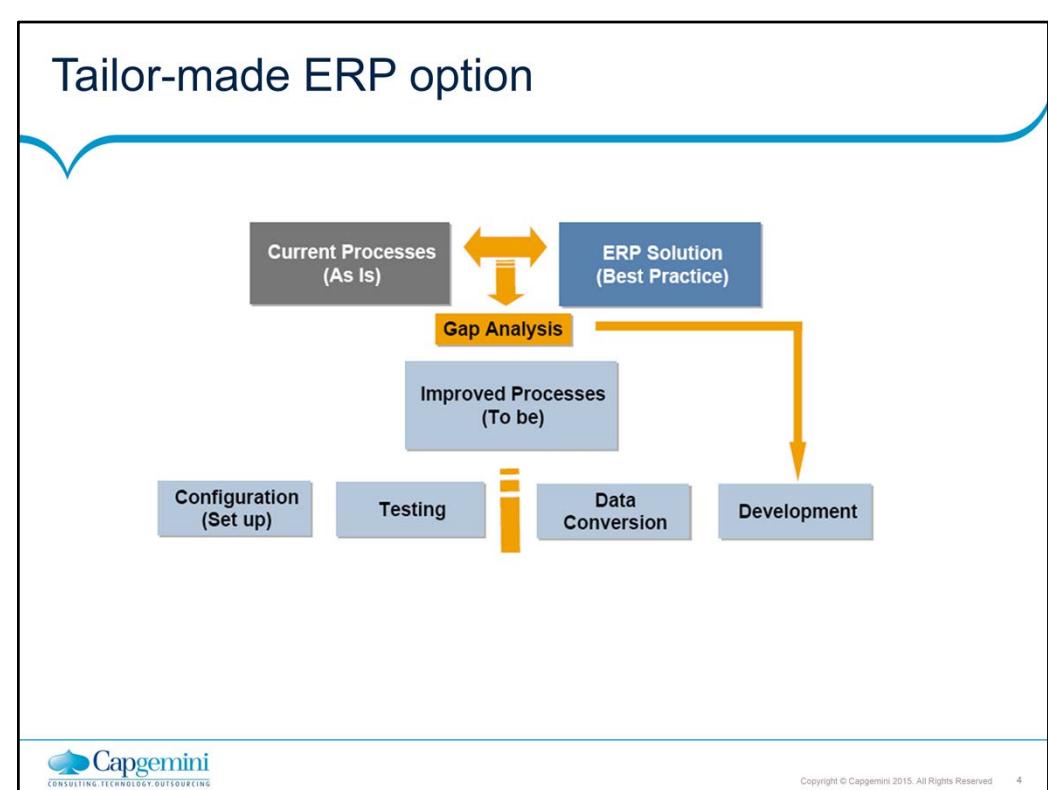


ERP – Options

- **OPTION 1 – MAKE [Using Internal resources]**
 - Developing a custom-built ERP package, specific to the requirements
 - of the organization, with the help of the
 - in-house IT department
- **OPTION 2 - BUY**
 - Going for Tailor-made ERP packages available in the market like
 - SAP, Oracle applications, Baan, PeopleSoft etc.
- **OPTION 3 – MAKE [using External resources]**
 - Developing a custom-built ERP package, specific to the
 - requirements of the organization, with the help of a
 - software solution provider



Copyright © Capgemini 2015. All Rights Reserved 3



Gap analysis is a phase in the ERP implementation, where the organization tries to find out the gap between the company's existing business practices and those supported by the ERP package. This is the process through which companies create a complete model of where they are now and where they are heading .the trick is to design a model ,which both anticipates and covers any functional gaps.

Product Selection - Parameters

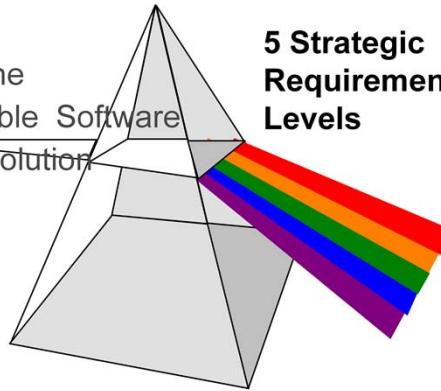
- Reputation of the ERP product
- No.of installations in the geographical vicinity
- % of the overall functional availability
- Customization possibilities
- After sales support
- Your investment plan & budget
- Implementation partner's track record



Copyright © Capgemini 2015. All Rights Reserved 5

ERP Product selection Criteria

- Goal:
- To select the
- Most Suitable Software
- Package Solution



Preparation Phase

- Framing ERP Implementation Strategies
- Formation of Apex & Steering committees
- Functional & IT team formation
- Training on ERP functions & features
- Scope finalization
- GAP analysis
- Action plan to resolve the gaps



Copyright © Capgemini 2015. All Rights Reserved 7

ERP product acceptance -options

- Adapting directly, all the functions available in the ERP Product [Applicable for startup companies]
- Change the way the firm does the business to fit the product [Compromising]
- Customize the ERP product to suit the business Processes. [Customization]



Copyright © Capgemini 2015. All Rights Reserved 8

GAP Analysis

- Results of Gap Analysis
 - Directly Supported
 - Workaround suggested
 - Extension required
 - Change in business process – suggested
 - Not full supported
 - Manual – not under the scope of ERP



Copyright © Capgemini 2015. All Rights Reserved 9

This is the process to identify the gaps by mapping the expectations of the company with the capabilities of the ERP product.

“Everybody wins when there is good planning,
when you know where you are going before you get there.”

The trick is to design a model which both anticipates and covers any functional gaps.

Production Phase

- Installing the software & hardware
- Tuning the software to meet the customization needs
- Master & Control data arrival as per the Product data structures
- Location & people specific roles & rights allocation for module access & security



Copyright © Capgemini 2015. All Rights Reserved 10

Critical Success Factors

- The firm & optimistic approach of the Management
 - on adapting the ERP product driven methodologies
 - on customization
 - on monetary commitments
- The dedicated Team
- Good Training
- Strict adherence to the Project schedules
- Right technical infra-structure
- Change Management



Copyright © Capgemini 2015. All Rights Reserved 11

Probable reasons behind Failure

The actual problems lie in choosing the right software for your company. If this is either taken for granted or done hastily then the chances of ERP Success are rare. Some of the reason for failure could be exorbitant costs, inadequate training, longer time, and failure of strategy and the lack of attitudinal change on the part of employees to accept and manage change. They have to analyze "What companies use enterprise resource planning?" Guidelines

Very few companies succeed in the first instance after implementing ERP. ERP is not a fortune but a technology that delivers results only after effective execution of the laid down procedures. Therefore to merely bank on it will not suffice to obtain any results. What is more important is the implementation of the necessary changes in the organization so as to combat ERP.

ERP is not an answer to the errors in business plans and tactics. In fact ERP consultants are reluctant to attend to it because they don't want it to disturb the purpose of ERP. It should therefore be understood that ERP is an I.T. tool that assists and facilitates the business process by being a part of it. On the contrary it is misunderstood that ERP can rejuvenate the business. The answer to the popular question "What companies use enterprise resource planning?" will help in clearing this trouble.

ERP gap analysis and business process reengineering should be performed properly. This will ensure that other steps are followed systematically and in accordance to the company's need. They are otherwise referred as enterprise resource planning phases.

IT facilities in the organization should be at par with market standards and international reputation. This will enable the operation people to constantly modify and update as and when it is necessary in order to stay in tune with the competition. Research on enterprise resource planning will reveal this.

The process of ERP implementation should be carried on by a team of competent personnel so as to ensure perfection, accountability and transparency.

Implementation Phase

- Conference Room Pilot [Parallel run]
- Resolving the Parallel run issues
- Training the end users
- Live run



Copyright © Capgemini 2015. All Rights Reserved 13

Most companies intend to treat their ERP implementation as they would any other software project. Once the software is installed, they figure the team will be scuttled and everyone will go back to his or her day job. But after ERP, you can't go home again. The implementers are too valuable. Because they have worked intimately with ERP, they know more about the sales process than the salespeople and more about the manufacturing process than the manufacturing people. Companies can't afford to send their project people back into the business because there's so much to do after the ERP software is installed. Just writing reports to pull information out of the new ERP system will keep the project team busy for a year at least. And it is in analysis—and, one hopes, insight—that companies make their money back on an ERP implementation. Unfortunately, few IS departments plan for the frenzy of post-ERP installation activity, and fewer still build it into their budgets when they start their ERP projects. Many are forced to beg for more money and staff immediately after the go-live date, long before the ERP project has demonstrated any benefit.

Different Methods in implementing ERP

- Pre evaluation Screening
- Evaluation Package
- Project Planning
- GAP analysis
- Reengineering
- Team training
- Testing
- Post implementation



Copyright © Capgemini 2015. All Rights Reserved 14

1. Pre evaluation Screening

Once the company has decided to go for the ERP system, the search for the package must start as there are hundreds of packages it is always better to do a through and detailed evaluation of a small number of packages, than doing analysis of dozens of packages. This stage will be useful in eliminating those packages that are not suitable for the business process.

2. Evaluation Package

This stage is considered an important phases of the ERP implementation, as the package that one selects will decide the success or failure of the project. Implementation of an ERP involves huge investments and it is not easy to switch between different packages, so the right thing is 'do it right the first time'. Once the packages to be evaluated are identified, the company needs to develop selection criteria that permit the evaluation of all the available packages on the same scale.

3. Project Planning

This is the phase that designs the implementation process. It is in this phase that the details of how to go about the implementation are decided. Time schedules deadlines, etc for the project are arrived at. The plan is developed, roles are identified and responsibilities are assigned. It will also decide when to begin the project, how to do it and its completion. A committee by the team leaders of each implementation group usually does such a planning.

4. GAP analysis

This is considered the most crucial phase for the success of ERP implementation. This is the process through which the companies create a complete model of where they are now, and in which direction will they opt in the future. It has been estimated that even the best packages will only meet 80% of the company's requirements. The remaining 20% presents problematic issues for the company's reengineering.

5. Reengineering

It is in this phase that human factors are taken into consideration. While every implementation is going to involve a significant change in number of employees and their job responsibilities, as the process becomes more automated and efficient, it is best to treat ERP as an investment as well as cost cutting measure.

6. Team training

Training is also an important phase in the implementation, which takes place along with the process of implementation. This is the phase where the company trains its employees to implement and later, run the system. Thus, it is vital for the company to choose the right employee who has the right attitude- people who are willing to change, learn new things and are not afraid of technology and a good functional knowledge.

7. Testing

This is the phase where one tries to break the system. One has reached a point where the company is testing the real case scenarios. The system is configured and now you must come up with extreme cases like system overloads, multiple users logging on at the same time, users entering invalid data, hackers trying to access restricted areas and so on. This phase is performed to find the weak link so that it can be rectified before its implementation.

8. Post implementation

Once the implementation is over, the vendor and the hired consultants will go. To reap the fruit of the implementation it is very important that the system has wide acceptance. There should be enough employees who are trained to handle problems those crops up time to time. The system must be updated with the change in technology. The post implementation will need a different set of roles and skills than those with less integrated kind of systems.

However, an organization can get the maximum value of these inputs if it successfully adopts and effectively uses the system.

Post-Implementation Phase

- Regular monitoring
- Tuning [hardware/software] for patching the
- performance issues
- Maintenance



Copyright © Capgemini 2015. All Rights Reserved 16

Post implementation:

Once the implementation is over, the vendor and the hired consultants will go. To reap the fruit of the implementation it is very important that the system has wide acceptance. There should be enough employees who are trained to handle problems those crops up time to time. The system must be updated with the change in technology. The post implementation will need a different set of roles and skills than those with less integrated kind of systems.

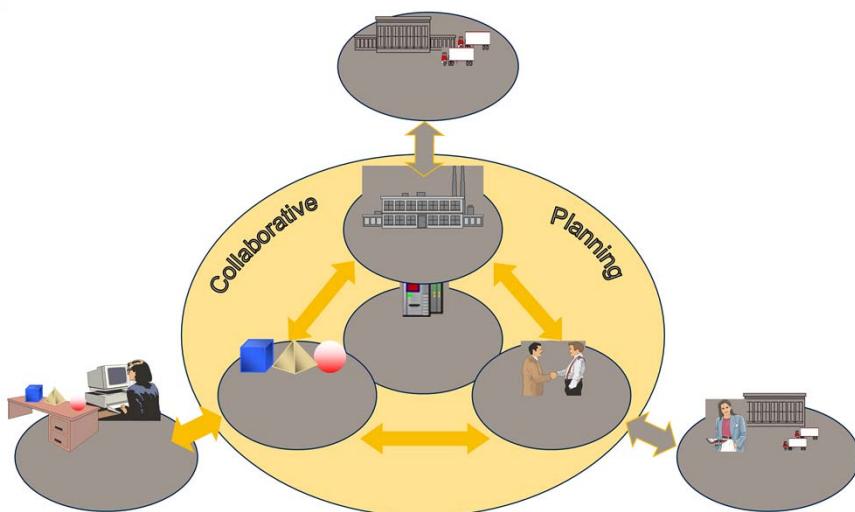
Building ERP using External Sources

- About this option
- The Principle!
- The Steps
- Why?
- Points of Concern
- Software Vendor selection
- Critical Success factors



Copyright © Capgemini 2015. All Rights Reserved 17

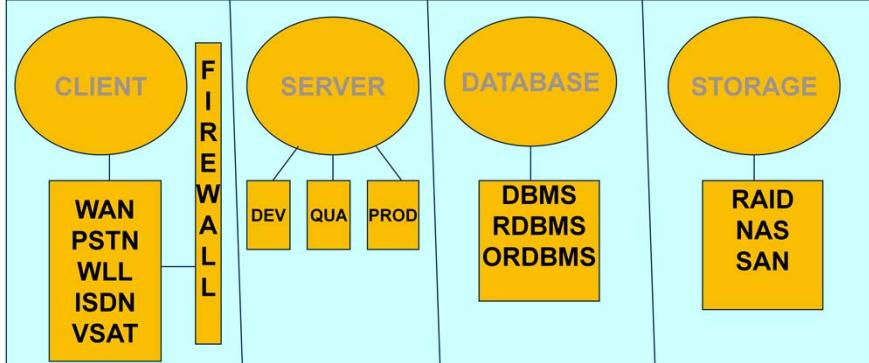
Beyond ERP



Copyright © Capgemini 2015. All Rights Reserved 18

Traditional Enterprise Resource Planning (ERP) systems were developed to automate and integrate business functions on an operational or transactional level. They focussed purely on internal processes. However, there was a need to manage not only operational processes but also corporate performance and strategic management-related processes across functions, geographies, and lines of business. Faced with this situation, corporate bosses are looking beyond ERP and other transactional applications for solutions that will help them manage their businesses more effectively. CPM(Corporate Performance Management) systems combine past information with incoming data, letting top management monitor organisational performance in near real-time. These systems also build upon the existing data analytic systems to create a single set of information that underlies financial planning, reporting and data analysis systems. The growing pressure to meet financial disclosure regulations and improve a company's competitiveness is fuelling an increase in demand for CPM software.

Infrastructure of Data Center



Data center basically consist of :

Client(Possible Client connections WAN,PSTN,WLL etc)

Server(DEV : Development server, QUA : Quality Server , PROD : Production server)

Database(DBMS,RDBMS,ORDBMS)

Storage(RAID,NAS,SAN).

Data Center (DC)

- A data center is a facility used to house computer systems and associated components, such as telecommunications and storage systems.
- It generally includes redundant or backup power supplies, redundant data communications connections, environmental controls (air conditioning, fire suppression, etc.), and special security devices.



Copyright © Capgemini 2015. All Rights Reserved 20

The basic components of DATA CENTER are:

Client
Server
Database
storage

Summary

- In this lesson, you have learnt:
 - ERP – Options
 - Tailor-made ERP option
 - Product Selection
 - Preparation Phase
 - ERP product acceptance -options
 - GAP Analysis
 - Production Phase
 - Critical Success Factors
 - Implementation Phase
 - Different Methods in implementing ERP
 - Post-Implementation Phase
 - Building ERP using External Sources
 - Infrastructure of Data Center



Copyright © Capgemini 2015. All Rights Reserved 21

Review Questions

- Question 1: _____ guides you step-by-step through the process of creating a report.
- Question 2: _____ is an easy user interface for writing SQL.



ERP Overview

Lesson 3: Manufacturing
basics

Lesson Objectives

- To understand the following topics:
 - What is manufacturing?
 - Manufacturing Industries
 - Manufactured Products
 - Manufacturing Capability
 - Manufacturing Planning Processes:
 - Importance of Demand Forecast
 - Types of manufacturing
 - Introduction to Business Cycle



What is manufacturing?

- Is the application of physical and chemical processes of a given starting material to make parts or products.
- Is the transformation of materials into items of greater value by means of one or more processing or assembly operation.
- It adds value to the material by changing its shape or properties.



Copyright © Capgemini 2015. All Rights Reserved

3

Manufacturing Industries

- Primary that are those that cultivate and exploit natural resources
- Secondary that take the outputs of the primary industries and convert them into consumer or capital goods
- Tertiary that constitute the service sector of economy



Copyright © Capgemini 2015. All Rights Reserved 4

primary sector: The primary sector of the economy extracts or harvests products from the earth. The primary sector includes the production of raw material and basic foods.

secondary sector: The secondary sector of the economy manufactures finished goods. All of manufacturing, processing, and construction lies within the secondary sector.

tertiary sector: The tertiary sector of the economy is the service industry. This sector provides services to the general population and to businesses.

Manufactured Products

- Consumer Goods that are products purchased directly by consumers, such as cars, computers, TVs.
- Capital Goods that are those purchased by other companies to produce goods and supply services.

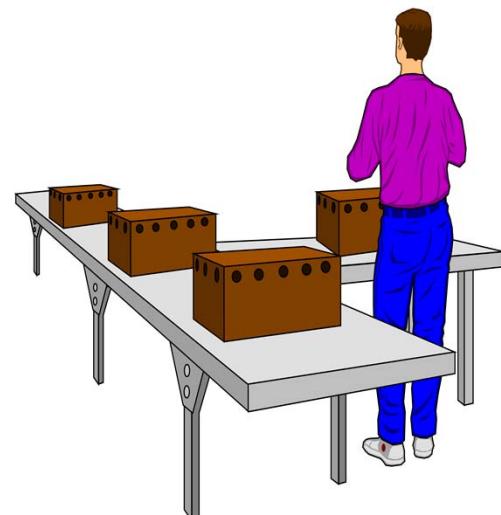


Copyright © Capgemini 2015. All Rights Reserved

5

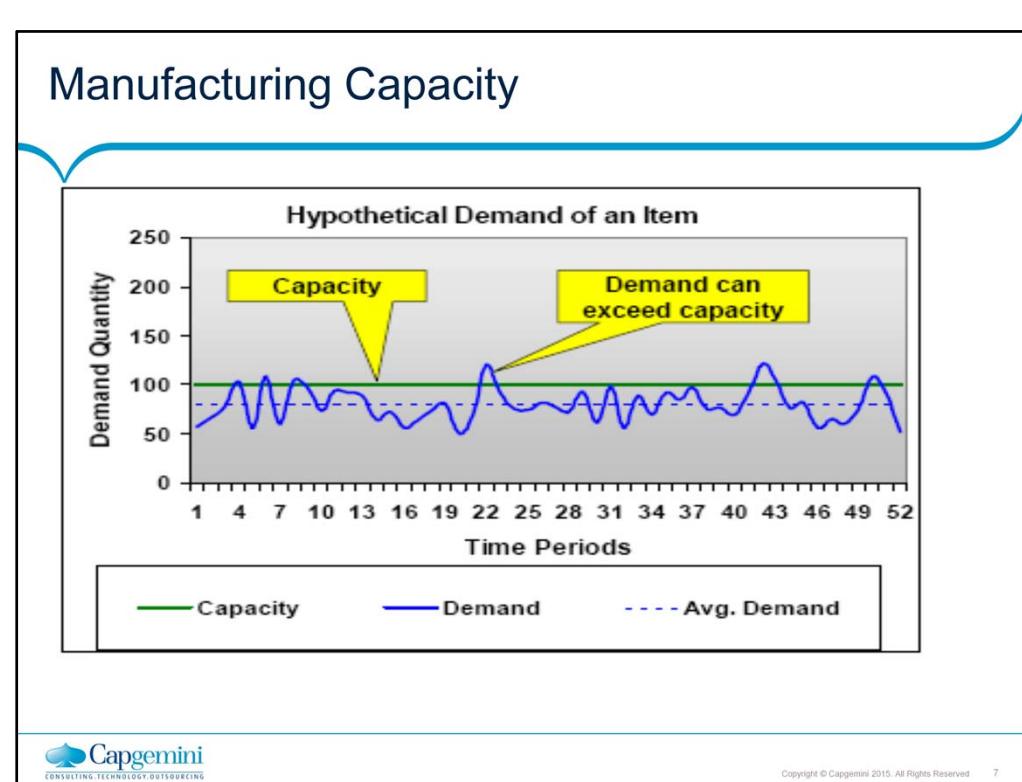
Manufacturing Capability

- Technological Processing Capability
- Physical Product Limitation
- Production Capacity



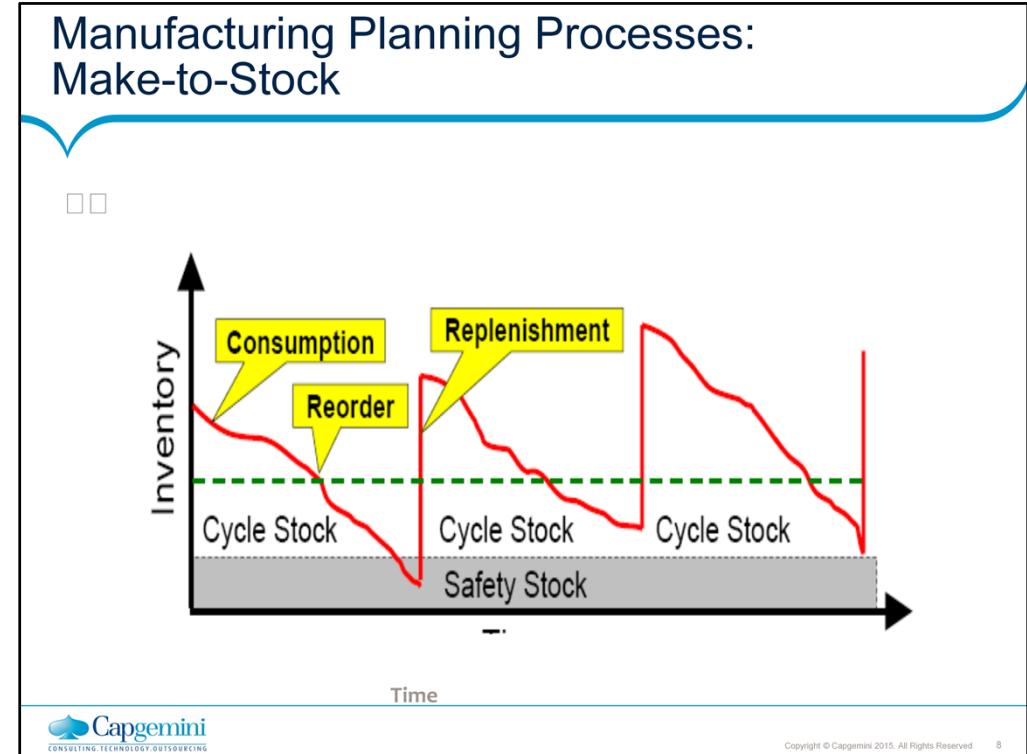
Copyright © Capgemini 2015. All Rights Reserved 6

A good manufacturing system should provide for multimode manufacturing applications that encompass full integration of resource management. Manufacturers are measured by their ability to react quickly to sudden, often unpredictable change in customer demand for their products and services. Manufacturing system should be integrated with the other modules of the package.



Material plans can be developed from a wide variety of sources that include the master schedule, sales forecasts and dependent and independent demand.

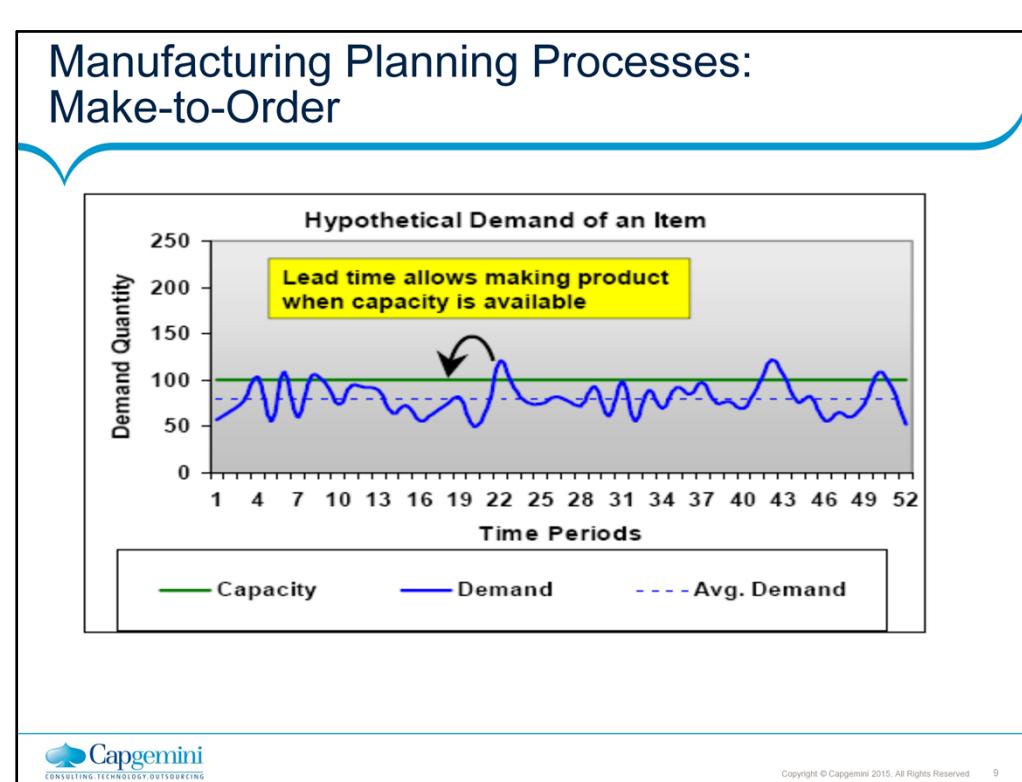
- Usually fixed at a rate determined by equipment
- Economics drive minimum capacity to meet demand
- Some excess capacity accommodates variability
- Demand can exceed capacity
- Adding capacity is generally a long lead time



Make-to-stock: manufacturers make products to stock prior to receipt of a customer order.

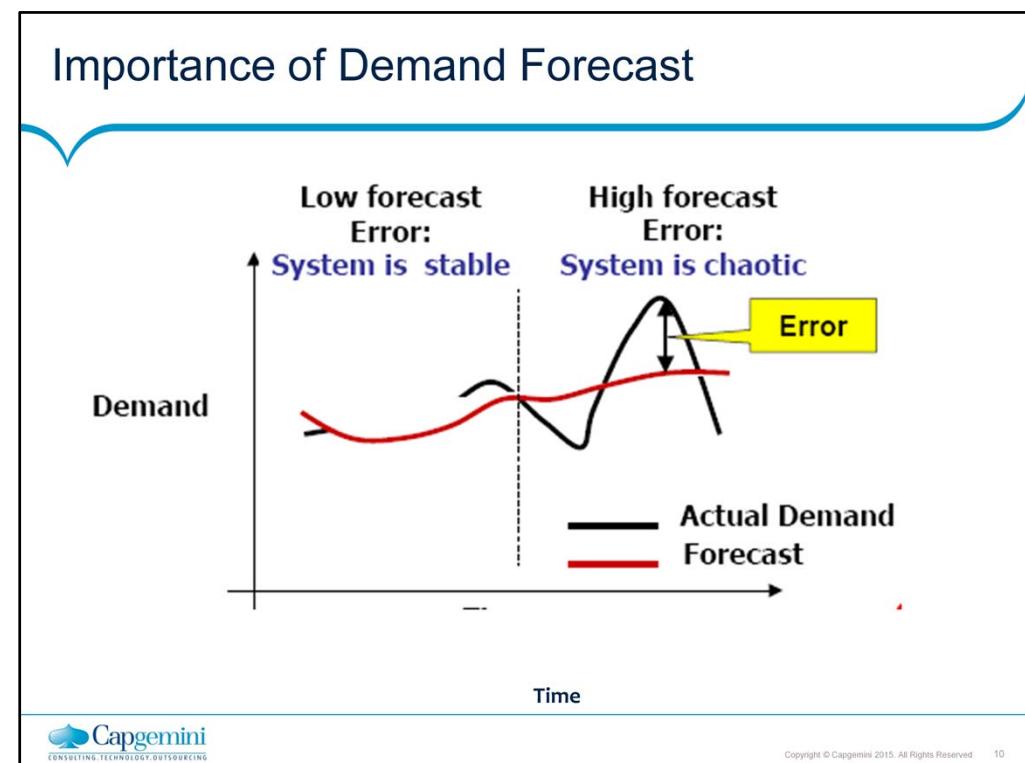
Demand lead time is shorter than supply lead time

- Orders are filled from inventory
- Use forecast to produce inventory before demand occurs
- It is important to forecast accurately
- Replenishment quantities are based on an economical size



Make-to-order: manufacturers make products upon receipt of a customer order.

- Wait for actual orders before production
- Demand lead time is longer than supply lead time
- Usually used for low demand items that are hard to forecast



- Forecast is an estimate of anticipated demand
- All forecasts have error
- Forecast error is the difference in the forecast and actual
- The goal is to have minimum forecast error such that the planning is acceptable

“Just-in-Time” Concept

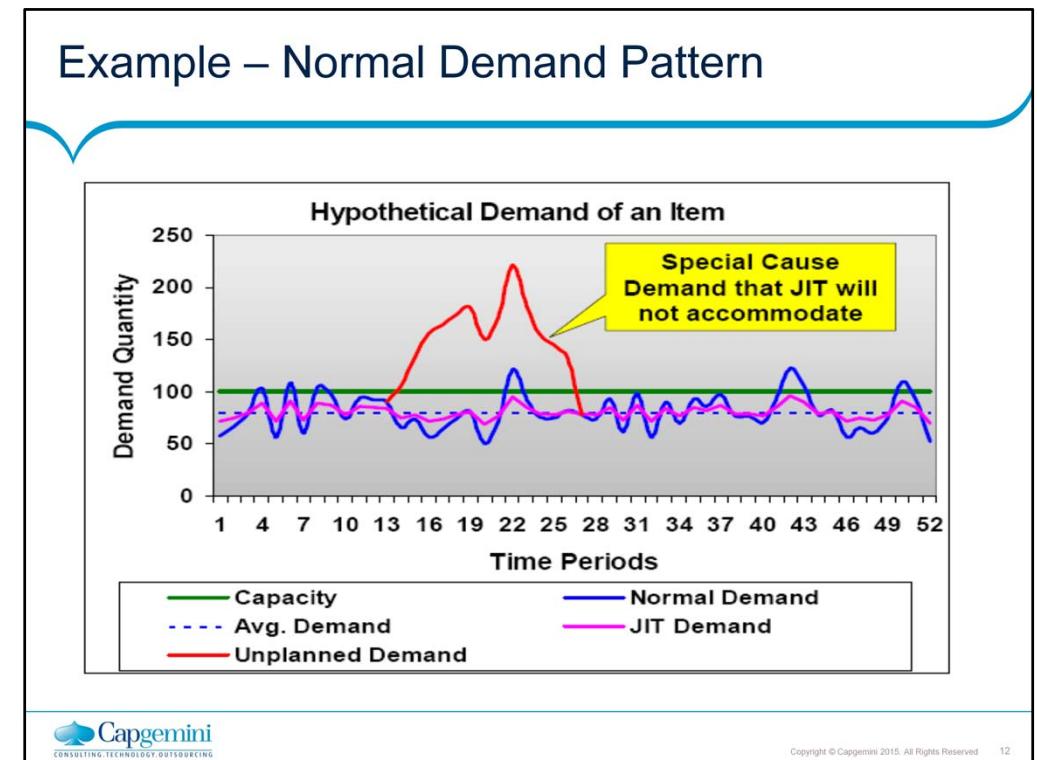
- Producing exactly what is needed and transferring it to where it is needed precisely when required.
- Characteristics:
 - Little or no inventory
 - Mostly make-to-order with short lead times
 - Eliminate “special cause” variability
 - Supply chain synchronizes to a pacing process
 - Excess capacity is a form of waste that is minimized
 - JIT Systems are deliberately designed



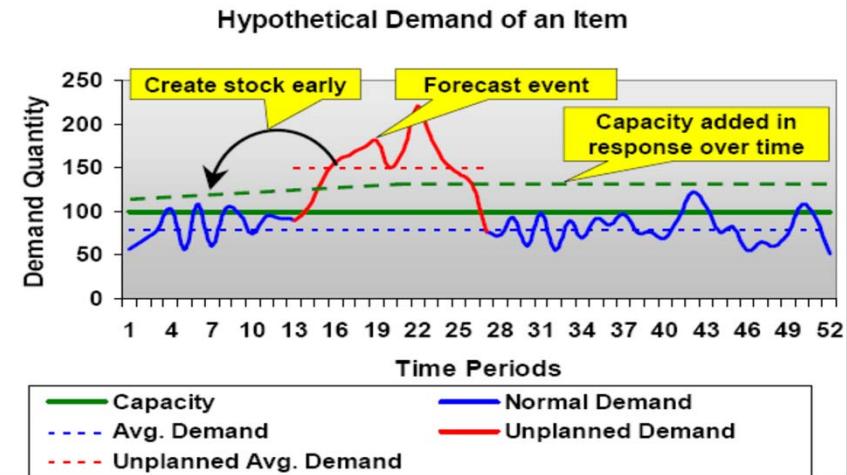
Copyright © Capgemini 2015. All Rights Reserved 11

JIT means to produce goods and services when needed ,not too early and not too late .It is time based and often has quality and efficiency targets .JIT is a production philosophy and not a technology. It provides the following benefits:

Increased flexibility.
Parts reduction.
Increased quality
Simplicity of system.



Example – Normal Demand Pattern



Warehouse

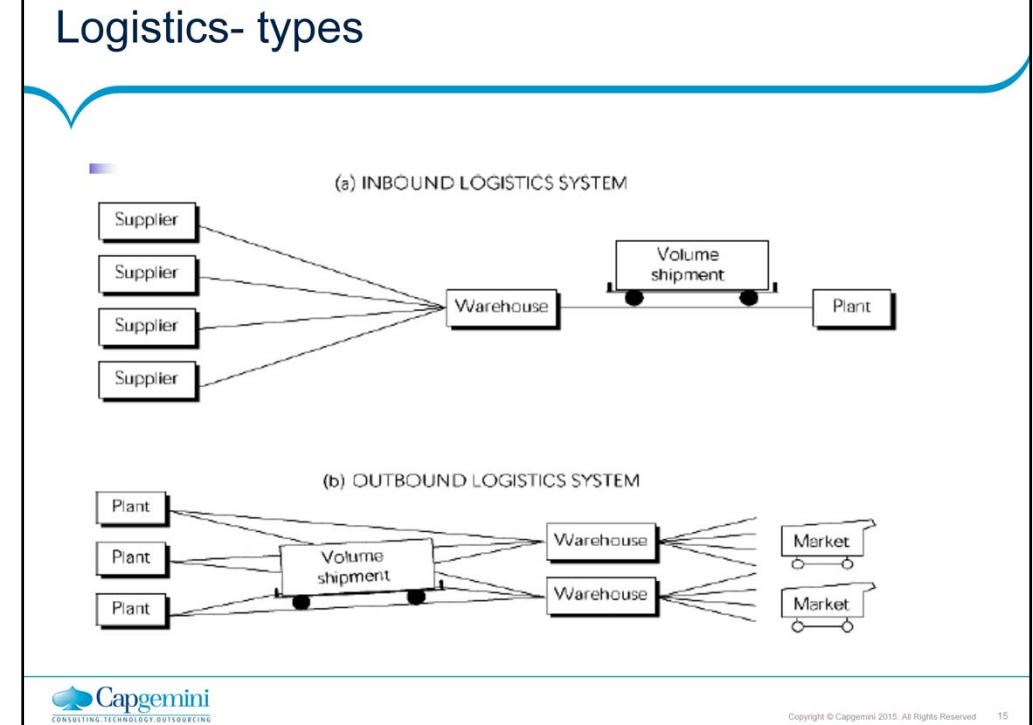
- The warehouse is where the supply chain holds or stores goods.
- Functions of warehousing include:
 - Transportation
 - Consolidation
 - Product mixing
 - Cross-docking
 - Service
 - Protection against
 - Contingencies
 - Smoothing



Copyright © Capgemini 2015. All Rights Reserved 14

If the operational data is kept in database ,it will create lot of problems. The amount of data will increase and this will affect the performance of the erp system .So its better to archive the operational data once its use is over. These data's are going to be stored in the warehouse and the primary concept of data warehousing is that the data stored for business analysis can be accessed most effectively by separating it from the data in operating systems.

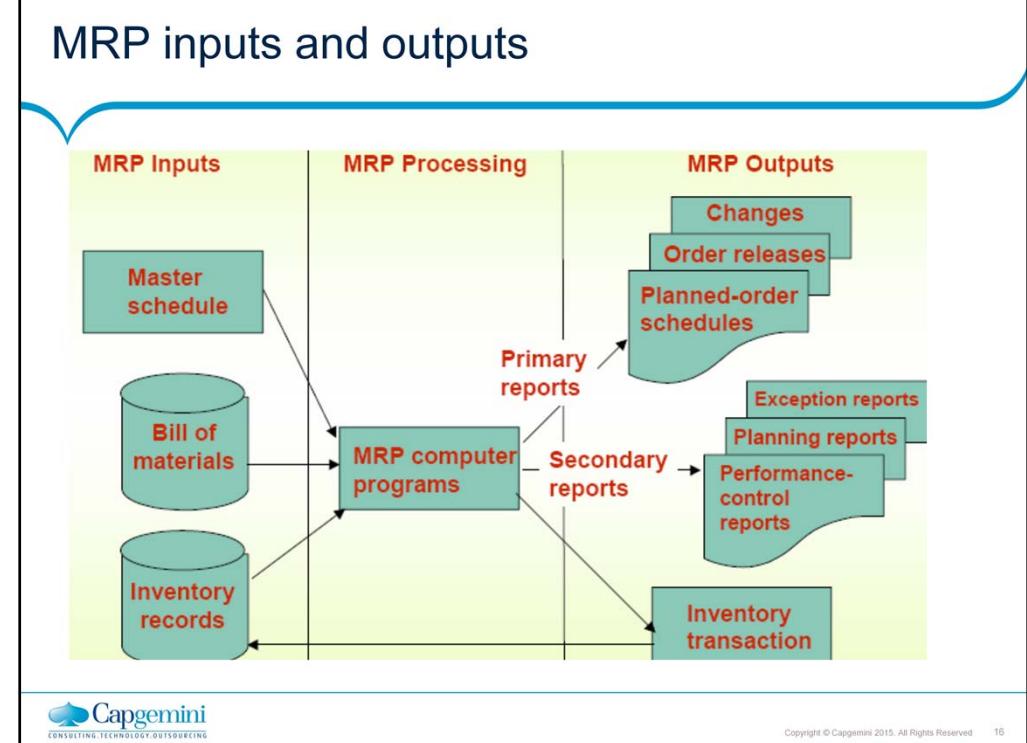
Cross-docking:[Distribution method](#) in which the [goods flow](#) in an unbroken sequence from [receiving](#) to [shipping](#) (dispatching), thus eliminating [storage](#). Also called flow through distribution.



Logistics: Management of materials in motion and at rest.
 Getting the right product, to the right customer, in the right quantity, in the right condition,
 at the right place, at the right time, and with the right cost called the Seven rules of Logistics.

inbound logistics : Supply management for the plant

outbound logistics: distribution management for the firm's customers



Materials Requirements Planning (MRP)

MRP is a planning tool geared specifically to assembly operations. The aim is to allow each manufacturing unit to tell its supplier what parts it requires and when it requires them. The supplier may be the upstream process within the plant or an outside supplier. Together with MRP II it is probably the most widely used planning and scheduling tool in the world. MRP was created to tackle the problem of 'dependent demand'; determining how many of a particular component is required knowing the number of finished products. Advances in computer hardware made the calculation possible.

Master Production Schedule

The process starts at the top level with a Master Production Schedule (MPS). This is an amalgam of known demand, forecasts and product to be made for finished stock. The phasing of the demand may reflect the availability of the plant to respond. The remainder of the schedule is derived from the MPS. Two key considerations in setting up the MPS are the size of 'time buckets' and the 'planning horizons'. A 'time bucket' is the unit of time on which the schedule is constructed and is typically daily or weekly. The 'planning horizon' is how far to plan forward, and is determined by how far ahead demand is known and by the lead times through the operation. There are three distinct steps in preparing an MRP schedule:

- exploding
- netting
- offsetting.

Exploding

Exploding uses the Bill of Materials (BOM). This lists how many, of what components, are needed for each item (part, sub assembly, final assembly, finished product) of manufacture. Thus a car requires five wheels including the spare. BOM's are characterised by the number of levels involved, following the structure of assemblies and sub assemblies. The first level is represented by the MPS and is 'exploded' down to final assembly. Thus a given number of finished products is exploded to see how many items are required at the final assembly stage.

Netting

The next step is 'netting', in which any stock on hand is subtracted from the gross requirement determined through explosion, giving the quantity of each item needed to manufacture the required finished products.

Offsetting

The final step is 'offsetting'. This determines when manufacturing should start so that the finished items are available when required. To do so a 'lead time' has to be assumed for the operation. This is the anticipated time for manufacturing.

The whole process is repeated for the next level in the BOM and so on until the bottom is reached. These will give the requirements and timings to outside suppliers.

There are three major assumptions made when constructing an MRP schedule:

The first, and possibly the most important, is that there is sufficient capacity available. For this reason MRP is sometimes called infinite capacity scheduling.

The second is that the lead times are known, or can be estimated, in advance.

The third is that the date the order is required can be used as the starting date from which to develop the schedule.

Types of manufacturing

TYPE	EXAMPLE	KEY FEATURES
Discrete	Computer assembly	Make assembly in batches. Define job , detail scheduling, charge job
	Machine assembly.	
Repetitive/line production	Car manufacturing	Make product continuously over predefine time Define repetitive schedule. Period costing. Only STD. costing.
	Mineral bottle	

Types of manufacturing

TYPE	EXAMPLE	KEY FEATURES
Project mfg.	Fire fighting system project.	Mfg. as per project plan
	Hvac projects.	Install at projet Site , Project costing, Project billing.
Flow manufacturing	Family of moulding m/cs.	Production line for family.
	Engine family	Rate based demand . JIT .pull material by Kanban. Simple but effective planning tool.
Process Mfg.	Paints and chemicals	Period costing . Formula base.
	Oil and petrol chemicals	Yield and shrinkage factor, Co product and by product Quality management.



Copyright © Capgemini 2015. All Rights Reserved 19

Introduction to Business Cycle

- Business-to-Business (B2B)
- Business-to-Consumer (B2C)

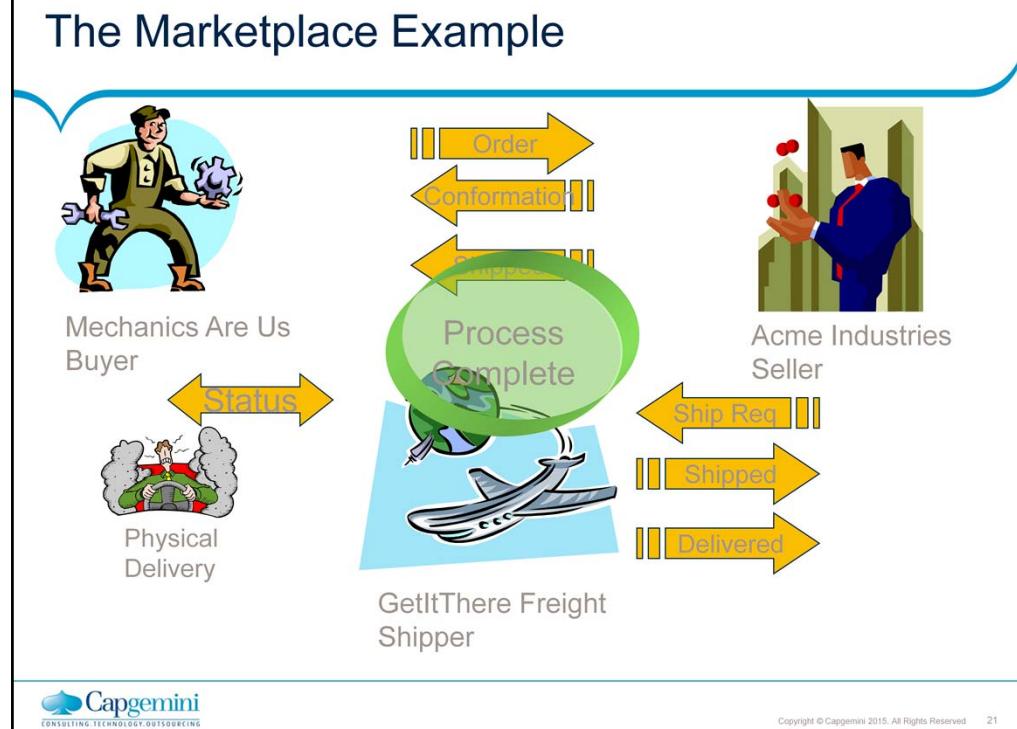


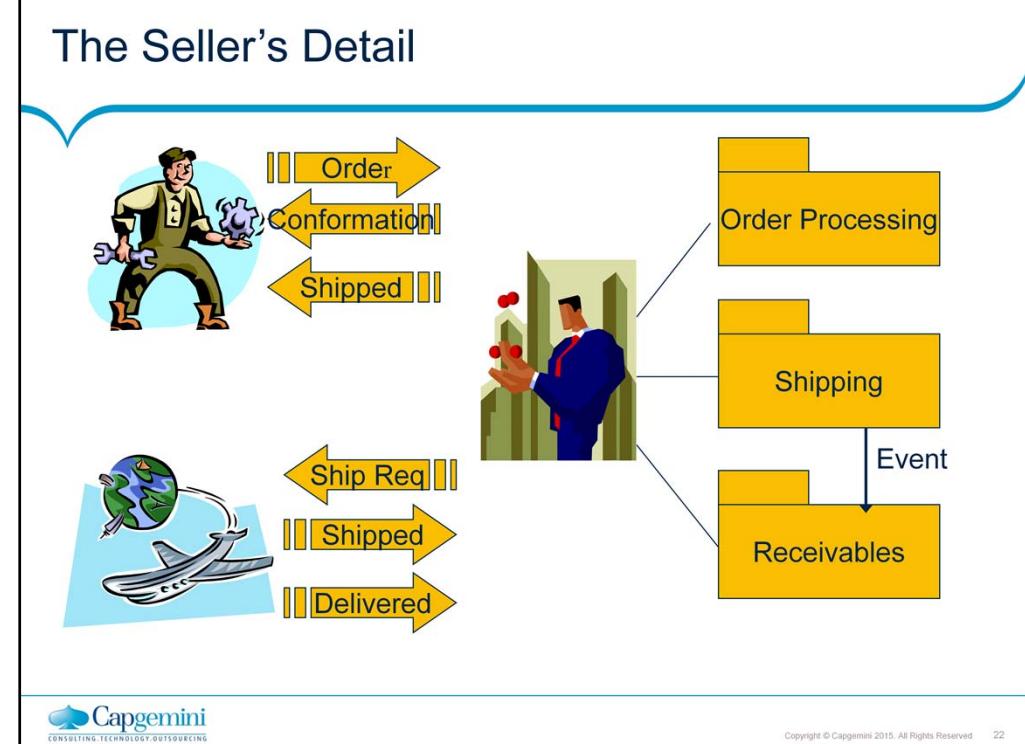
Copyright © Capgemini 2015. All Rights Reserved 20

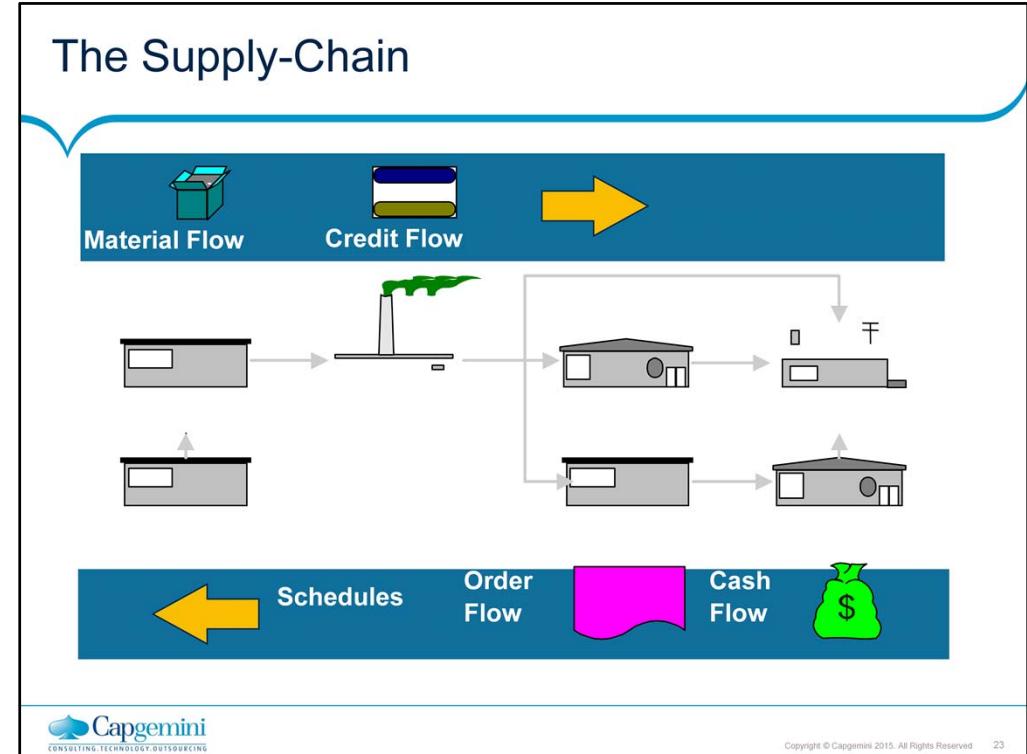
B2b: The salesperson represents a company and sells to other companies
eg:

Supply-chain automation
Customer Integration

B2c: The salesperson sells directly to the consumer
Web deployment
Internet Marketplace







Process of planning, implementing, and controlling the operations of the supply chain as efficiently as possible.

Spans all movement and storage of raw materials, work-in-process inventory, and finished goods from point-of-origin to point-of-consumption.

Basic business cycles:

- Procure to pay/Purchase to pay
- Order to cash



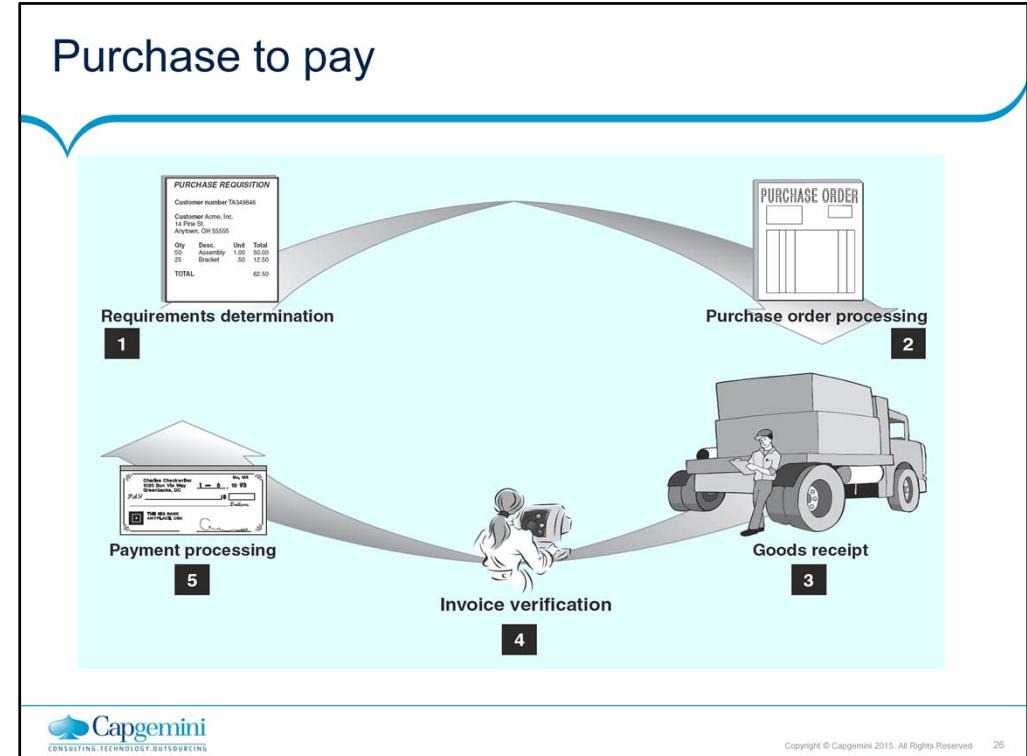
Copyright © Capgemini 2015. All Rights Reserved 24

Procure to purchase

- Procure to Pay is the process of obtaining and managing all raw materials needed for manufacturing. This cycle starts with the source selection, auditing followed by procurement of goods and services. The contracts with the suppliers are managed and can also include supplier managed inventories or direct inventory visibility. It also comprises direct procurement requirements through conversion from demands to purchase orders and confirmation of goods receipt. The incoming materials are then inspected and posted into inventory as part of managing the warehouse. The last activity in this cycle is payment of the suppliers which consists of receiving, entering and checking vendor's invoice for correctness.



Copyright © Capgemini 2015. All Rights Reserved 25



1. Determine requirements, complete purchase requisition.
ERP system may automatically generate the purchase requisition based on quantity on-hand, quantity-on-order, and expected demand.
2. Prepare and record purchase order.
An ERP system assists the buyer in identifying sources of supply for the requested item, preparing RFQs to vendors, analyzing vendor quotes, comparing vendor prices, terms, and past performance
3. Receive and record goods.
Compare quantity ordered to quantity received.
The ERP routes goods to the function that requested them or directs them to the warehouse for immediate sale. It also records vendor performance data.
4. Receive vendor invoice, match with PO and receiving report; record payable.
If the three-way match fails, the enterprise system notifies the proper personnel to ensure timely reconciliation of differences.
5. Prepare and record cash disbursement and update accounts.
An ERP system uses vendor and AP data to schedule payments in accordance with vendor terms and to receive discounts.

Order to cash

- The most well-known composite process is order-to-cash. This process flow encapsulates a variety of smaller business processes from order entry to cash receipt. It pulls resources from many different company departments.
- Order to cash normally refers to the (ERP) process in which taking customer sales orders via different sales channels, such as email, internet, sales person etc and then fulfilling the order, shipping, logistic and then generating an invoice and collecting payment for that invoice and then receipt. If we consider the entire flow, this can be further categorized into the following seven sub-processes:



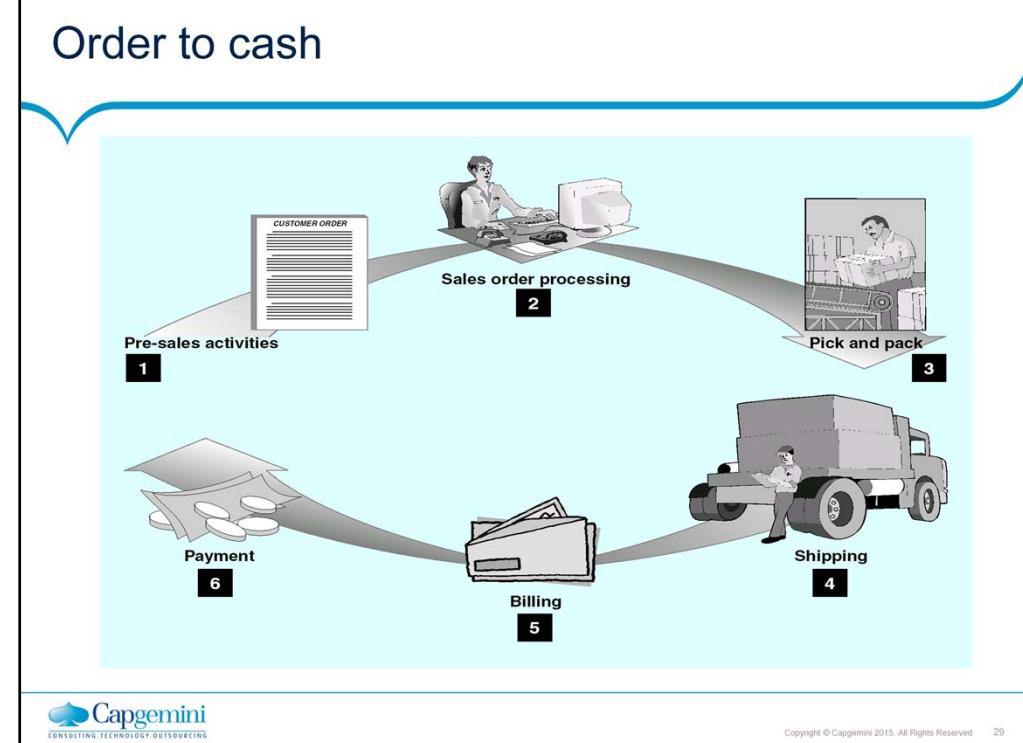
Copyright © Capgemini 2015. All Rights Reserved 27

Order to cash

- Customer presence
- Order entry (creation of order/booking of order)
- Order fulfillment
- Distribution
- Invoicing
- Customer payments/collection
- Receipt



Copyright © Capgemini 2015. All Rights Reserved 28



1. Respond to inquiries and requests for quotes (RFQs). Some companies add on separate CRM modules
2. Record customer order including: check customer credit; check inventory pricing; and check where and when inventory will be available to send to the customer.
Triggers picking of goods or purchase of goods from another vendor.
3. Pick goods from warehouse and pack for shipment.
4. Ship goods to the customer.
ERP system would choose the appropriate routing and carrier, record the cost of goods sold
and inventory reduction in the general ledger. Some ERP systems trigger the billing process when a shipment takes place.
5. Billing the customer and recording the sale in AR.
ERP system ensures correct quantities, prices, terms, addresses, etc. ERP system can be used to analyze sales profitability by comparing product costs to selling price.
6. Receive and record payment.
Includes: recording cash receipts and updating cash and accounts receivable.
ERP data can then be used to manage customer credit and invest available cash.

Purchasing

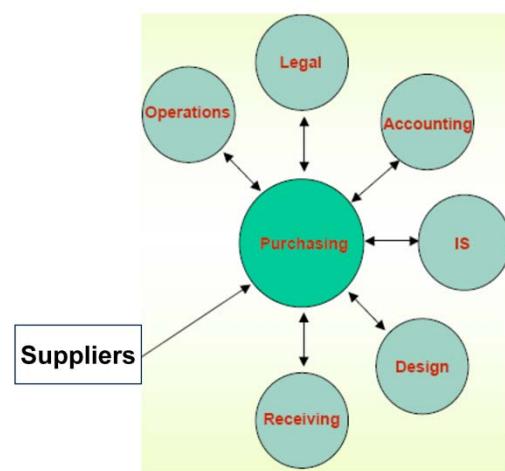
- Responsible for obtaining the materials, parts, and supplies and services needed to produce the product
- Develop and implement purchasing plans for products and services
- Integrated with all other functions: accounting, finance, manufacturing, warehousing, sales



Copyright © Capgemini 2015. All Rights Reserved 30

Purchasing Cycle

- Supplier management
- Requisition received
- Manually
- Planning System
- Order released
- Monitor orders
- Receive material



Copyright © Capgemini 2015. All Rights Reserved 31

The ERP Purchasing Software Module provides complete purchasing control to generate and track purchase orders from PO issue to receipts. The Purchasing module provides controls for the complete procurement process, from vendor quoting through receiving, inspection, cost accrual and vendor payment.

Vendor quotes are collected against items with multiple vendor price comparisons used by the system to recommend vendor selection for each purchase order. Requisitions can be generated automatically from M.R.P. or can be entered by users. Once approved, requisitions can be automatically converted to Purchase Orders. An item may be received directly to a line stocking location, to a specific job, or simply to its primary stocking location.

Sales

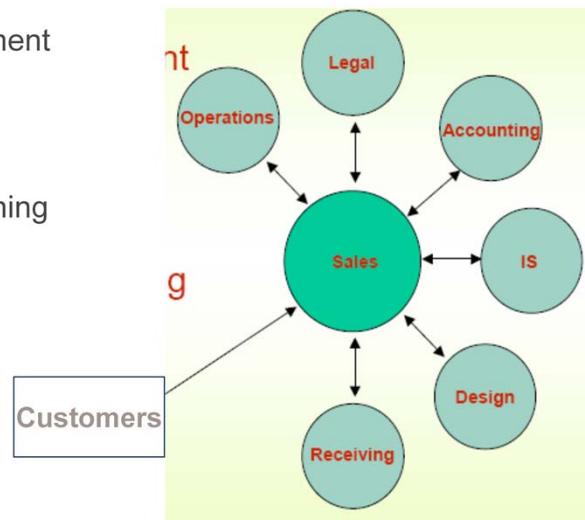
- Establish and manage customer relationships
- Define product specifications
- Marketing, promotion
- Order entry
- Demand management
- Integrated with all other functions:
 - accounting, finance, manufacturing, warehousing, purchasing



Copyright © Capgemini 2015. All Rights Reserved 32

Sales Cycle

- Customer management
- Order received
- – Quote
- – Sales Order
- Manufacturing planning
- Monitor order
- Ship product



Copyright © Capgemini 2015. All Rights Reserved 33

Revenues from sales are live blood for commercial organizations. Sales module implements functions of order placement, order scheduling, shipping and invoicing. Sales module is closely integrated with organizations' ecommerce websites. Many ERP vendors offer online storefront as part of the sales module.

Sales Cycle Management provides capabilities that companies can use to configure products, determine pricing, create proposals, check product availability, acquire and enter orders, manage contracts, and track and manage orders.

Summary

- In this lesson, you have learnt:
 - What is manufacturing?
 - Manufacturing Industries
 - Manufactured Products
 - Manufacturing Capability
 - Manufacturing Planning Processes:
 - Importance of Demand Forecast
 - Types of manufacturing
 - Introduction to Business Cycle



Review Questions

- Question 1: _____ guides you step-by-step through the process of creating a report.
- Question 2: _____ is an easy user interface for writing SQL.



ERP Overview

Lesson 4: Basics of Financial Accounting

Lesson Objectives

- To understand the following topics:
 - What is Accounting?
 - Accounting Rules
 - The Accounting Information System
 - Financial Statements
 - The Balance Sheet
 - Income Statement
 - Cash Flow Measurement
 - Assessment of Financial Performance
 - Measuring Liquidity
 - Calculate Return on Investment (ROI)
 - Turnover Ratios
 - Managing Accounts



What is Accounting?

- Accounting is the language of business
- Accounting provides information for making decisions
- Accounting is an information system



Copyright © Capgemini 2015. All Rights Reserved 3

Accounting - Definition

- ‘Accounting’ in short can be defined as ‘Recording of Business Transactions’ for Audit, Analysis and Future Record.
 - Audit – Statutory Requirement
 - Analysis – Business Decisions
 - Future Record – Reference purpose



Copyright © Capgemini 2015. All Rights Reserved 4

Accounting Rules

Type of Account	Debit	Credit	Examples
Real	What comes in	What goes out	Assets, Loans and Advances
Nominal	Expenses / Losses	Income / Gains	Sales, COGS, Admn. Exps., Interest
Personal	Receiver	Giver	Customers, Vendors, Employees

COGS: Cost Of Goods Sold



Copyright © Capgemini 2015. All Rights Reserved 5

The Accounting Information System

Inputs	Processing	Outputs	Users
Business Transactions and Events	Accounting Principles and Procedures	Financial Statements and Reports	Investors, Lenders, Managers



Copyright © Capgemini 2015. All Rights Reserved 6

Financial Statements

- Financial Statements (Accounting Statements)
- Reports of a firm's financial performance and resources, including an income statement and a balance sheet
- Helps determine a start-up's financial requirements
- Assesses the financial implications of a
- Business plan



Copyright © Capgemini 2015. All Rights Reserved 7

Financial statements provide an overview of a business' financial condition in both short and long term. All the relevant financial information of a business enterprise, presented in a structured manner and in a form easy to understand, are called the financial statements. There are four basic financial statements:[1]

[Balance sheet](#): also referred to as statement of financial position or condition, reports on a company's assets, liabilities, and net equity as of a given point in time.

[Income statement](#): also referred to as Profit and Loss statement (or a "P&L"), reports on a company's income, expenses, and profits over a period of time. Profit & Loss account provide information on the operation of the enterprise. These include sale and the various expenses incurred during the processing state.

[Statement of retained earnings](#): explains the changes in a company's retained earnings over the reporting period.

[Statement of cash flows](#): reports on a company's cash flow activities, particularly its operating, investing and financing activities.

The Balance Sheet

- Balance Sheet

- A report showing a firm's assets, liabilities, and owners' equity at a specific point in time
- Outstanding debt + Inventories + Fixed Assets + Intangible Assets = Total assets
- Accounts Payables + Accruals + Short Term Loans & Advances + Long Term Loans + Retained Earnings = Total Liability



The Balance Sheet: Types of Assets

- Current assets

- Assets that can be converted to cash within the firm's operating cycle—cash, accounts receivable, and inventories.

- Fixed Assets

- Relatively permanent resources intended for the use of the firm.
 - Net fixed assets =
gross fixed assets – accumulated depreciation

- Other Assets

- Intangible assets (patents, copyrights, goodwill)



Copyright © Capgemini 2015. All Rights Reserved 9

Income Statement

- Income Statement

- A report showing the profit or loss from a firm's operations over a given period of time.
- "How profitable is the business?"

- Sales – Expenses = Profits

- Revenue from product or service sales
- Costs of producing product or service
- Operating expenses (marketing, selling, general and administrative expenses, and depreciation)
- Financing costs (interest paid)
- Tax payments



Copyright © Capgemini 2015. All Rights Reserved 10

Cash Flow Measurement: Key Terms

- Statement of Cash Flows
 - A financial report that shows changes in a firm's cash position over a given period of time.
- Accrual-Basis Accounting
 - A method of accounting that matches revenues when they are earned against the expenses associated with those revenues.



Some Accounting Terms

- Cost of Goods Sold (COGS) - the cost of producing or acquiring goods or services to be sold by a firm.
- Operating expenses - consisting of both selling and marketing expenses and administrative expenses.
- Operating income - earnings before interest and taxes
- Gross profit - sales less the COGS
- Financing costs – the amount of interest owed to lenders on borrowed money
- Net income available to owners (net income) – income that may be distributed to owners or re-invested in the company. Also called ‘Distributable Surplus’



Copyright © Capgemini 2015. All Rights Reserved 12

Assessment of Financial Performance

- Can a Firm Meet Its Financial Commitments?
 - Does the firm have the capacity to meet its short-term (one year or less) financial commitments?
 - Is the liquidity of the firm's assets sufficient?
 - Is the firm producing adequate operating profits on its assets?
 - How is the firm financing its assets?
 - Are the owners (shareholders) receiving an acceptable return on their equity?
- Financial Ratios
 - Statements of selected income statement and balance sheet date in relative terms



Copyright © Capgemini 2015. All Rights Reserved 13

Measuring Liquidity: Approach I

- Current Ratio
- Comparing cash and near-cash current assets against the debt (current liabilities) coming due and payable within one year.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\text{Current ratio} = \frac{\$345,000}{\$100,000} = 3.45$$

Industry norm for current ratio = 1.5



Copyright © Capgemini 2015. All Rights Reserved 14

Measuring Liquidity: Approach I

- Acid-test ratio (quick ratio)
- A measure of a company's liquidity that excludes inventories.

$$\text{Acid-test ratio} = \frac{\text{Current assets} - \text{Inventories}}{\text{Current liabilities}}$$

$$\text{Acid-test ratio} = \frac{\$345,000 - \$210,000}{\$100,000} = 1.35$$

Industry norm for acid-test ratio = 0.8



Copyright © Capgemini 2015. All Rights Reserved 15

Calculate Return on Investment (ROI)

- A measure of operating profits relative to total assets

$$\text{Operating income return on investment} = \frac{\text{Operating profits}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total assets}}$$

(OIROI)

$$\text{Operating income return on investment} = \frac{\text{Operating income}}{\text{Total Assets}}$$

$$\text{Operating income return on investment} = \frac{\$100,000}{\$920,000} = 0.1087 \text{ or } 10.87\%$$

Industry norm for OIROI: 3.6%



Copyright © Capgemini 2015. All Rights Reserved 16

Turnover Ratios

Accounts receivable turnover = $\frac{\text{Credit sales}}{\text{Accounts receivable}} = \frac{\$830,000}{\$78,000} = 10.64$

Industry Norm
10.43

Inventory turnover = $\frac{\text{Cost of goods sold}}{\text{Inventory}} = \frac{\$540,000}{\$210,000} = 4.00$

4.00

Fixed asset turnover = $\frac{\text{Sales}}{\text{Fixed assets}} = \frac{\$830,000}{\$252,000} = 1.58$

2.50



Copyright © Capgemini 2015. All Rights Reserved 17

Managing Cash Flows

- The Nature of Cash Flows
 - The flow of actual cash through a firm.
- Net Cash Flow
 - The difference between inflow and outflows
- Net Profit
 - The difference between revenue and expenses
- The Growth Trap
 - A cash shortage resulting from rapid growth



Copyright © Capgemini 2015. All Rights Reserved 18

Flow of Cash Through A Business



Managing Accounts Receivable

- How Accounts Receivable Affect Cash

- Accounts receivable represent the firm's decision to delay the inflow of cash from customers who have been extended credit.

- Life Cycle of Accounts Receivable

- Firm makes credit sale to customer.
 - Invoice is prepared and sent to customer.
 - Customer pays firm.



Copyright © Capgemini 2015. All Rights Reserved 20

Managing Accounts Receivable

- Accounts Receivable Financing
- Financing speeds up immediate cash flow
- Pledged accounts receivable
- Accounts receivable used as collateral for a loan.
- Factoring
 - Obtaining cash by selling accounts receivable at a discount to another firm.



Copyright © Capgemini 2015. All Rights Reserved 21

Managing Inventory

- Inventory is a “necessary evil.”
- Product supply and consumer demand don’t always match up.

- Reducing Inventory to Free Cash
- Monitoring current inventory
- Determine age and suitability for sale.
- Controlling stockpiles
- Match on-hand inventory with demand.
- Avoid personalizing the business-customer relationship.
- Avoid forward purchasing of inventory; the carrying cost for excess inventory may exceed any savings.



Copyright © Capgemini 2015. All Rights Reserved 22

Managing Accounts Payable

- Negotiation

- Asks creditors for adjustments or additional time.

- Timing

- Creditors' funds can supply short-term cash needs until payment is demanded.
 - Accounts with cash discounts for early payment should be examined for their savings potential.
 - "Buy now, pay later"—pay early enough to get cash discounts and timely enough to avoid late-payment fees.



Copyright © Capgemini 2015. All Rights Reserved 23

Summary

- In this lesson, you have learnt:
 - What is Accounting?
 - Accounting Rules
 - The Accounting Information System
 - Financial Statements
 - The Balance Sheet
 - Income Statement
 - Cash Flow Measurement
 - Assessment of Financial Performance
 - Measuring Liquidity
 - Calculate Return on Investment (ROI)
 - Turnover Ratios
 - Managing Accounts



Copyright © Capgemini 2015. All Rights Reserved 24

Review Questions

- Question 1: _____ guides you step-by-step through the process of creating a report.
- Question 2: _____ is an easy user interface for writing SQL.

