

### What Is ERP

- Enterprise Resource Planning (ERP) is an enterprise-wide information system that facilitates the flow of information and coordinates all resources and activities within the organization.
- Functions typically supported by the system include manufacturing, inventory, shipping, logistics, distribution, invoicing, and accounting. Some solutions now embed customer relationship management functionality.

#### What Is ERP

- A typical ERP system will use multiple components of computer hardware and software to achieve the integration.
- A key ingredient of most ERP systems is the use of a unified database to store data for various system modules.
- Broken down into business processes
  - HRM
  - Financials
  - Purchases
  - Sales

- Distribution
- Manufacturing/Production
- Accounting
- BI

# What Is ERP



### **ERP Evolution**

#### Manufacturing Perspective

MRP

#### Manufacturing

- Material & Components
- Quantities
- Time

MRP II

#### Manufacturing

- MRP
- Production Planning, Scheduling and Activity Control.

**ERP** 

#### Manufacturing

- MRP II
- Finance
- Engineering
- Sales and Marketing
- Human
   Resource

1950

1960

1970

1980

1990

2000

Planning and Inventory Control

Material Management Manufacturing and Resource Planning

Enterprise Resource Planning

### **ERP Evolution**

- 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 Management.)
- 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)

# **Major Reasons for adopting ERP**

- Integrate financial information.
- Integrate customer order information.
- Standardize and speed up operations processes.
- Reduce inventory.
- Standardize Human Resources information .
- Common definitions.
- Common database.
- Update one module, automatically updates others.
- ERP systems reflect a specific way of doing business.
- Must look at your value chains, rather than functions.

# **Benefits of ERP Implementation**

- ☐ Benefits are mostly in terms of cost containment rather than revenue increase.
- □ 53 companies (out of 63) reported annual savings of over \$5 millions with the median annual saving of \$1.6 million. Nine companies account for 73.4% of the reported savings.
- ☐ The study found that much of the ERP value is in indirect, non-quantifiable benefits.
- □ A number of companies surveyed had a negative net present value.

# **Factors Driving ERP Adoption**

Of all the software an organization can deploy, ERP has potentially the most direct impact on reducing costs.

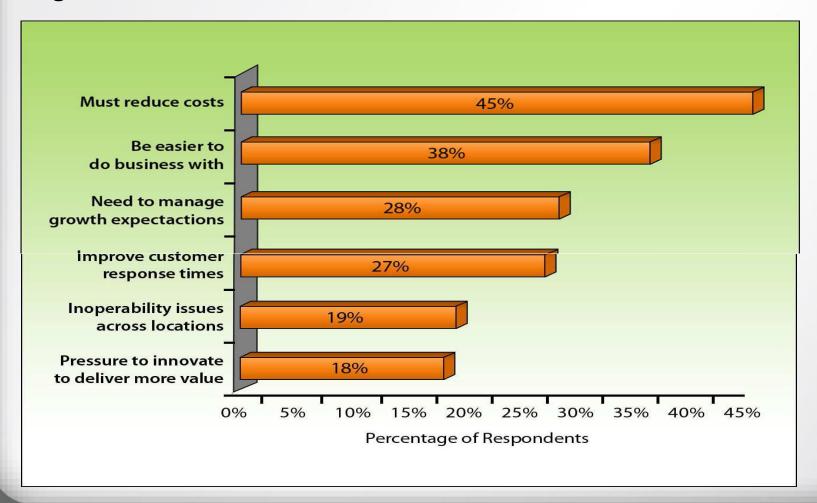
When asked in a 2010 survey conducted by the Aberdeen Group of Small and Medium Businesses (SMBs) what factors drove them to implement an ERP solution, nearly half cited the need to reduce costs to improve operating margins.

Improving customer service was the second most cited reason.

The distribution of responses to this survey appears below.

# Factors Driving ERP Adoption

#### Figure 1:



#### **Limitations of ERP**

- High cost of acquisition.
- Forced change of processes.
- Very complex software.
- Lack of trained people.
- Flexibility of software system upgrades.
- Implementation timelines.
- Availability of internal technical knowledge and resources.
- Education and training.
- Implementation strategy and execution.
- Resistance to change.

### **ERP Vendors**

Depending on your organization's size and needs there are a number of enterprise resource planning software vendors to choose from in the large enterprise, midmarket and small business ERP markets.

- Large Enterprise ERP (ERP Tier I)
  - The ERP market for large enterprises is dominated by three companies: SAP, Oracle and Microsoft.
- Midmarket ERP (ERP Tier II)
   For the midmarket vendors include Infor, QAD, Lawson, Epicor, Sage and IFS.
- Small Business ERP (ERP Tier III)

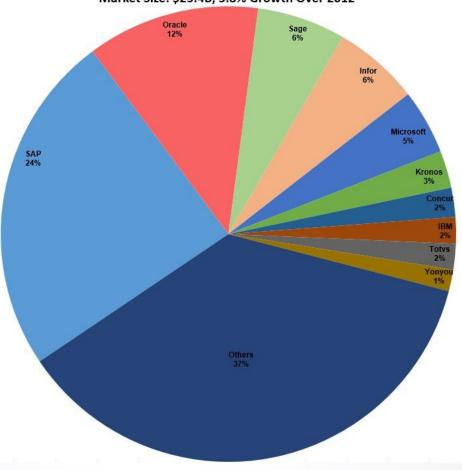
Exact Globe, Syspro, NetSuite, Visibility, Consona, CDC Software and Activant Solutions round out the ERP vendors for small businesses.

# **Top ERP vendors**

- SAP Systems Applications Products in Data Processing 24% market share - Honda, IBM, Bank of Canada, P & G
- Infor- 6% ACS Industries, Aggreko, Amatola Water, BAE Systems
- Microsoft 5% Sprint, Telkom, BT, FBN
- Oracle California 12% USPS, CBS, Nike, Kodak, Toronto Dominion Bank
- J.D. Edwards Colorado 7% Harley Davidson, Saab Automobile, BellSouth Cellular Corporation, Holiday Inns, Fox Television Stations

# Worlwide ERP Software Market Share, 2013

Worldwide ERP Software Market Share, 2013 Market Size: \$25.4B, 3.8% Growth Over 2012



# **Typical ERB Build process**

- Software vendor selection
- Detailed study by the vendor
- Scope & platform finalization
- Freezing the commercials
- Development
- Hardware addition/upgrade
- Old master/transaction data migration
- Parallel run with Integration & connectivity check
- Implementation
- Maintenance

### **Vendor Selection Process**

The following traits should be considered while selecting the software vendor for building the ERP application

- Technical expertise
- Domain knowledge
- Adequate manpower
- Project management skills
- Long existence in the field
- Extra skills [e-biz & workflow]

# **ERP Implementation - Key Enablers**

- ☐ The organization is prepared for the change.
- The executive leaders are active and visible in their support.
- ☐ The initiative is seen as a business imperative by the organization.
- ☐ The resources are available to conduct the project completely.
- A good packaged system is used and not customized.
- ☐ The user group is trained to use the software before it is implemented.

# **ERP Implementation Practices**

#### Project Management

- □ Organizations link implementation teams to both the technical (IS) and functional departments.
- ☐ They tightly control implementation processes
- ☐ They appropriately use consultants throughout the implementation process
- ☐ They manage turnover of key implementation employees
- ☐ They align implementation with organizational strategies

# **ERP Implementation Practices**

#### Change Management

- Redesigned jobs call for higher levels of skills and accountability
- ☐ Change management is viewed as more than just increased training and communication
- ☐ Enterprise-wide systems drive redesigned changes.
- ☐ The executive sponsor is the change agent.
- Resistance from the work force (including management) is the most significant obstacle.

# **ERP Implementation Practices**

## Technology Excellence

- Organizations rely heavily on the ERP package as the majority of their application configuration.
- Organizations implement ERP packages on time and within budget
- □Organizations centralize support groups within their IT departments

#### Success of ERP

- Autodesk (computer aided design software maker)
  - □ Reduced delivery time from two weeks to less than 24 hours
- IBM Storage Systems Division
  - Reduced time to re-price 5 days to 5 minutes
  - □Time to ship a replacement part 22 to 3 days
  - □ Time to complete a credit check 20 minutes to 3 seconds
- Fujitsu Microelectronics
  - □ Reduced the cycle time for filling orders from 18 days to 1.5 days

### **Failures of ERP**

- FoxMeyer Drug software helped drive the company into bankruptcy
- Dell computer software will not fit its decentralized management model
- Applied Materials overwhelmed by the organizational changes involved
- Dow Chemicals spent seven years and 500 million dollars on R/2 now starting again with R/3
- Hershey's missed timely deliveries

# **New Developments In ERP**

- Availability of web-based and wireless ERP systems.
- Adoption of easy-to-install ERP systems.
- Cloud ERP Gartner mentions that Workday, Workforce Software, Cornerstone OnDemand CSOD +0.9% and NetSuite are the five fastest-growing ERP vendors worldwide from 2012 to 2013.
- Linkage to other software systems, e.g., supply chain management system, ecommerce, customer relationship management system.

