FIT5101 Enterprise Systems

Lecture 01

- Introduction to FIT5101
- Introduction to ERP Systems
- Introduction to SAP

Lecturer: Stephen Paull
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Introduction to FIT5101

- Unit staff
- Tutorials
- Unit assessments
- 40% rule
- Weekly topics
- Resources
- Student services

Unit Staff

Unit Coordinator/Chief examiner – Stephen Paull

Lecturer: Stephen Paull

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Tutors:

- Shahid Hoque (shahid.hoque@monash.edu)
- Heidi Quah (heidi.quah@monash.edu)
- Monoar Hossain (monoar.hossain@monash.edu)
- Aria Bie (aria.bie@monash.edu)

Tutorials (Subject to Change)

No	Day	Time	Room	Tutor
8	Tue	5:00 PM	TBA*	S. Paull, S. Hoque
9	Tue	8:00 PM	TBA*	S. Paull, H. Quah
10	Wed	6:00 PM	TBA*	H. Quah, M. Hossain
5	Thu	8:00 AM	TBA	N. Bie
3	Thu	3:00 PM	TBA	M. Hossain
4	Thu	5:00 PM	TBA	S. Hoque
1	Thu	10:00 AM	TBA	S. Hoque
7	Fri	8:00 AM	TBA	N. Bie
6	Fri	10:00 AM	TBA	S. Paull
2	Fri	5:00 PM	TBA	S. Paull
* Indicates that the session is live-streamed.				

PLEASE STAY IN YOUR ALLOCATED TUTORIALS

Unit Assessments

Assessment	Weight
Assignment 1 (Case Study Report)	30%
Assignment 2 (SAP Reports)	20%
Assignment 3 (SAP User Menu)	10%
eExam (2 hours, closed book)	40%

45% Rule

In order to pass a unit, a student must gain all of the following:

- ✓ at least 40% of the marks available for the assignment component: i.e. the assignments and any other assessment tasks (such as presentations) taken as a whole.
- ✓ at least 40% of the marks available for the examination component, if any: i.e. the final examination and any tests performed under exam conditions, taken as a whole.
- ✓ at least 50% of the total marks for the unit.
- ✓ Where a student gains less than 40% for either the examination or assignment component, the final result for the unit will be no greater than '44 - N'.

Unit Topics (Subject to change)

Week	Date (W/C)	Lecture	Tutorial	Assessment
1	1/3	Introduction	Introduction	
2	8/3	Business Functions & Processes	Business Functions	Ass 1 Rel
3	15/3	ERP Structures	SAP Introduction	
4	22/3	Materials Management & Procurement	Materials Management	
5	29/3	Sales & Distribution	Procurement	
	5/4	BREAK		
6	12/4	Production Planning	Sales & Distribution	Ass 1 Due
7	19/4	Financials	Production Planning	
8	26/4	Process Integration & Modelling	Financials	
9	3/5	ERP Implementation	Process Modelling	Ass 2 Due
10	10/5	Current Technologies	Work on Assignment	
11	17/5	Future Trends	Sample eExam / Review	
12	24/5	Review	??	Ass 3 Due

SAP WORKSHOPS

Resources

- Unit Guide
- Moodle
- Library Resources
- Recommended Texts:
  - Concepts in Enterprise Resource Planning 4th Ed (2019) Ellen Monk & Bret Wagner
  - Integrated Business Processes with ERP Systems (2012) Simha Magal & Jeffrey Word
  - Essentials of Business Processes and Information Systems (2009) Simha Magal & Jeffrey Word
- SAP Workshops

Student Services

Take the following relevant preventative measures as soon as possible, if you are falling behind in your studies:

Study difficulties: Discuss any difficulties you are experiencing with your course leader, unit coordinator, lecturer or tutor.

These staff members can assist you in identifying your problem areas and explore the options available to you in your course.

OR

Access to student support services information can be found at:

https://www.monash.edu/execserv/progress/student-resources2

See also: flyer under University Support Services at https://www.monash.edu/__data/assets/pdf_file/0005/1247108/university-support-services-Jan.2018.pdf

Student Services

Do you have a medical condition or incapacity that impacts on your ability to effectively study?

Registered students are provided with a range of services including:

- Notetakers and Auslan interpreters
- Readings in alternative formats
- Adaptive equipment and software
- Alternative arrangements for exams

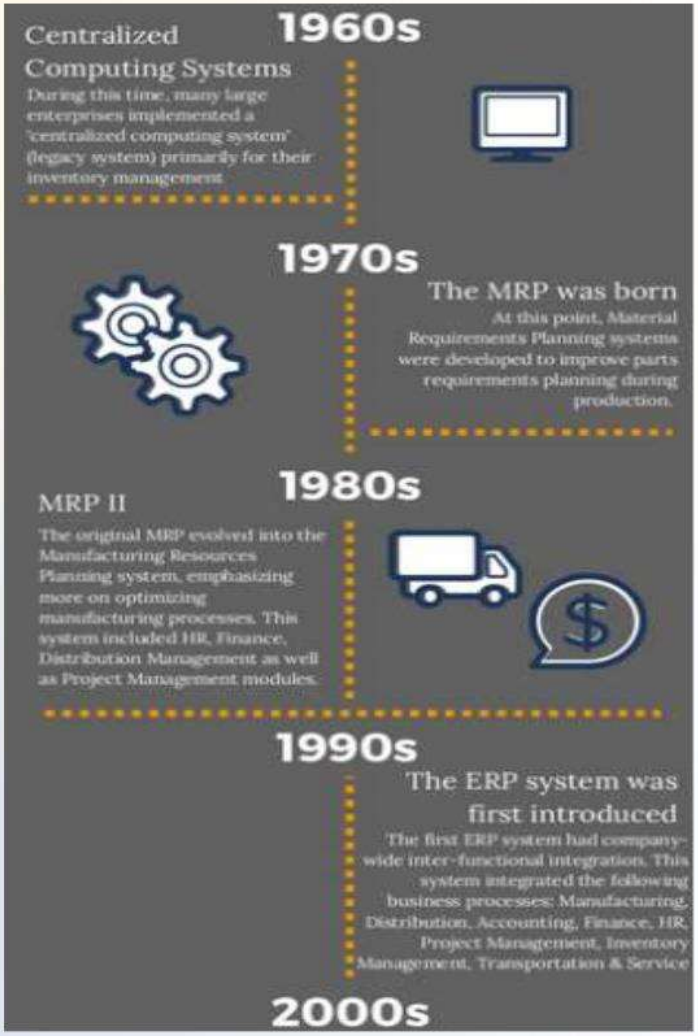
For further information and details about how to register:

Website: https://www.monash.edu/disability
Email: disabilitysupportservices@monash.edu
Phone: 03 9905 5704
Contact: matt.salas@monash.edu

Introduction to ERP Systems

Learning Outcomes

- What is an ERP System?
- History of ERP Systems
- Introduction to SAP



What is an ERP System ?

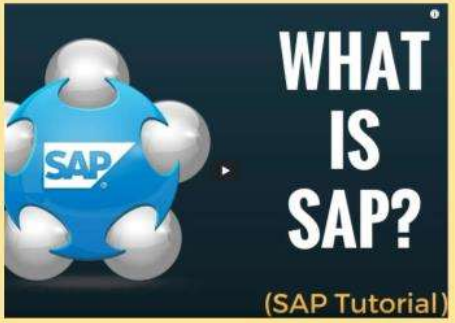
An Enterprise System can be defined as "*an enterprise-wide, modular, integrated, real time information system responsible for transaction processing across all business areas of the organisation*"

It is made up of a series of "modules", or applications that are seamlessly linked together through a common database, an ERP system enables various departments or operating units such as Accounting and Finance, Human Resources, Production, and Sales and Distribution to coordinate activities, share information, and collaborate with customers, vendors etc.

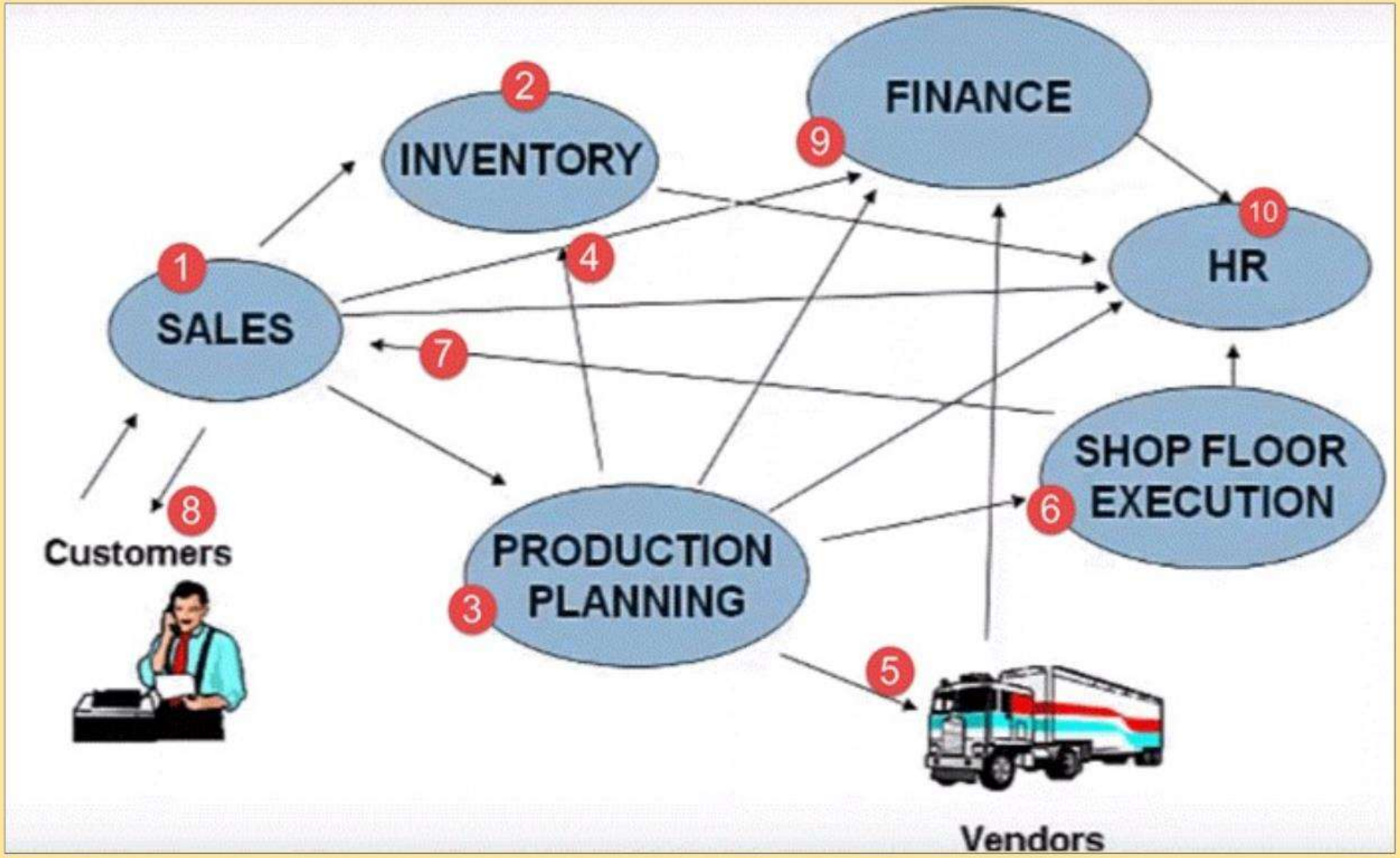
Also known as Enterprise Wide Systems and *Enterprise Resource Planning (ERP) Systems.*

Video: What is ERP software?

https://youtu.be/IYCEQqSM08I



Typical Business Functions



Typical Business Functions

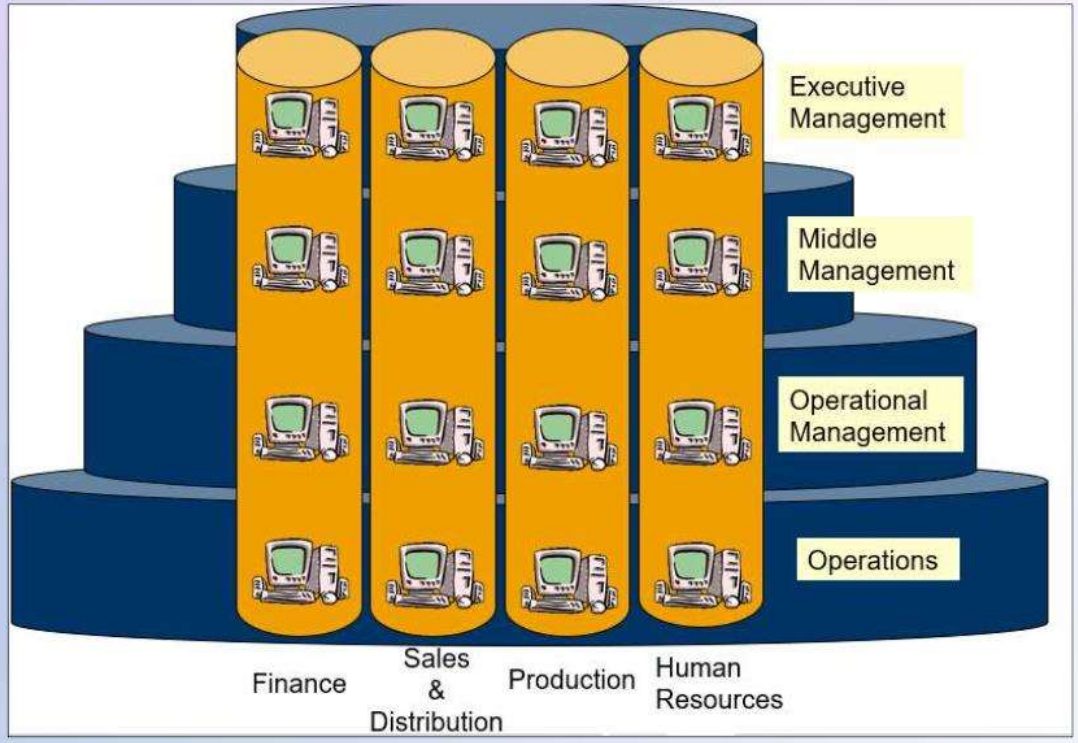
- A typical Enterprise has many **Departments/Business Units (BU).**
- These departments/BU continuously **communicate and exchange data** with each other.
- The **success of any organization** lies in effective communication and data exchange within the departments/BU's as well as associated Third Parties such as Vendors, Outsourcers and Customers.

Types of ERP Systems

Decentralized Systems (Legacy Systems)

Data is maintained locally at the individual departments (**Silos**)

Departments do not have access to the data of other departments.

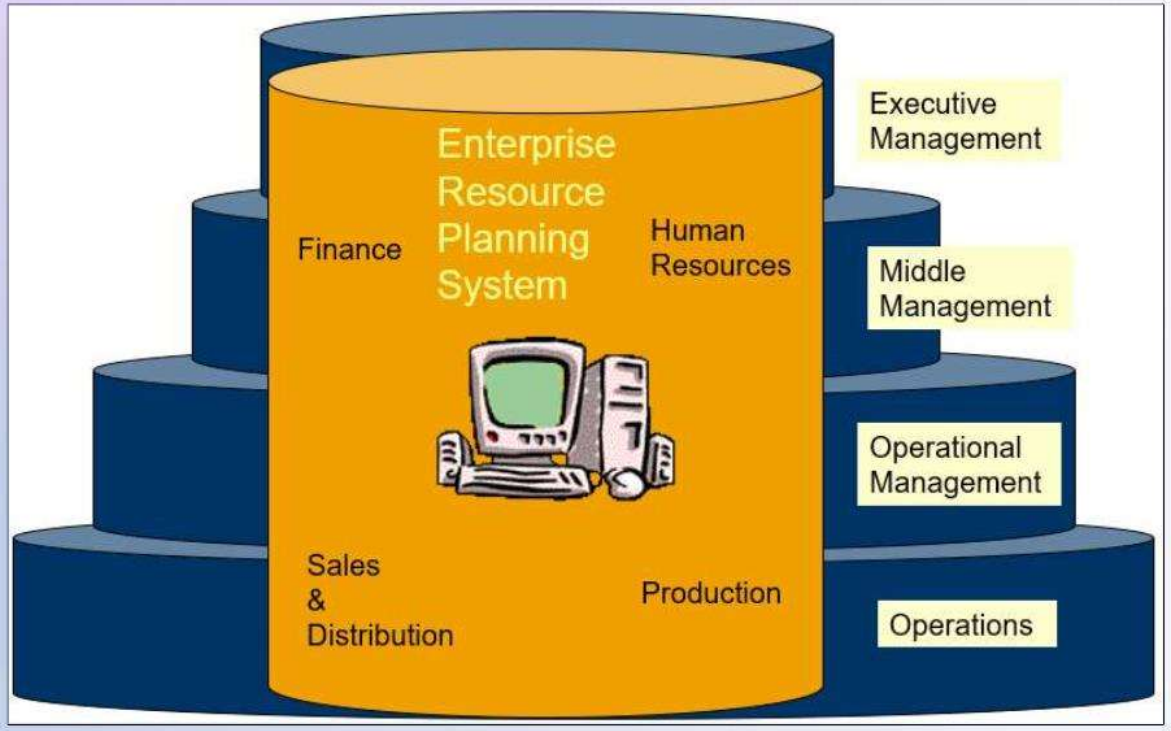


Types of ERP Systems

Centralized Systems (ERP Systems)

Data is maintained at a central location and is shared with various departments.

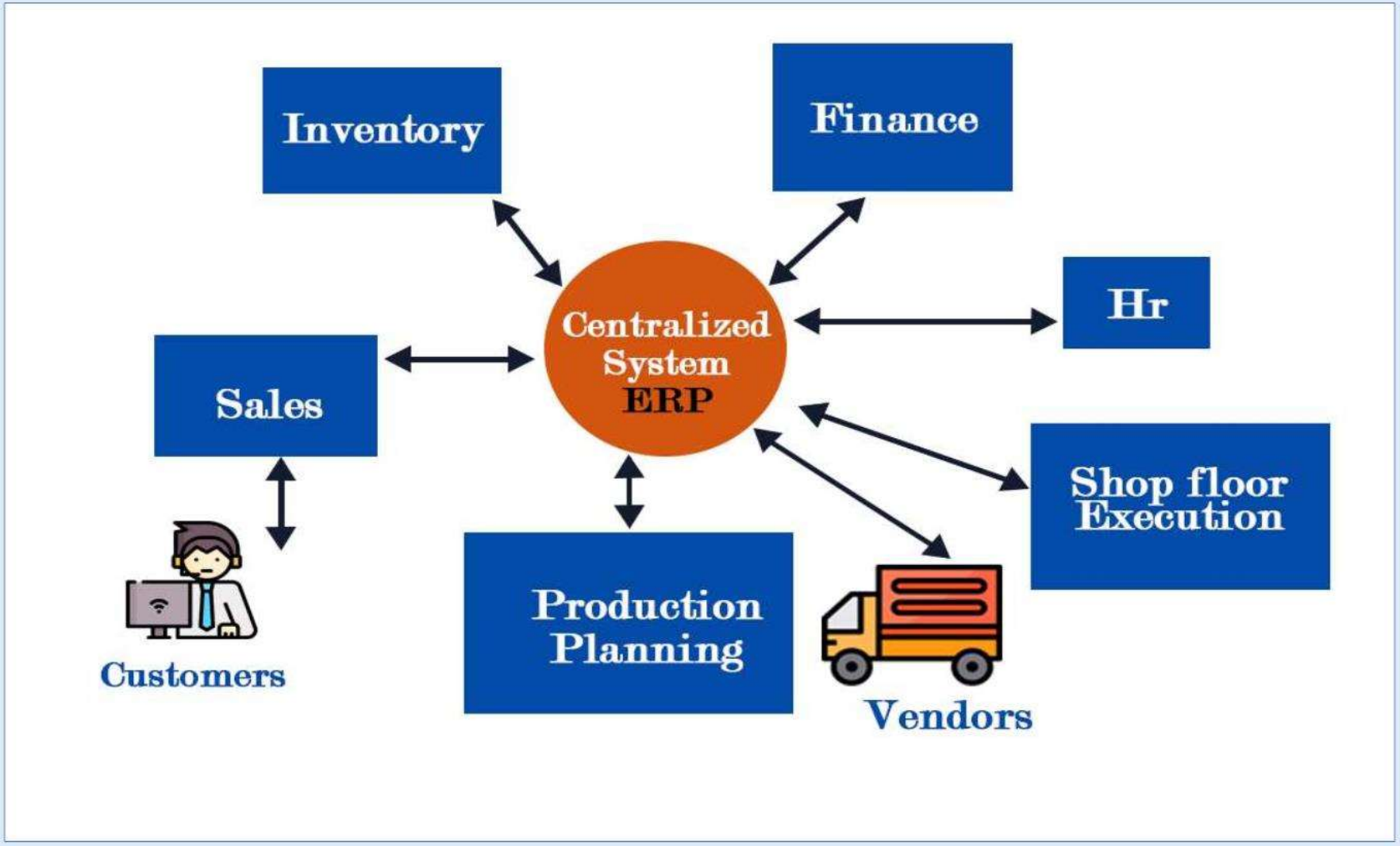
Departments have access to the data of other departments.



Problems with Decentralized Systems

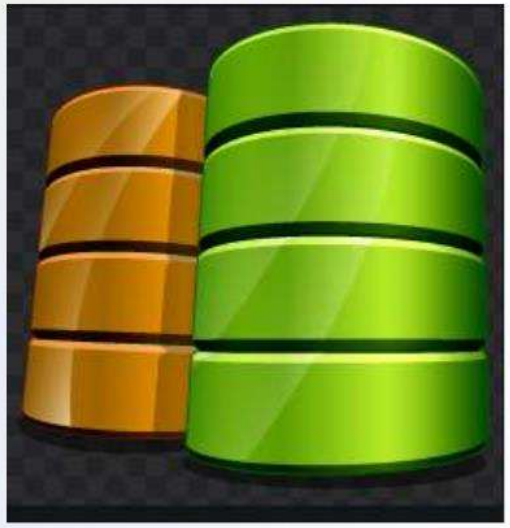
- Numerous disparate systems are developed over time.
- Integrating the data becomes time and money consuming.
- Inconsistencies and duplication of data.
- Lack of timely information leads to customer dissatisfaction, loss of revenue and reputation.
- High inventory, material and human resource cost.

Centralized ERP System



Benefits of a Centralized ERP System

- Eliminates the duplication, discontinuity and **redundancy** in data.
- Provides information across departments in **real time.**
- Provides control over various **business processes**.
- Increases productivity, better inventory management, promotes quality, reduced material cost, effective human resources management, reduced overhead boosts profits.
- Better customer interaction, increased throughput, improves customer service.

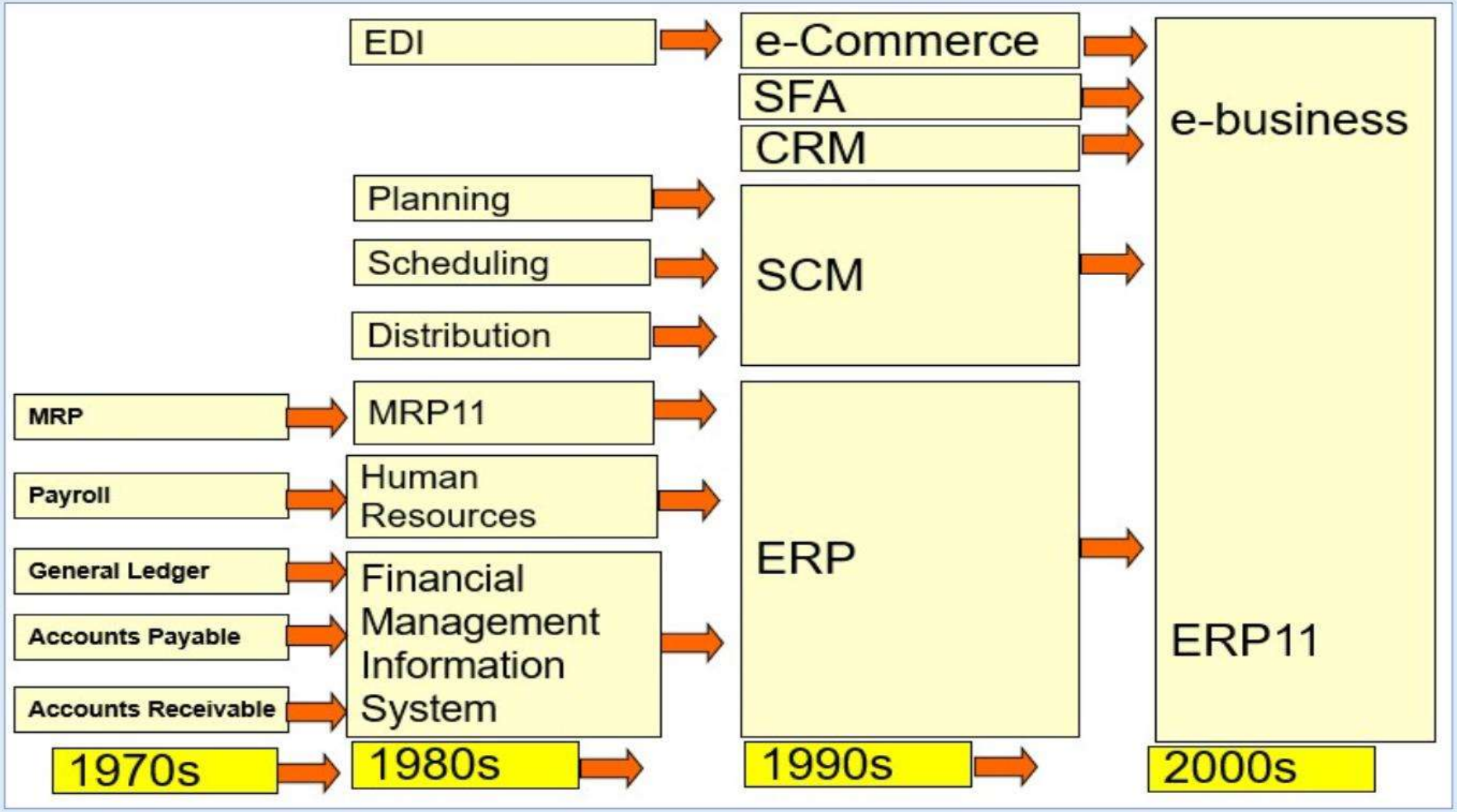


The Evolution of ERP Systems

Several developments in business and technology allowed ERP systems to evolve to their current form:

- The speed and power of computing hardware increased exponentially, while cost and size decreased.
- Early **client-server architecture** provided the conceptual framework for multiple users sharing common data.
- Increasingly sophisticated software facilitated **integration**, especially in two areas: Accounting and Finance and Material Requirements Planning.
- As businesses grew, and the business environment became more complex and competitive, business managers began to demand more efficient and competitive information systems.

The Evolution of ERP Systems



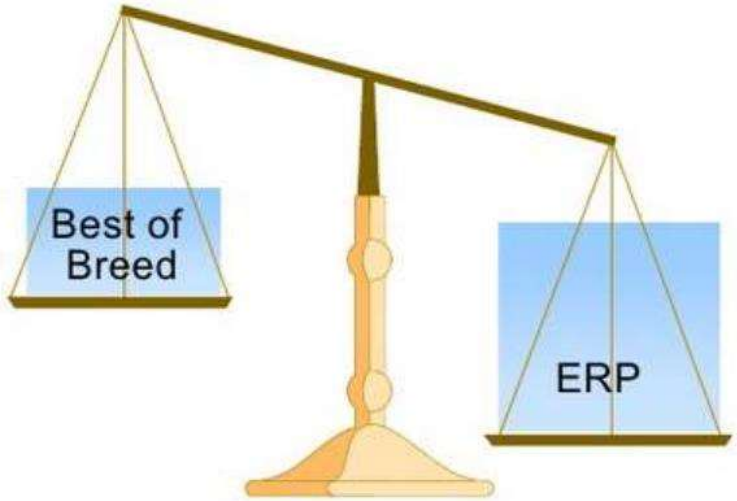
Drivers for adopting ERP Systems

Technology Rationales
– Year 2000
– Disparate Systems
– Poor existing systems
– Difficult to integrate acquisitions

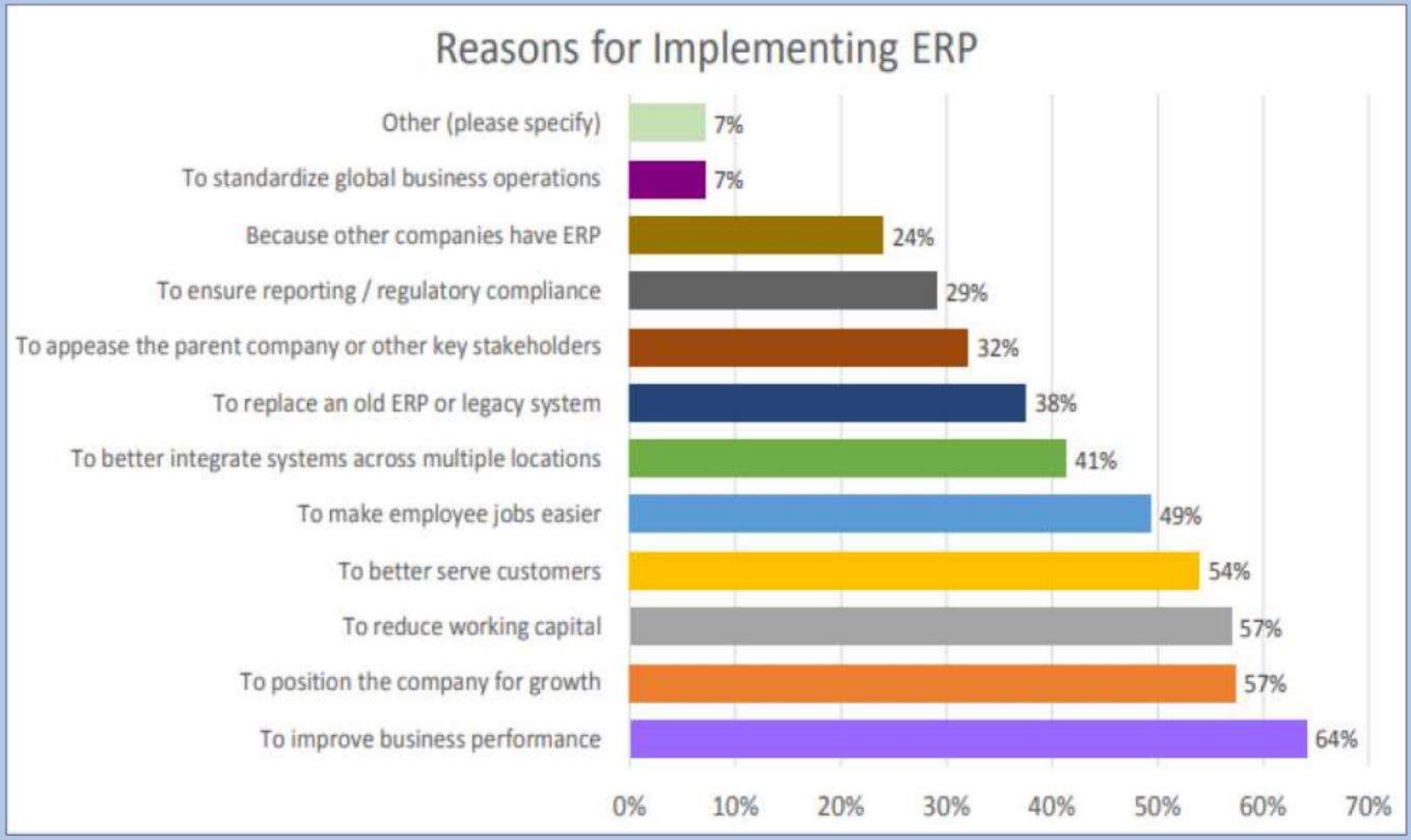
Business Process Rationales
– Personnel reduction
– IT cost reduction
– Productivity Improvements
– Financial cycle close

Strategic Rationales
– Added functionality
– eBusiness
– Response to mergers etc.

Competitive Rationales
– Competitive pressures to become a low-cost producer



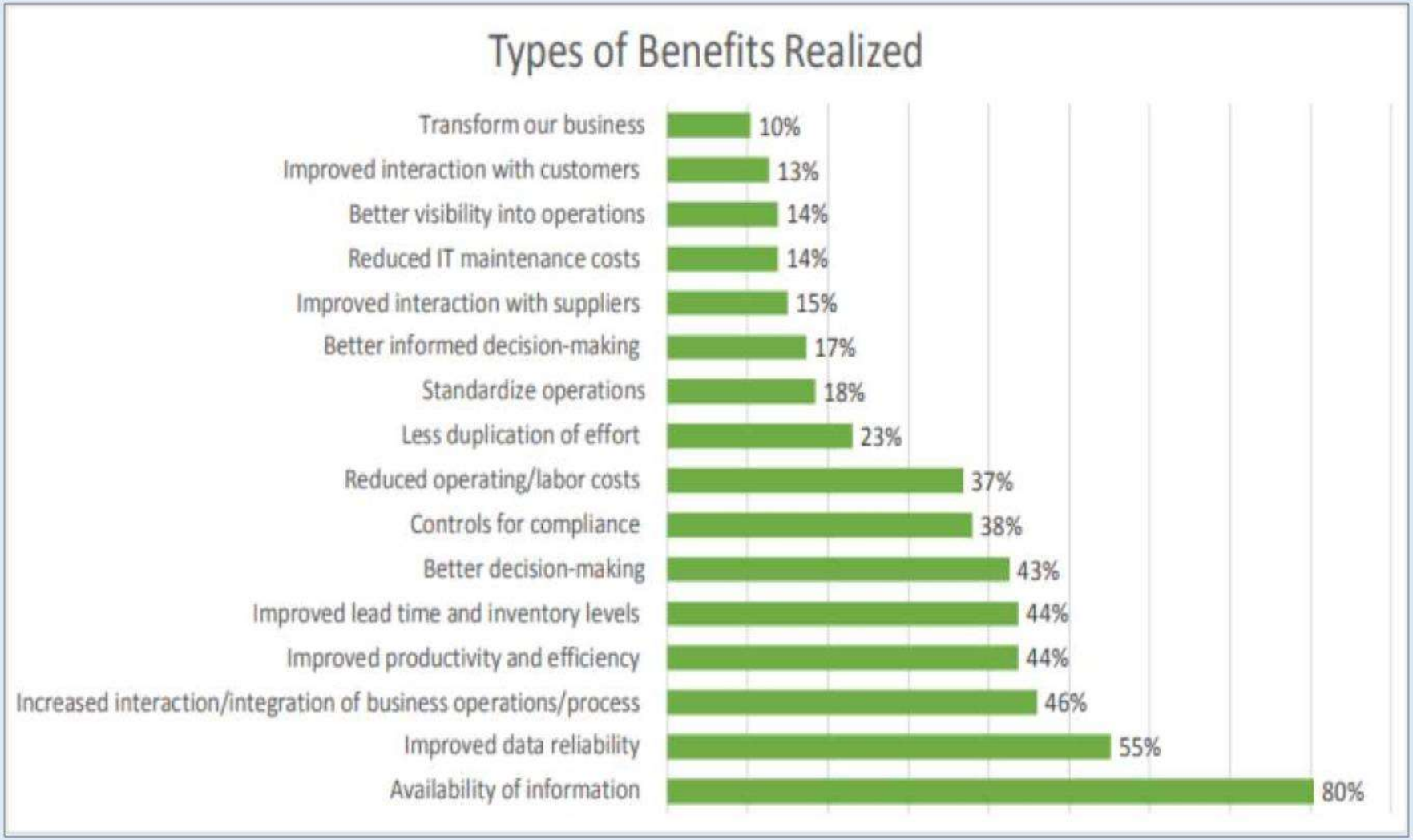
Drivers for adopting ERP Systems



Benefits of implementing an ERP system

- Enhance all aspects of key operations across a company's entire **back-office**
  - from planning through execution, management, and control.
  - they accomplish this by taking processes and functions that were previously disparate and disjointed, and seamlessly **integrating** and coordinating them.
- Facilitate more efficient completion of day-to-day tasks.
- Reduce the **redundant** and overlapping activities that waste time and money by standardizing core procedures.
- Eliminate **data silos** by creating a single, centralized repository of timely, accurate business data.
- Enable more effective **resource allocation** and management.

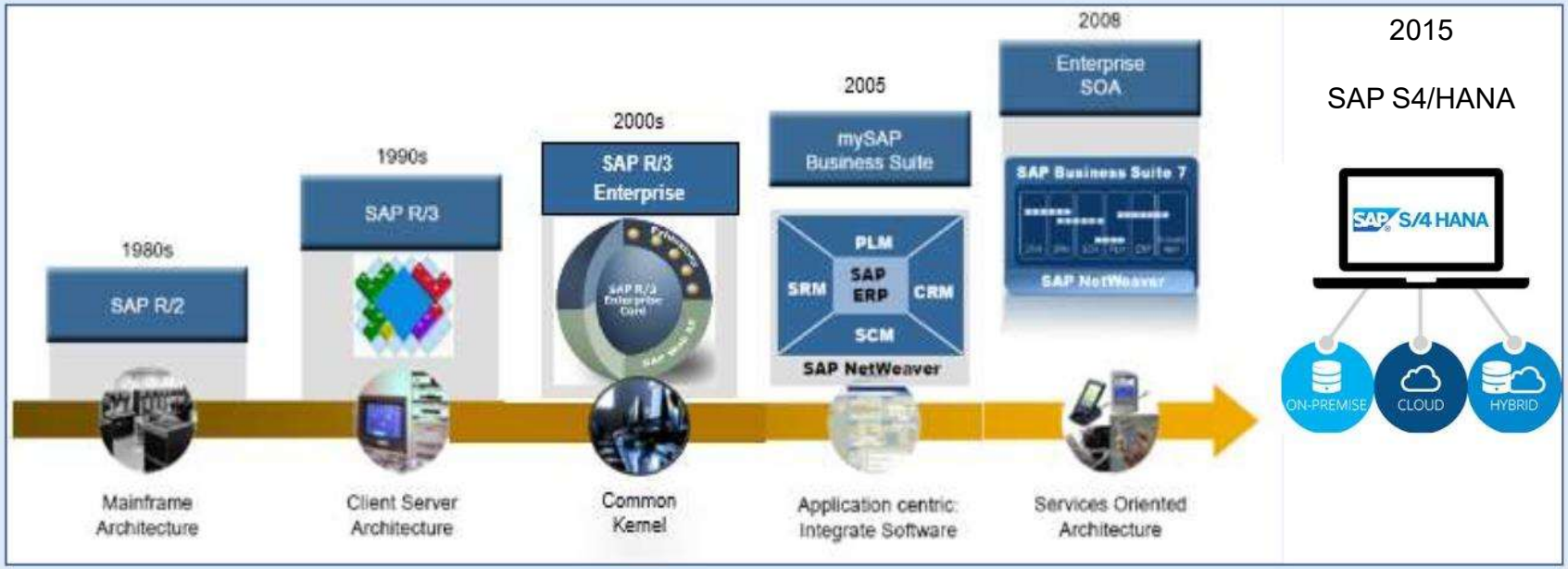
Benefits of implementing an ERP system



Introduction to SAP

- In 1972, five former IBM employees formed Systems, Applications and Products.
- In 1992, SAP realized the potential of **client-server** technology and developed its R/3 system.
- Y2K problem problem motivated many companies to move to ERP systems.
- By 2000, SAP had 22,000 employees in 50 countries and 10 million users at 30,000 installations around the world.
- Other competing ERP products were introduced : Oracle and PeopleSoft.
- In 2004 Oracle took over PeopleSoft and became SAP's biggest competitor. R/3 was replaced with SAP ERP Central Component (ECC) 5.0
- 2006 : SAP ERP 6.0 released
- 2015 : SAP S/4 HANA released

Introduction to SAP



SAP have introduced a number of different versions of the system since the 1980's.

SAP ERP Features

- Enables a company to support and **optimize** its business processes
- Ties together **disparate** business functions (integrated business solution)
- Helps the organization run smoothly
- **Real-time** environment
- **Scalable** and flexible
- Automation of data updates
- Applicability of **best practices** - SAP's software designers choose the best, most efficient ways in which business processes should be handled

Introduction to SAP S/4 HANA

Video : What is S/4 HANA : https://youtu.be/8VXurKENGRE

1. Next generation of ERP.
2. Fast **in-memory** database.
   Data is stored in columns instead of rows.
3. Web-based user interface (**Fiori**).
4. Digital core provides advanced features (Iot, analytics, big data etc.)
5. Supports 10 LOB's and 25 industries.
6. Runs in the **cloud** or **on-premise.**
7. Simplifies the data footprint.

S/4 HANA will be covered in more detail in Lecture 02

SAP S/4 HANA Case Study : Honda Australia

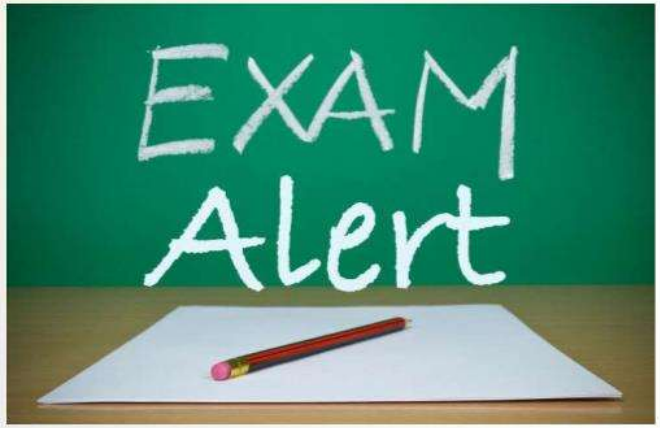
Honda Australia were running its vehicle and motorcycle and power equipment divisions separately – both from an operational and IT perspective.

Whilst the challenge of running two IT teams and two systems was becoming a concern, Honda Australia was experiencing other problems with its legacy IT that was leading to increased operational and cost inefficiencies.

In 2016, Honda Australia began its IT transformation with the objective to run with only one system for its separate entities. This would mean replacing its custom built legacy operational applications with SAP Parts, Finance, Warranty, Vehicle Distribution and Manufacturing modules.

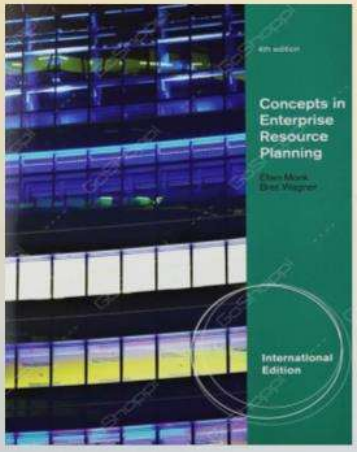
The implementation of SAP S/4 HANA with SAP Automotive Enterprise Management applications into Honda Australia was the first of its kind in the automotive industry.

Sample Exam Questions

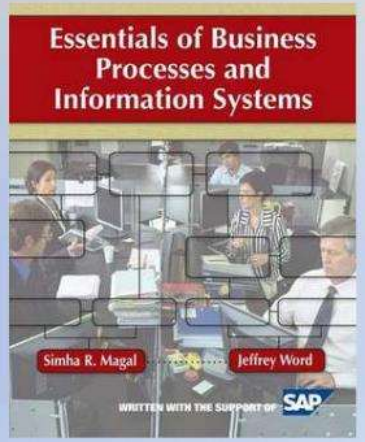


A. What is an Enterprise System and how is it different to a Legacy System ?
B. List three problems with Decentralized Systems.
C. List and explain two developments in business and technology that allowed ERP systems to evolve to their current form:
D. List two of the MAIN drivers for companies adopting ERP Systems.
E. What do the initials SAP stand for ?
F. Define “In-memory computing” and give an example.

References



Monk & Wagner Chap 2



Magal & Word Chap 1, 2