

Informatics For Business Administration



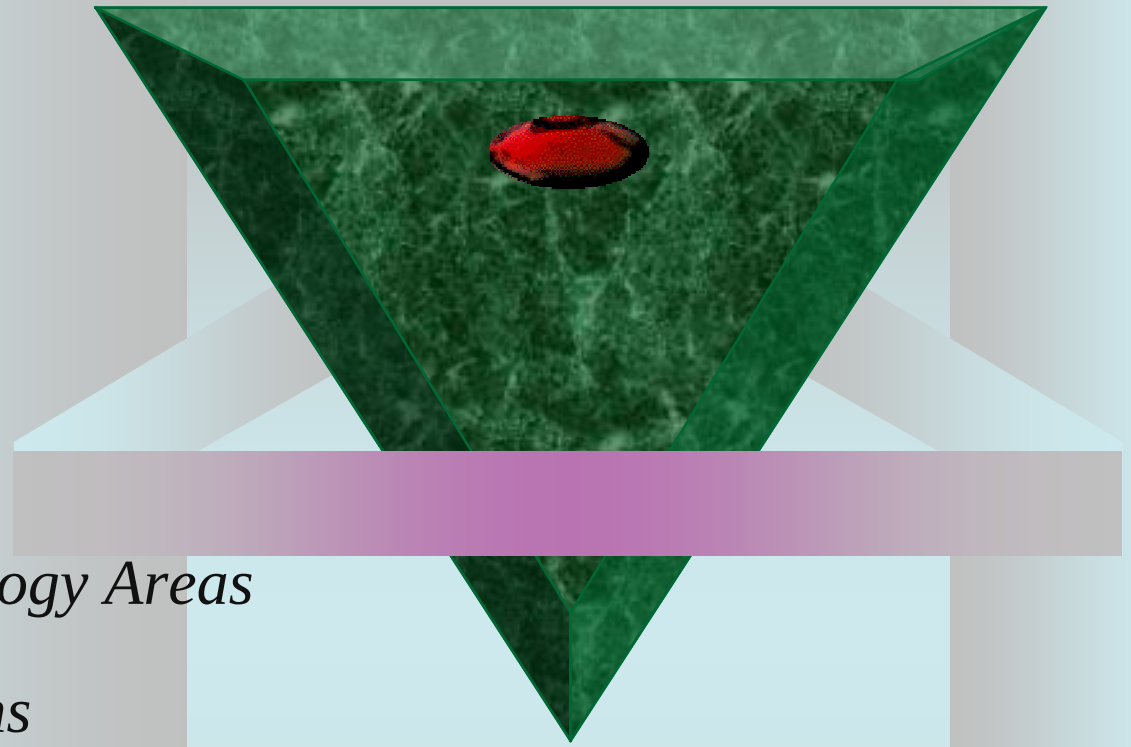
1.1 Introduction



1.2 Information Technology Areas



1.3 Virtual Organizations



**Chapter 1 The Informatics and
Enterprise in Information Society.
Virtual organization.**



1.1 Introduction

=>Data, Information, Knowledge, and Wisdom

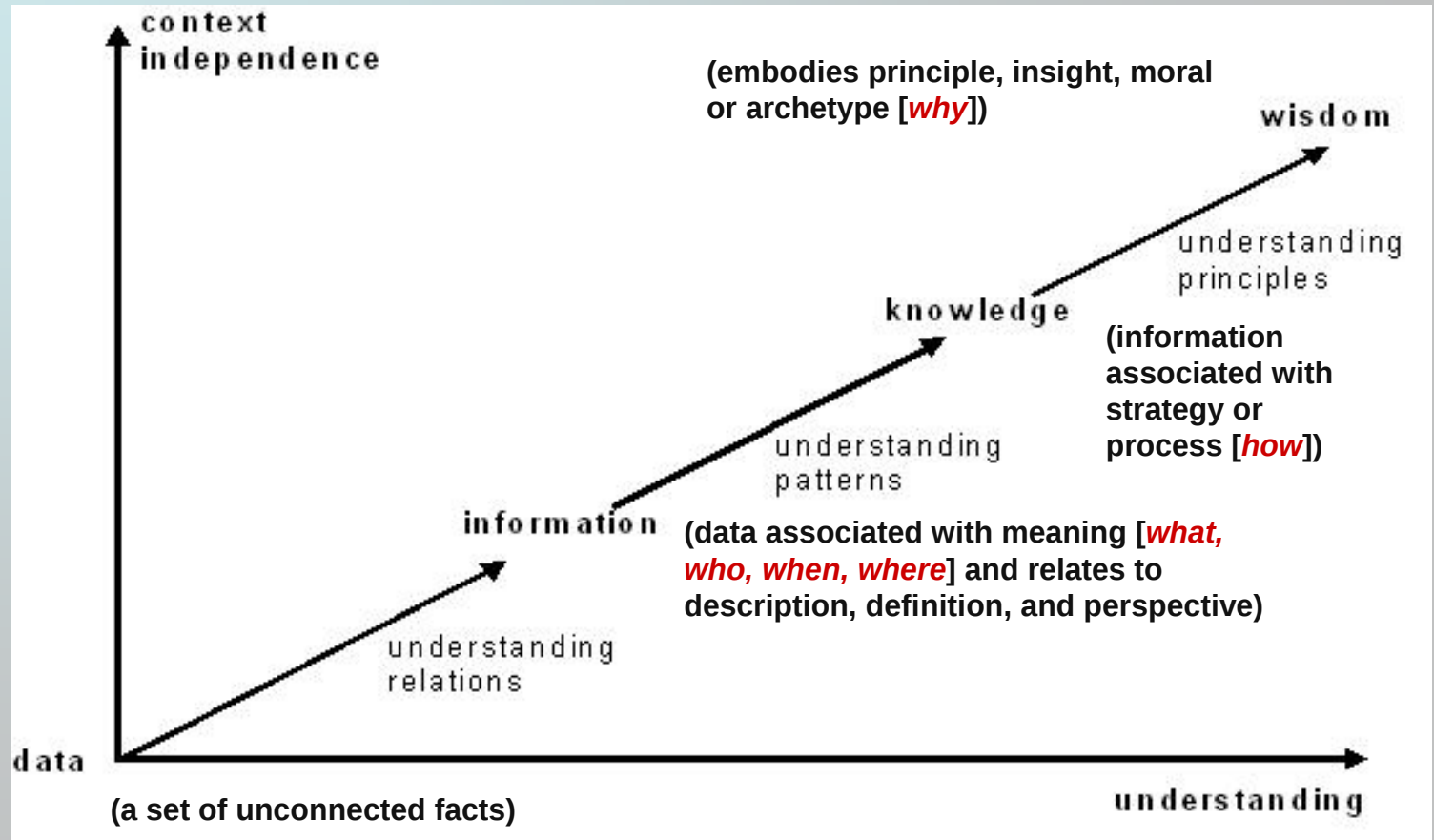


Figure 1.1 The relationships between data, information, knowledge, and wisdom considering the context independence and understanding
(Source: Neil Fleming, Coping with revolution: Will the Internet change learning? Lincoln University, Canterbury, New Zealand)





Information in an work system can potentially take a variety of forms including numbers, text, sounds, pictures, video etc, and they can be created, modified or deleted with the system or other information can be simply received from other systems.

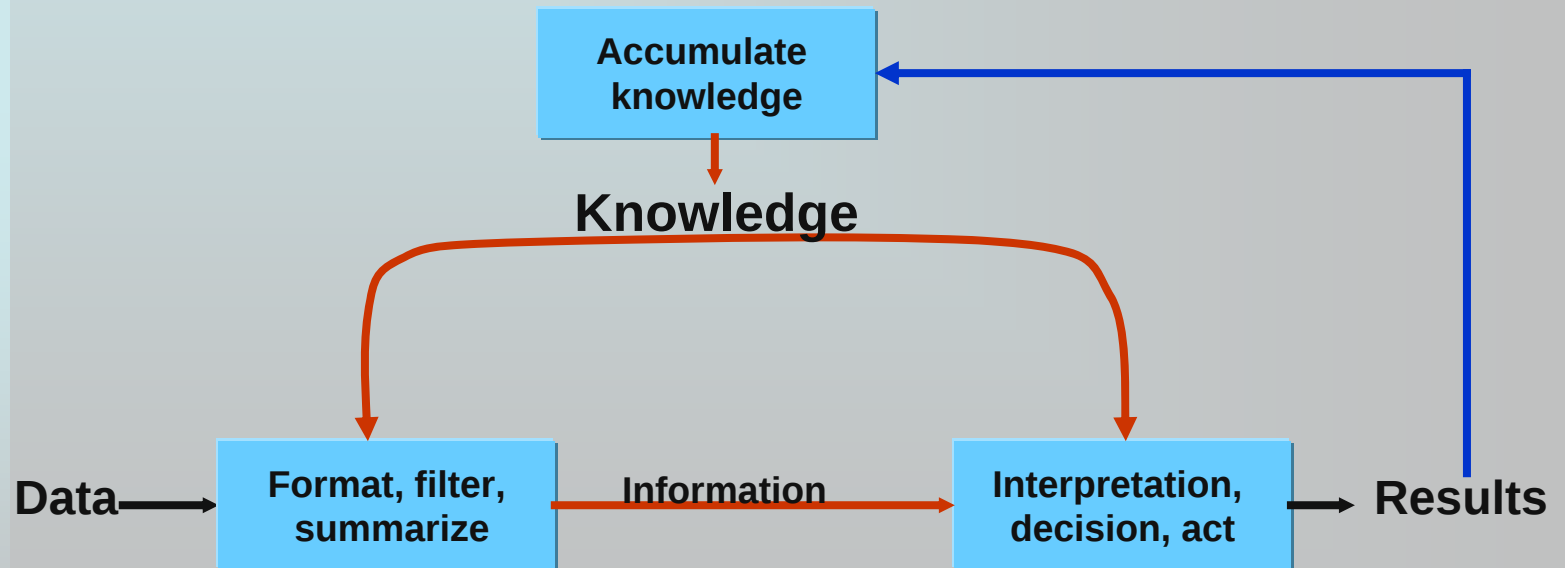


Figure 1.2. The relationships between data, information and knowledge

1.2 Information Technology Areas

Information Technology contains five definitive areas of skills and knowledge: platforms, development, data, communications, and applications (figure 1.3).

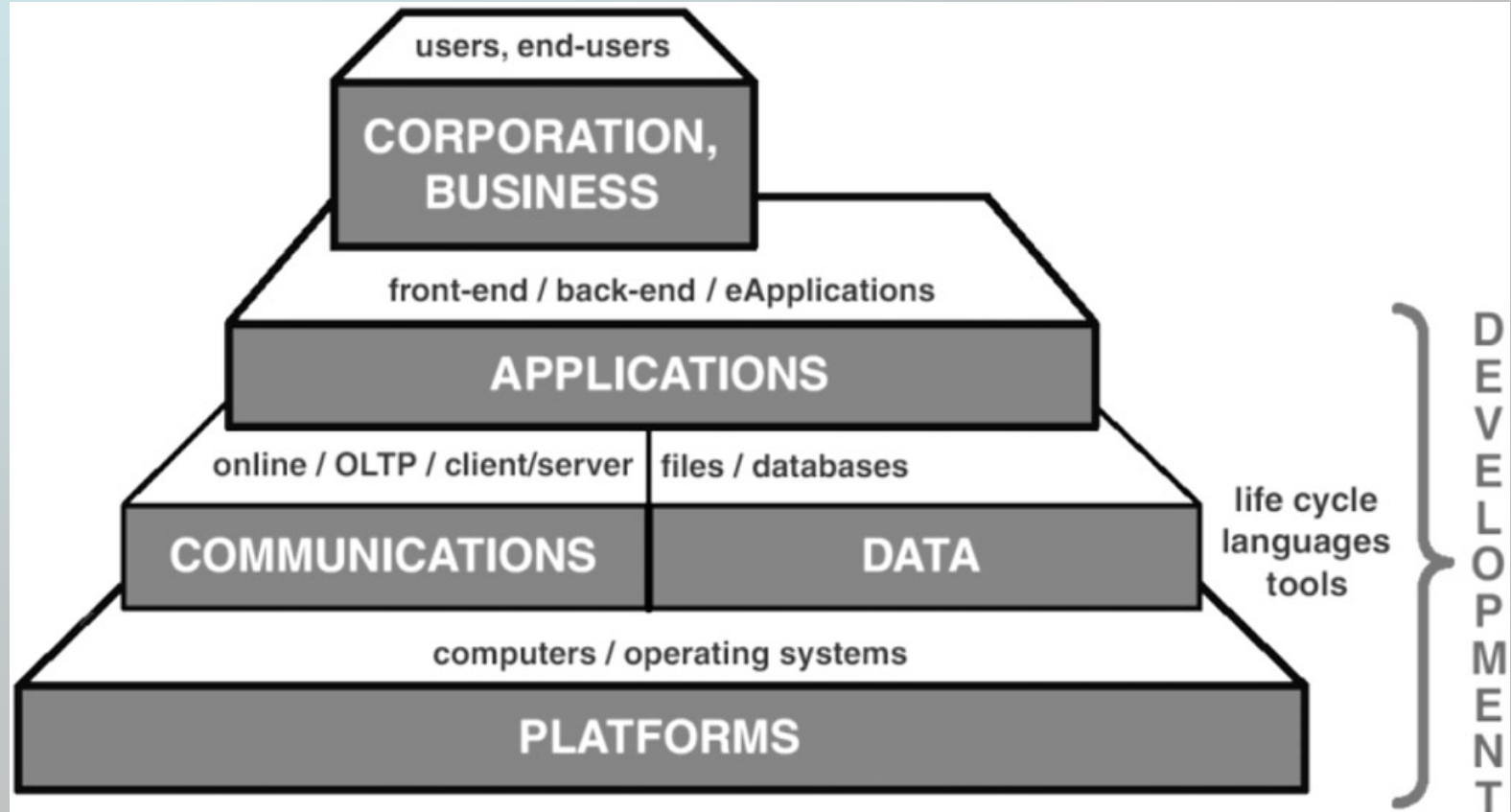


Figure 1.3 Technology is defined by specific areas of products, skills, and knowledge that work together to support the corporation (Source: Computers: Systems, Terms and Acronyms, by M. Susan Hodge, 16th edition, SemCo 2006)



There are several categories of application software:

- Back-office;
- Front-office;
- ERP; eApplications.

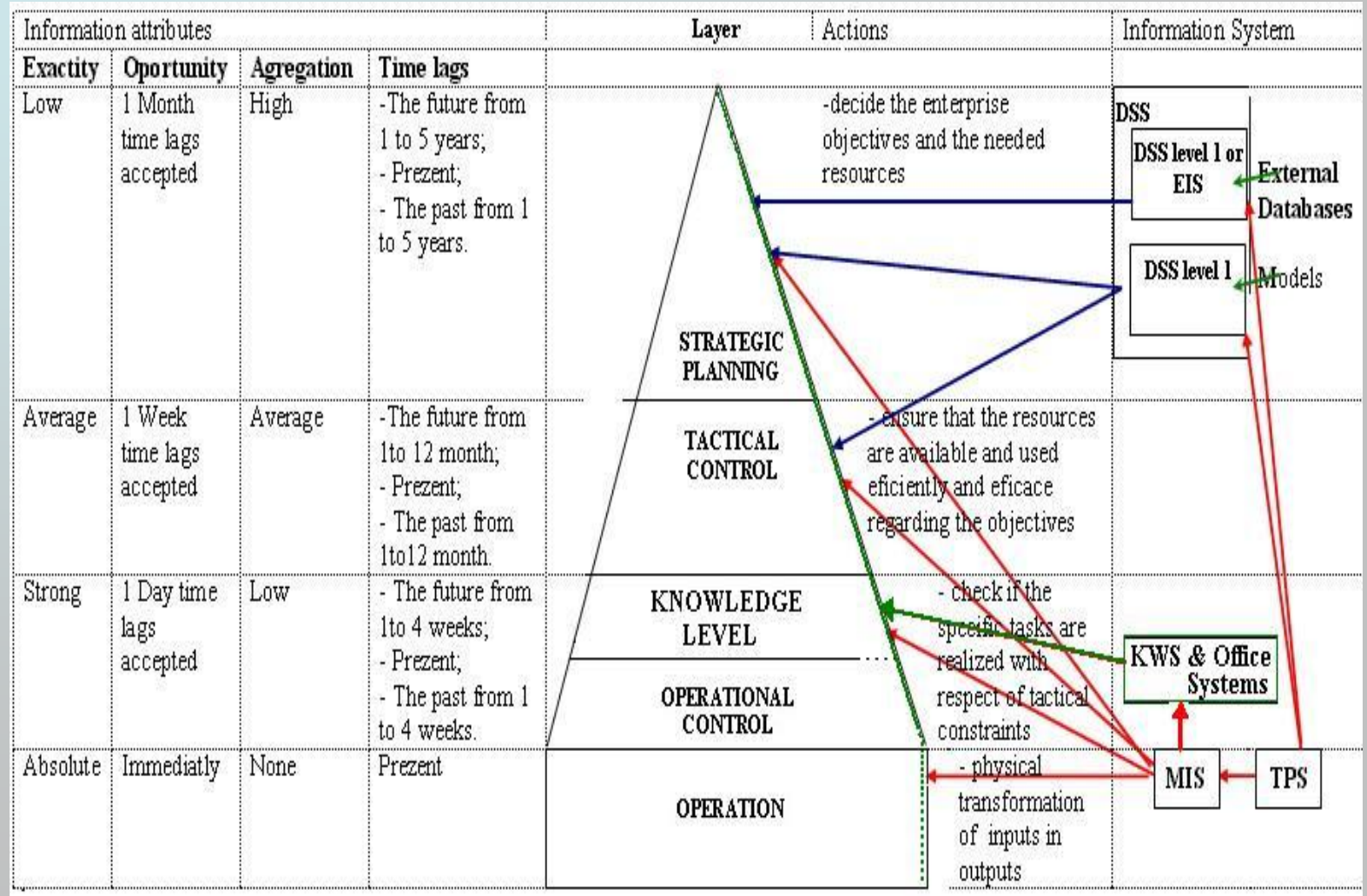


Figure 1.4 Information Systems Categories



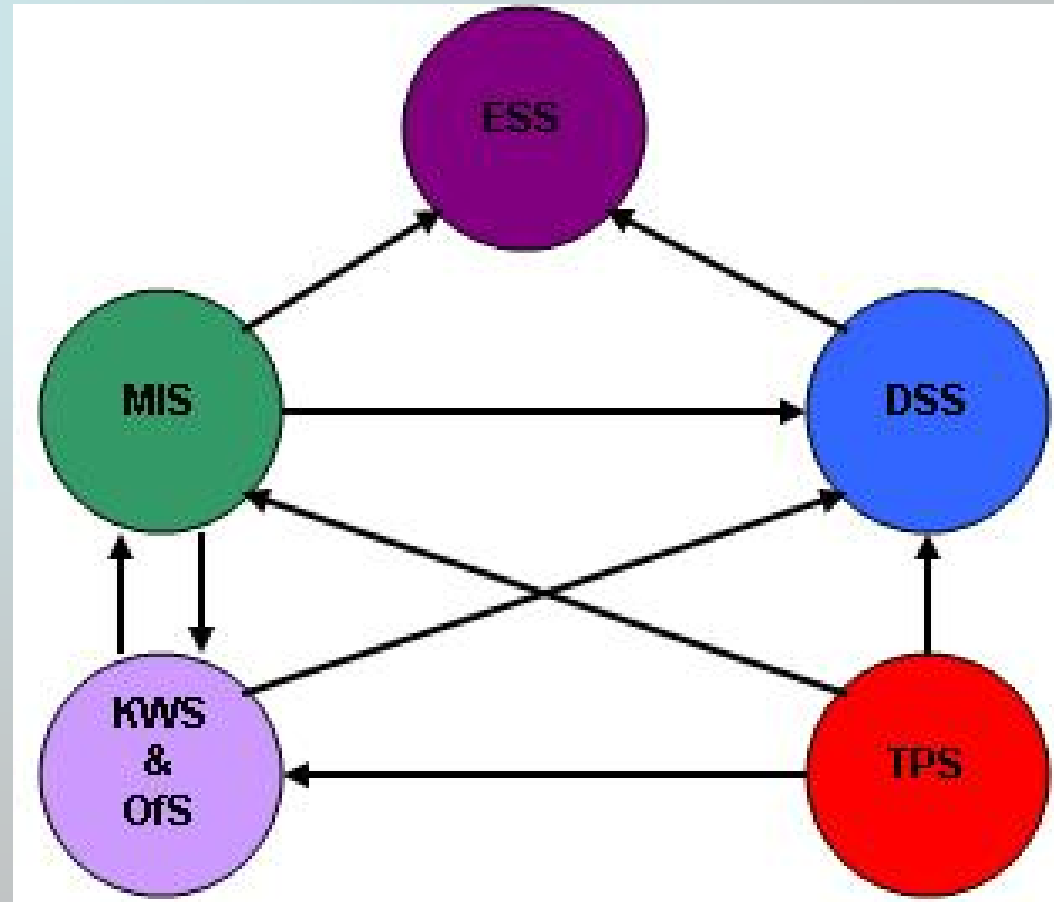


Figure 1.5 The interrelationships between the informatic system categories (Source: Kenneth & Jane Laudon – Essential of Management Information Systems, Fifth Edition, Prentice Hall, Pearson Education International, 2003)





Back-Office Systems

These are the systems that run the company. They provide the management and control of the business processes, produce regular reports on activity and spot anything out of the ordinary to catch possible problems. They run behind the scene, and are not visible to the outside world.

- **Financial/Accounting systems**
- **Human Resources Systems; HCM—Human Capital Management;** the applications systems names HCM systems, HRIS (Human Resources Information System), or HRMS (Human Resources Management System); includes **Payroll**





Back-Office Systems

- **Manufacturing/Production systems – MRP: Manufacturing Requirements Planning, Material Resource Planning, and Manufacturing Resource Planning;** MRP systems have been in use since the 1970s, MRP II systems took over in the 1980s, and ERP systems that encompass MRP functions have been used since the 1990s. MPS (Master Production Scheduling), CRP (Capacity Requirements Planning), WOP (Work Order Processing), PDM (Product Design Management), PLM (Product Lifecycle Management), (SCM) Supply Chain Management, product classification, product configuration, production control, production planning, project budgeting, repetitive manufacturing, job costing, production costing, factory automation (robots), engineering change control, bom (bill of materials), process control, shop floor control, and inventory control.





Front-Office Systems

This software supports the interface with customers and didn't really come into use until the 1990s. CRM (Customer Relationship Management), call center systems, and SFA (Sales Force Automation) software all belong to this category;

- Call center software started out managing telephone call centers including telemarketing, help desks, and service functions and now provide a centralized source for customer support and have to work with phone, email, fax, and website communications;
- CRM, ECRM (Customer Relationship Management)





Front-Office Systems

- **Marketing software automates marketing campaigns and interfaces with sales systems to report on the success (or not) of a campaign;**
- **Sales software is often referred to as SFA (Sales Force Automation) systems and allows sales people to check inventories, delivery dates, etc. online to completely process an order.**





Business Management Systems

- **Business Process Management (BPM)** available from many sources including ERP vendors;
- **Business Performance Measurement (BEM);**
- **Business Activity Monitoring;**
- **Business Event Management.**





Enterprise Resource Planning (ERP)

Software combines both back- and front-office functions and is designed to support the entire company—one software package is all the company will need.

SAP- System, Applications, and Products in Data Processing (“Systemanalyse und Programmentwicklung”)

- **>20 combinations platforms – database systems;**
- **40 languages;**
- **50 currencies;**
- **30 business solutions.**





S A P

Application software foundation is built on the concepts of *specialization* (deserve a specific need) and *integration* (individual modules combines to form an SAP component, application, or product)

SAP:

- SAP Business Suite (comprising all business applications);
- SAP NetWeaver (comprising all components which enables SAP Business Suite).





S A P

SAP applications or components - formed by many modules which are business functionality (example, SAP ERP includes the modules: Financials, Sales & Distribution, various Logistic functions, Human Resource Capital and more);

SAP incorporates industry's best practices for the different business processes necessary to run a company.

SAP industry solutions are currently divided into three core industry areas - Manufacturing, Service Industries, and Financial/Public Services - that in turn, include different industries (figure 1.6).



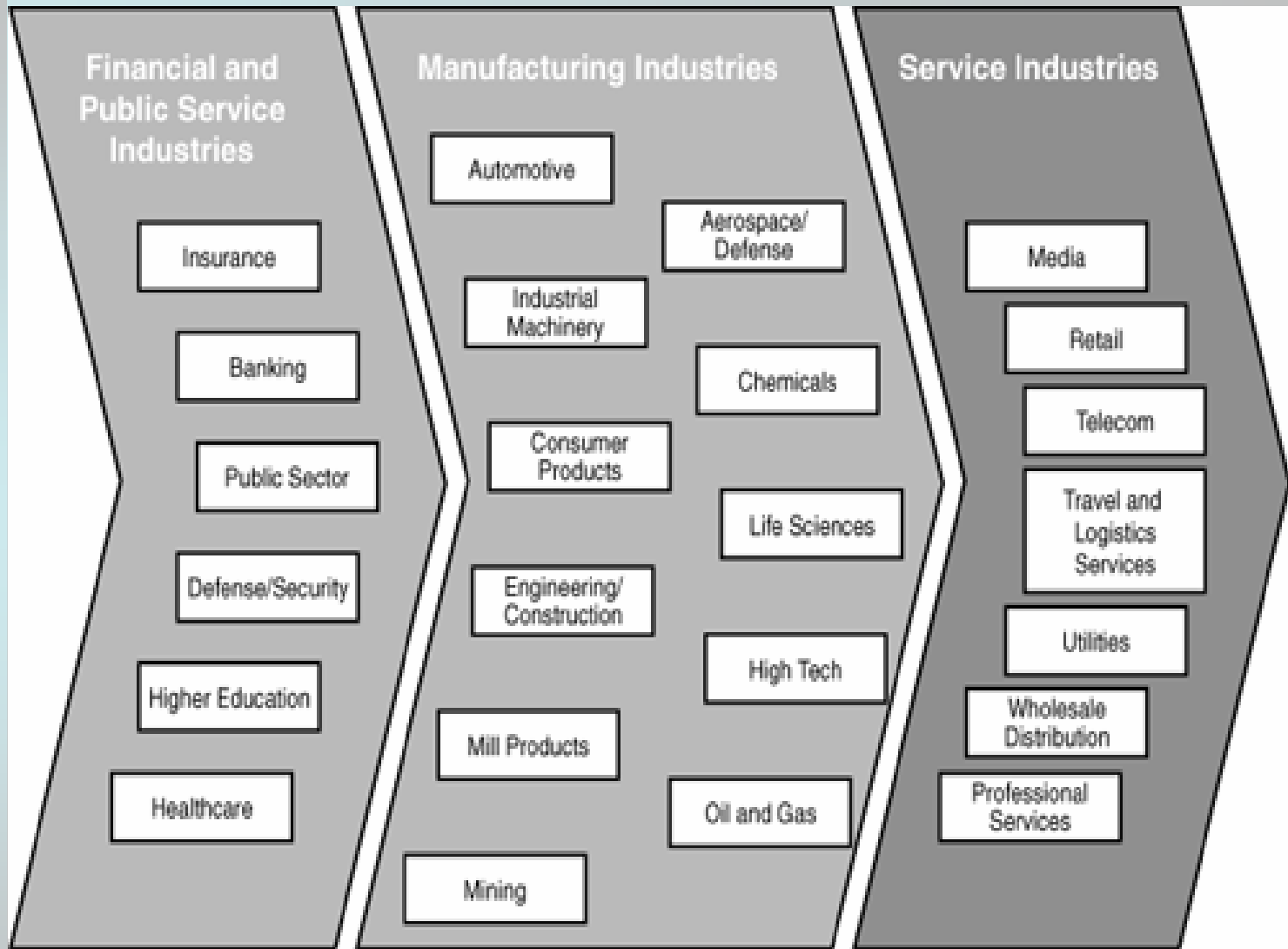


Figure 1.6 SAP provides a wide range of industry-specific solutions

(Source: Sams Teach Yourself SAP in 24 Hours, Third edition by George W. Anderson, Tim Rhodes, Jeff Davis, John Dobbins, Andreas, August 06 2008)



SAP solutions can be combined to create broad platforms for conducting business; By combining multiple SAP applications, a company can create what is called a cross-application or extended business process. These so-called cross-application business processes might be initiated through SAP's Enterprise Portal (figure 1.7), which allows a broad base of a company's users or even its partners and suppliers to access the company's SAP system



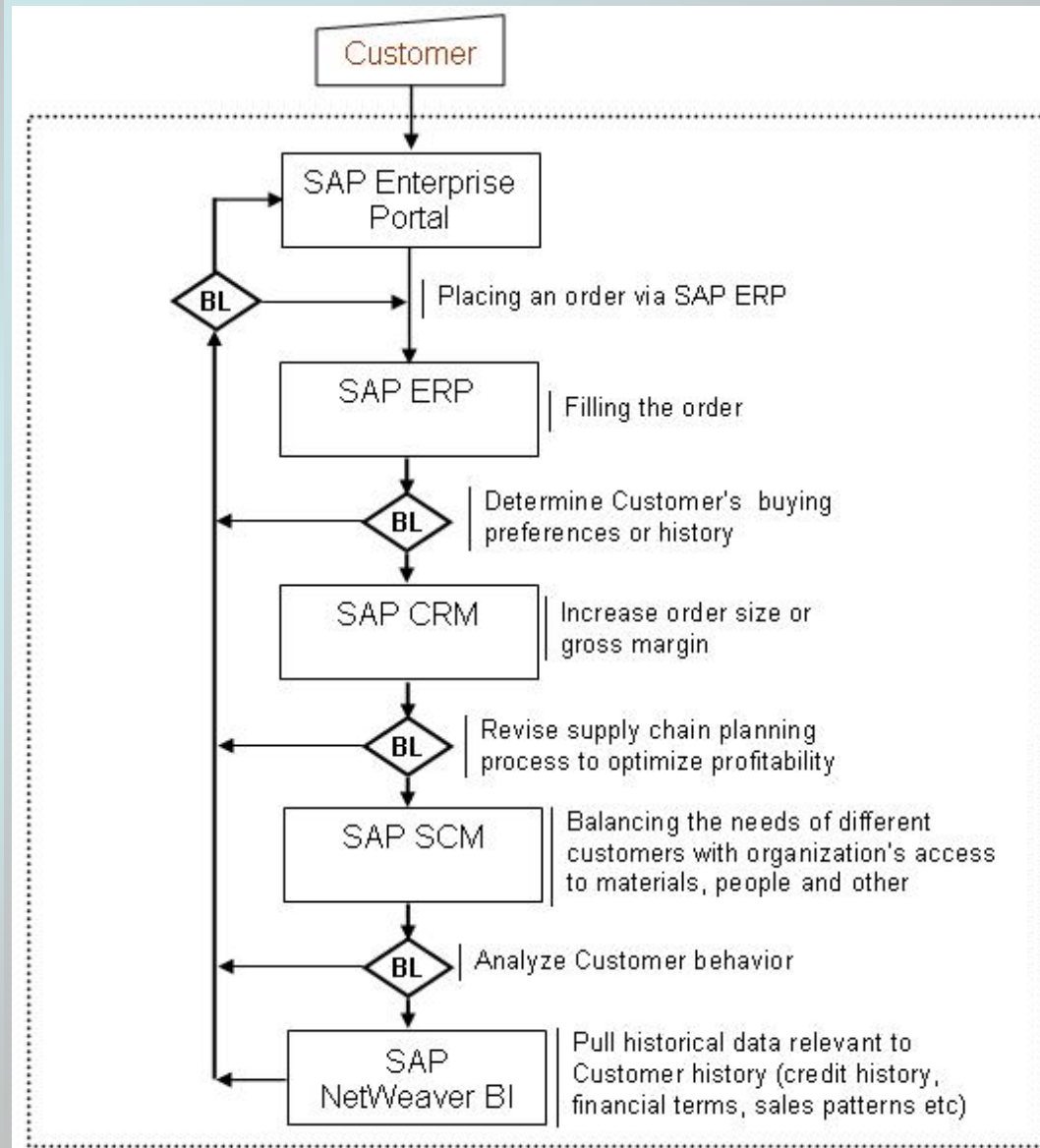


Figure 1.7 Example of automatic SAP modules chaining by business logic





SAP:

- Is listed to NYSE under SAP symbol;**
- have 43,000 employees;**
- over 2000 implementation and support partners;**
- is sell in 50 countries;**
- used by one million users across more than 100,000 installations (reflecting 46,100 different customers).**

Latest SAP products built on Web Application Server (WebAS) that can be installed on a variety of platforms and databases releases. It support most popular computer programming languages and protocols including Web Services, XML, classic HTML, SAP's traditional ABAP/4 programming language, and the industry standard Java language.





eApplications: When the Web was created in 1990 online applications running over the Internet created a new category. E-Applications are those specifically designed for Web use and include e-Commerce, e-Business, Hosted Systems, Portals, and Web Services. E-Commerce and e-Business describe systems that support buying and selling over the Internet, and Web services use the Web to provide distributed processing for business systems.



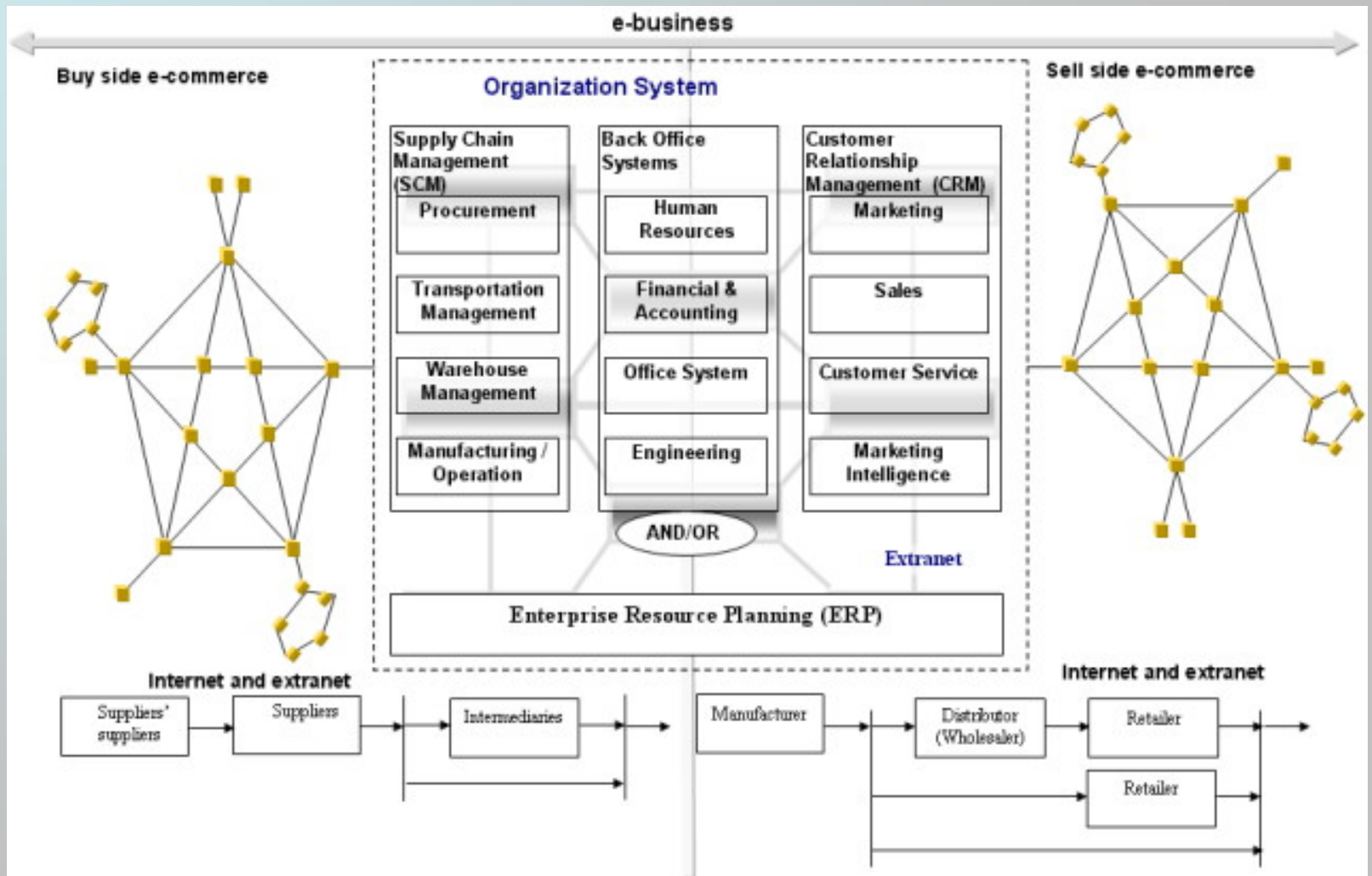


Figure 1.5 The extended company and management of customers and suppliers relationships (Source: Internet Technologies for Business - Business categories and models in Internet, Vasile Avram, <http://www.avrams.ro>)



1.4 Virtual Organizations

Davidow and Malone^[1] describe virtual organization as:
“To the outside observer, it will appear almost edgeless, with permeable and continuously changing interfaces between company, supplier and customer. From inside the firm, the view will be no less amorphous, with traditional offices, departments, and operating divisions constantly reforming according to need. Job responsibilities will regularly shift.”

^[1] The virtual corporation. Structuring and Revitalizing the Corporation for the 21st Century by Davidow, W.H. and Malone, M.S. HarperCollins London 1992





The features of virtual organizations as suggested since 1998 by Kraut et al. [\[1\]](#) are:

- Process transcend the boundaries of a single form and are not controlled by a single organizational hierarchy;
- Production process are flexible with different parties involved at different times;
- Parties involved in the production of a single product are often geographically dispersed;
- Given this dispersion, coordination is heavily dependent on telecommunications and data networks.

[\[1\]](#) Coordination and virtualization: the role of electronic networks and personal relationships by Kraut, R., Chan, A., Butler, B., Hong, A. in Journal of Computer Mediated Communications, 3(4) n1998





INFORMATICS FOR BUSINESS ADMINISTRATION

Main Contents

SUBJECT: INFORMATICS FOR BUSINESS ADMINISTRATION,
first year

Professor: Vasile AVRAM, Professor, Ph. D.

Number of hours: - Course: 28; - Seminar and lab: 28;

OBJECTIVES OF THE COURSE:

- Enlarging the knowledge regarding the possibilities of automations at enterprise level, mainly for SMES (small and medium sized enterprises)
- The knowledge of technical architectures for implementation and of main categories of applications for business administration
- The functionality for enterprises of integrated applications (CRM, SCM, ERP, BI) and options regarding the integration of software applications





BASIC CONTENT:

- ◆ **The Informatics and Enterprise in information society. Virtual Enterprise.**
- ◆ **Architectures of business administration applications**
- ◆ **Business administration applications: characteristics and evolution**
- ◆ **Applications for customer relationships management (CRM)**
- ◆ **Applications for supply chain management (SCM)**
- ◆ **Solutions for enterprise applications integration (EAI)**
- ◆ **Applications for planning and monitoring enterprise resources (ERP). Applications for strategic level management (BI- Business Intelligence)**





EVALUATION SYSTEM:

- a) Student's obligations throughout the year (essay, supplemental bibliographies etc)**
 - seminar and course attendance 10%;
 - project: realization of an object-oriented application program (40%);
 - (50% final mark)
- b) Exam requirements:**
 - project presentation;
 - 50 % activity during the semester + 50 % final exam = 100%
- c) Type of examination: written**





BASIC BIBLIOGRAPHY:

- ◆ **Ellen Monk, Brett Wagner – Concepts in Enterprise Resource Planning, Second Edition, Thomson, 2005**
- ◆ **Mary Sumner – Enterprise Resource Planning, Prentice Hall, 2005**
- ◆ **Linthicum, D.S. - *Enterprise Application Integration*, Addison-Wesley Longman, Amsterdam, 2000**

