ERP

-Enterprise resource planning, sold as offering integration, standardisation, flexibility, simplification and industry best practice.

-Started from MRP and processes such as production planning, master scheduling, material planning

-Drivers of the growth of ERP - Fashion, globalisation, incompatible data, business process re-engineering, y2k problem, the euro, client/server technology, cost of custom building.
    incompatible systems, legacy systems

Costs, benefits, risk and tradeoff

-Many of initial reasons for ERP are no longer there

-Expected benefits: streamlining or elimination of processes, incorporation of best practices, integration, integrity (consistent data stored once), ease of maintenance, ability to roll out new functionality, links to supply chain management, improved control, better management.

-The actual benefits are different, top reasons are: availability of information, increased interaction and integration, improved data reliability, better informed decision making.

-2% said they did not achieve any benefits. More than half of companies are not realising the major benefits of the system.

-ERP implementation is high risk: large scale, degree of change required, timescale, costs, lack of experience - generally something you only do once.

-Typical costs - large company 50-500m, 30m for software, 200m for consultancy, millions in hardware   time: 4-6 years.

-Medium sized implementation today 5-10m and 2 years.

-Disaster it goes wrong: HSE wasted 150m, SAP were sued. Other disasters: nike, hershey, umd V.M.

ERP Implementation Problems

-61% take longer than expected, 75% exceed budget, 60% fail to realise more than half of the expected benefits

-40% experience problems at go live stage. 32% of executives dissatisfied with implementation 39% of employees dissatisfied with implementation

- Estimated failure cost to date: US $1·2 billion, 6·2 billion worldwide
- ERP systems can cost up to 7% of annual sales. Large time and cost overrun

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- Major Challenges: lack of staffing resources, internal resistance to change the old process, lack of top management commitment, lack of overall visions, unrealistic time frame, unrealistic budget.
- Complaints: software too expensive, upgrades are too quick, don't get real business insight from the system, software not adapting quick enough, system too hard to use
- low satisfaction all round

- Costs - Dependent on: Degree of customisation, rate of upgrades, cost of upgrades, complexity of industry, changes in the industry.

Players And Market
- Process industries, non-manufacturing sectors, smaller companies, government
- SAP (24%) and Oracle have largest market share. Market dominance: most of fortune top 10 in 2002 use SAP.
- SAP has functions for: Sales, distributions, production planning, quality planning, plant maintenance, HR, accounting, control management accounting, treasury, industry solution.

- The power of process ⇒ purchase ordering processing - origination, controls (strict valid transmission and content (invoice))
- Goods inward processing - planning/scheduling, receipts, checking, error management, acceptance
- Checking what we have ordered, right location, quality sell by date etc.
- The more we trust the sell the overheads i.e. no need for checking things as we know they're right.
  In retail - some processes - forecasting, purchase orders, picking, distribution, supplier programme

ERP II
Role - Value chain participation/ c-commerce enabled
Domain - All sectors/segments
Function - Cross industry, industry sector, and specific industry proof
Process - External, connected
Architecture - Web-based, open componentised/modular
Data - Internally and externally published and subscribed.

- Part of continuing move to address the problem of unintegrated systems.
- Part of general movement towards packaged software
- One way to address lack of standardisation in a process
- Attempted to overcome problem of fragmented data
- Expanded into many other sectors, current global market in order of 25 billion
Claims to offer single solution but:
  - Often tradeoff between pros and cons of customisation v. packaged software
  - Questions of best of breed and the extent of modification
  - ERP became most popular important software app of 1990's and remains the largest systems in orgs today
  - Very large, expensive and implementation is high risk.
  - claim best practice, but validity can be disputed
  - Cloud computing and SaaS company are changing the possibilities

Business Process Re-engineering BPR
- Adequate BPR is one of the most cited CSF's in ERP implementation
- Comprehensive BPR is related with the alignment between business processes, ERP business model and associated best practices.
- BPR has been populated in recent years as the most important technique for restructuring business operations to achieve improvements

- BPR originated in 1950s as large enterprises began to explore the potential impact of computers on the efficiency and effectiveness of their business process
- In the early 1990s BPR had an explosive dissemination
- BPR is 'the fundamental rethinking and radical redesign of business processes to achieve dramatic improvement in critical, contemporary measure of performance, such as cost, quality, service and speed'
- Why use BPR: improve inefficient business practice, to be industry leader, to re-organise business process and to improve current industry position
- The benefits derive from BPR aide from combination of organisational change with information and information technology

BPR and ERP

- ERP systems pave the way for bpr since the implementation of ERP systems require examination of many business process - Not clear which actually caused first
- Some organisations use ERP to promote bpr while others are driven into bpr during the implementation of an erp system
- Four step process - choose a process, understand it to the extend needed, redesign it and implement the change
- Usually focus on two dimension of BU choice - magnitude of change and scale of the change effort involved

- Managers are warned in redesigning their business in order to align the ERP system and the current business process
- Understanding the existing business process is one of the key element of enterprise
- Implementing an ERP system involves re-engineering the existing business processes to the best business process standard
- The organisations strategy outlines 'what' to do
- BPR outlines how you want to do it
- ERP outline 'with what'? As a system ERP is a way to help change behaviour

ERP contd.

Examples of ICT used to re-design process
- Geneva Pharmaceuticals - SAP R3 implementation
- One of the largest generic drug manufacturers, headquartered in Colorado
- Margins are extremely low in the generics sector, continuous pressure to reduce costs
- Majority of existed data typed manually and loaded into functional silos
- Need for duplicate data entry was eliminated with the first implementation of system
- Number of planning activities performed by an individual was doubled
- Jobs roles were streamlined, standardised and consolidated so that the same person could perform more value added activities.
- Since R3 eliminated the need for data rekeying and validating, the portion of the inventory control unit that dealt with data entry and error checking was disbanded and employees were transferred elsewhere.

- Phase 2 implementation was to re-design the demand side processes, such as marketing, orders, customer sales and service and to implement the re-engineered process using R3
- An iterative process was employed to identify and eliminate activities that did not add value and to generate alternative process flows.
- Goal was to map the baseline or existing processes, identify bottleneck and problem areas and thereby to create reengineered process
- 13 different improvement areas identified and grouped into 4 theatres
- Elaborate models were constructed for each of 4 areas to improve using policy initiated (product delivery, customer dispute resolution/pricing strategy and service level)

- If a customer placed an unexpected order or requested a change in existing order, the manufacturing unit was unable to adjust their production plan accordingly

-)uch decision) had to be made on an od-hoc basis
- Forecasting took 20 days, 10 of which were spent on data manipulation etc
- New implementation of Available To Promise to keep custome

Problems That Occur Along Process Redesign
- DEFINING EXISTING PROCESS - SAP implementation require some 1000
configuration decision) in order to assemble a working end to end process flow
If these process are not well defined and documented prior to implementation,
these thousand) of configuration decision) will be made in a vacuum by software technical

- BEST PRACTICE IS A FARCE - sound good in theory but in reality they are simply best
practice for how any particular ERP vendors software works, rather than
for your operation)

- TECHNICAL RISK) - BPR projects based on the use of IT. However, it may so happen that the
IT solution) oriented for process re-engineering are either not available or don't work to satisfaction

- POLITICAL RISK) - Very often the BPR initiative lose to support and are finally
given commitment of the top management either due to change in leadership or
due to change in perception The process re-engineering projects lose the
budgetary or personnel support and are finally given up. There is also
the dimension of acceptability by the end user and operational staff who may
resist change

- ORGANIZATIONAL RESISTENCE - conceptual clarity and compelling business
case relate to the top management
⊙ However, many BPR project) encounter organization resistance
• This resistance is faced from the organizational units whose scale of operation
or even existence are threatened by BPR project)
• Also a clash of culture as employee) are used to doing things
their way and resist the change

- Very often, the projects require cooperation among different (cross) functional units which may be difficult to achieve.
- Managers resist change under the belief that it may jeopardise their jobs or relative authority and status within the organisation
- The behaviour of people is based on individual personality and norms or by group to which they belong
- There is a common perception that the resistance comes mainly from operative level
- The resistance to change comes from senior management level also, when they find their experience and skills are no longer needed or their authority being replaced.
- The resultant loss of status or redundancy of expertise is the reason why the top management pays lip service to change but continue in their old overseer way.
- In contrast, staff level resistance is mainly for change of role and job reskill.

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- Organisational resistance can be overcome in different ways — benchmarking exercises which can focus on performance shortfalls and support a case for significant change in operations.

- Or use formal planning challenges — seeks response of individual functional units for planning challenges

- CUSTOMER ACCEPTANCE - Organisational and financial barriers can be overcome, the ultimate tests of BPR rests with acceptance by customers for whom they intended are meant.

- PROBLEMS RELATING TO A CULTURE OF CHANGE

- LACK OF TRAINING AND EDUCATION

- PROBLEMS RELATING TO COMMITMENT, SUPPORT AND LEADERSHIP

ERP CUSTOMISE OR NOT?

Customise:
- Resistance to change - don't want to modify existing process
- Unique business process - ERP system needs to be customised to match existing processes which are unique to the company
- Functional misfit, niche production or point solution
- Ownership by pr

- project motivation
- Political implications

Desk Culture :- Cheaper
- less workload on IT
- Best practices
- Company more efficient because of BPR
- Quicker implementation, easier system upgrades

HERSHEY'S ERP FAILURE

- The importance of testing and scheduling
- System failed in 1999 - Business processes and system issues caused operational paralysis, leading to a 19% drop in quarterly profits and an 8% decline in share price.
- Recommended a 48 month implementation, demanded it in 30
- To meet aggressive Scheduling demand, implementation team had to cut corners on critical system testing phases
- Opted for big bang approach
- Project cost around 100m
- The System couldn't process orders correctly
- Product inventory started to pile up, by the end of Sep 2000, inventory were 25% more than expected
- Stock price plunged 8% in one day
- over squeezing implementation schedule
- big bang approach instead of testing portions of separating systems testing for expedience
- Siloisation - when companies are organised into separate business units that have almost no alignment with other units. They dont share the same strategies, plans, goals or insights about customers. Result is that marketing can never amassing leverage it needs to Maximise profitability customer acquisition and cross selling
- wasted employee productivity, lack of real time visibility, increased customer churn, Integration complexity and cost