Enterprise Software/ IS

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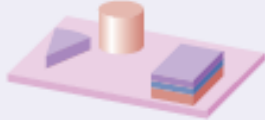
The Purpose of Information Systems

- **Businesses use information systems**

  - To make sound decisions

  - To solve problems

- **Problem** is any undesirable situation

- **Decision** arises when more than one solution to problem exists

- **Problem solving and decision making require information**

- Keys to success in business are:

  - Gathering correct information

  - Storing information

  - Using information

Information in Context

Figure 1.3 Characteristics of useful information

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Relevant	Information must pertain to the problem at hand. For example, the total number of years of education might not be relevant to a person's qualifications for a new job. Relevant information might be that the person has so many years of education in mechanical engineering and so many years of experience. The information must also be presented in a way that helps a person understand it in a specific context.
Complete	Partial information is often worse than no information. For example, marketing data about household incomes might lead to bad decisions if not accompanied by vital information on the consumption habits of the targeted population.
Accurate	Erroneous information might lead to disastrous decisions. For example, an inaccurate record of a patient's reaction to penicillin might lead a doctor to harm the patient while believing that she is helping him.
Current	Decisions are often based on the latest information available, but what was a fact yesterday might no longer be one today. For example, a short-term Investment decision to purchase a stock today based on yesterday's stock prices might be a costly mistake if the stock's price has risen in the interim.
Economical	In a business setting, the cost of obtaining information must be considered as one cost element involved in any decision. For example, demand for a new product must be researched to reduce risk of marketing failure, but if market research is too expensive, the cost of obtaining the information might diminish profit from sales.

EIS conceptualization

A standard way of conceptualizing the architecture of an EIS is in three tiers:

- **Data tier** , the resource management logic provides access to the enterprise asset that the enterprise information system is organized around.

- **Application tier** , the business or application logic leverages that resource to support an enterprise application.

- **Client or presentation tier** , the presentation logic is the interface between the application and its clients, where the latter may be users or other applications.

ESI conceptualization

Client Tier

Server Tier

Data Tier
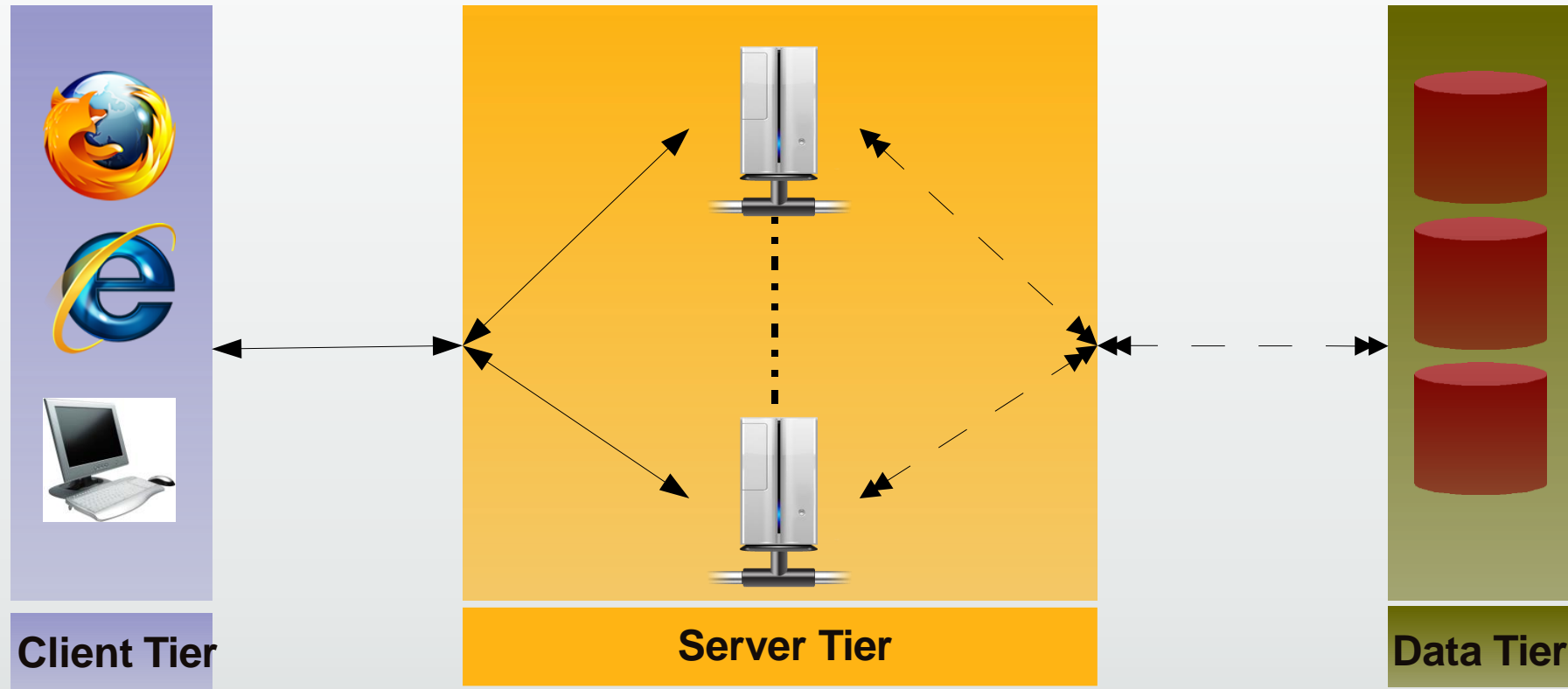
Component characteristics

1- Servers

- Application server, web server, proxy servers etc

2- Clients

- heterogeneous

  - users, business partners (B2B)

- scale

  - large number of clients

- distributed

3- Data

- large amounts of data

- long-term & short term distributed in nature

- governed by schema

  - global company wide

 - local application specific

Communication in EIS

- Components of an enterprise information system are typically distributed over networks.

- Networks are essentially like postal networks.

- Machines are like apartment blocks connected by these postal networks.

- Residents of these apartment blocks communicate by sending postcards (packets).

- Both sender and destination are identified by the addresses of their respective apartment buildings (IP addresses)
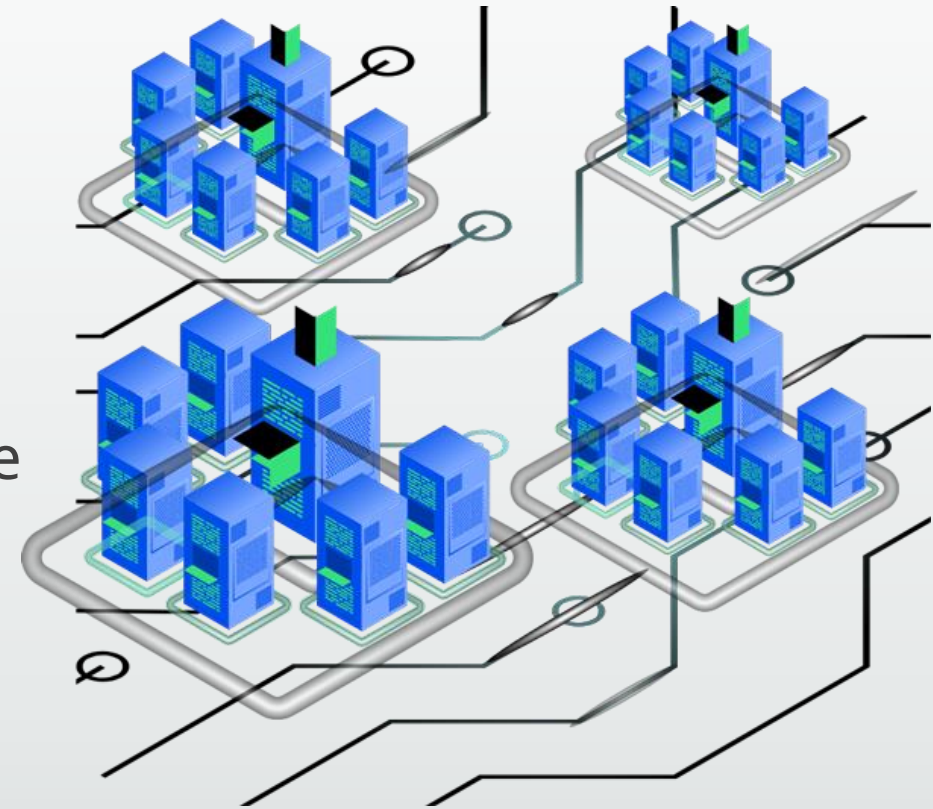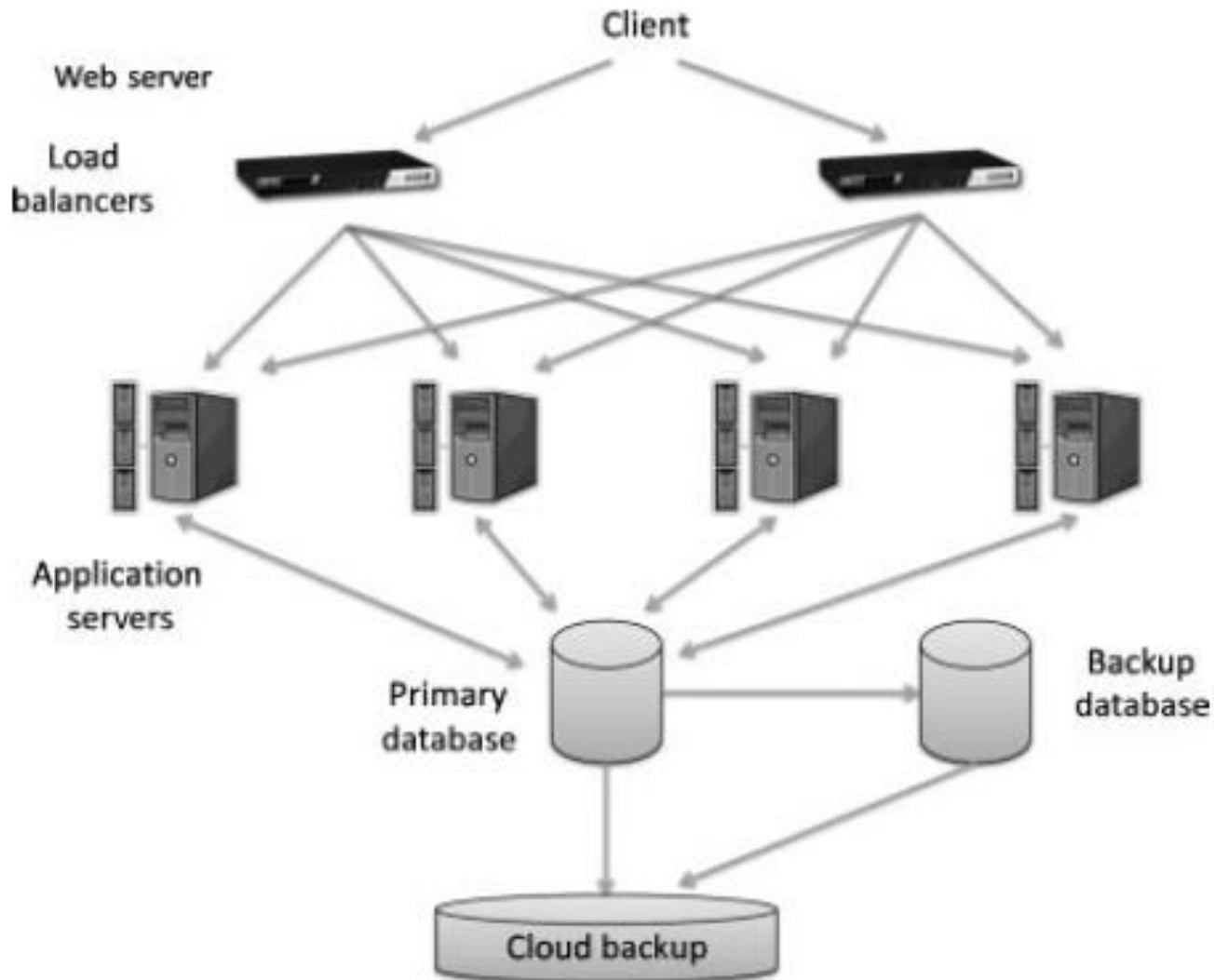
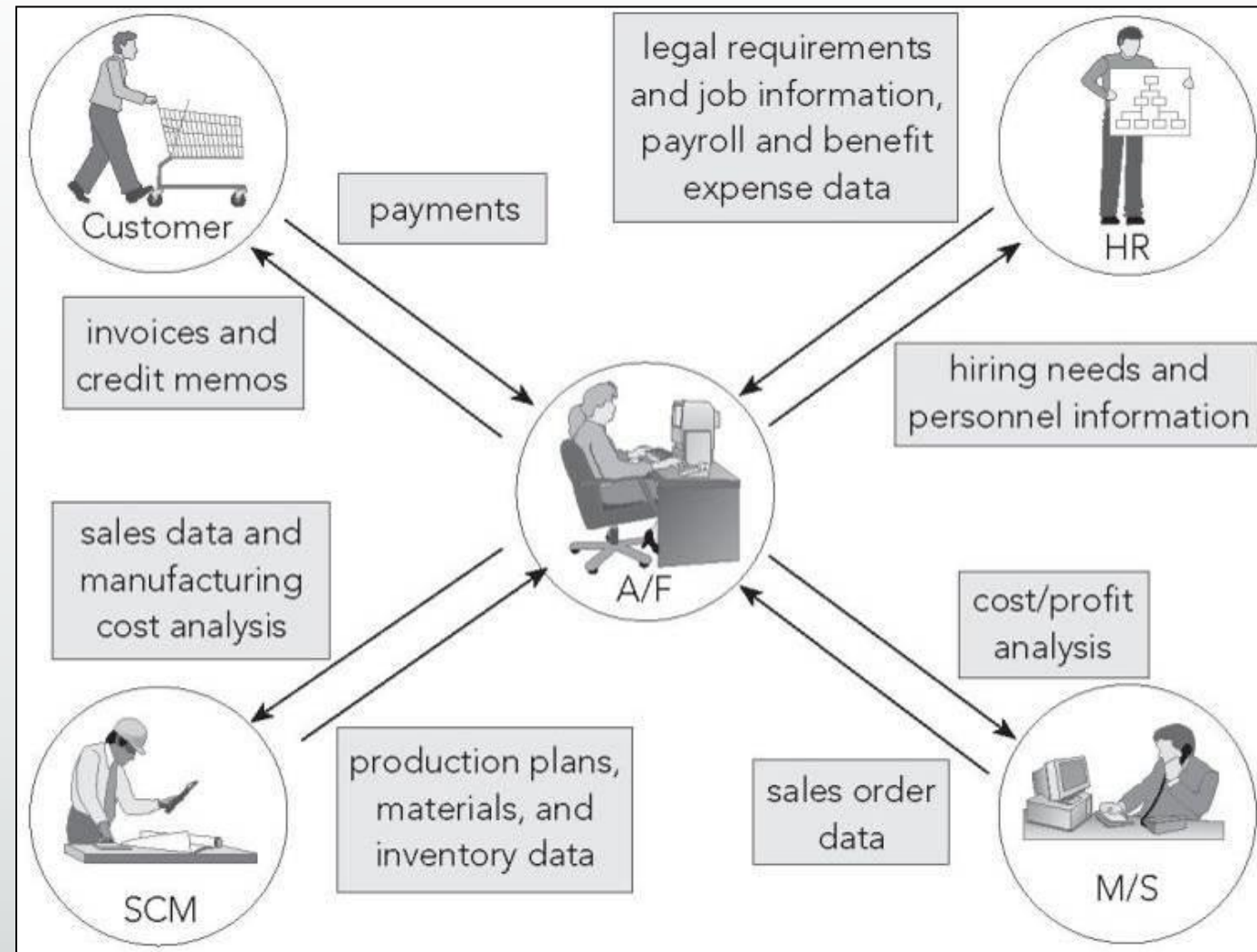Figure 2.10   Architecture for a load-balancing Web service

Types of enterprise software 1

Transaction Processing Systems

- Most widely used type of system

- Records data collected at point where organisation interacts with other parties

- Encompasses cash registers, ATMs and purchase order systems
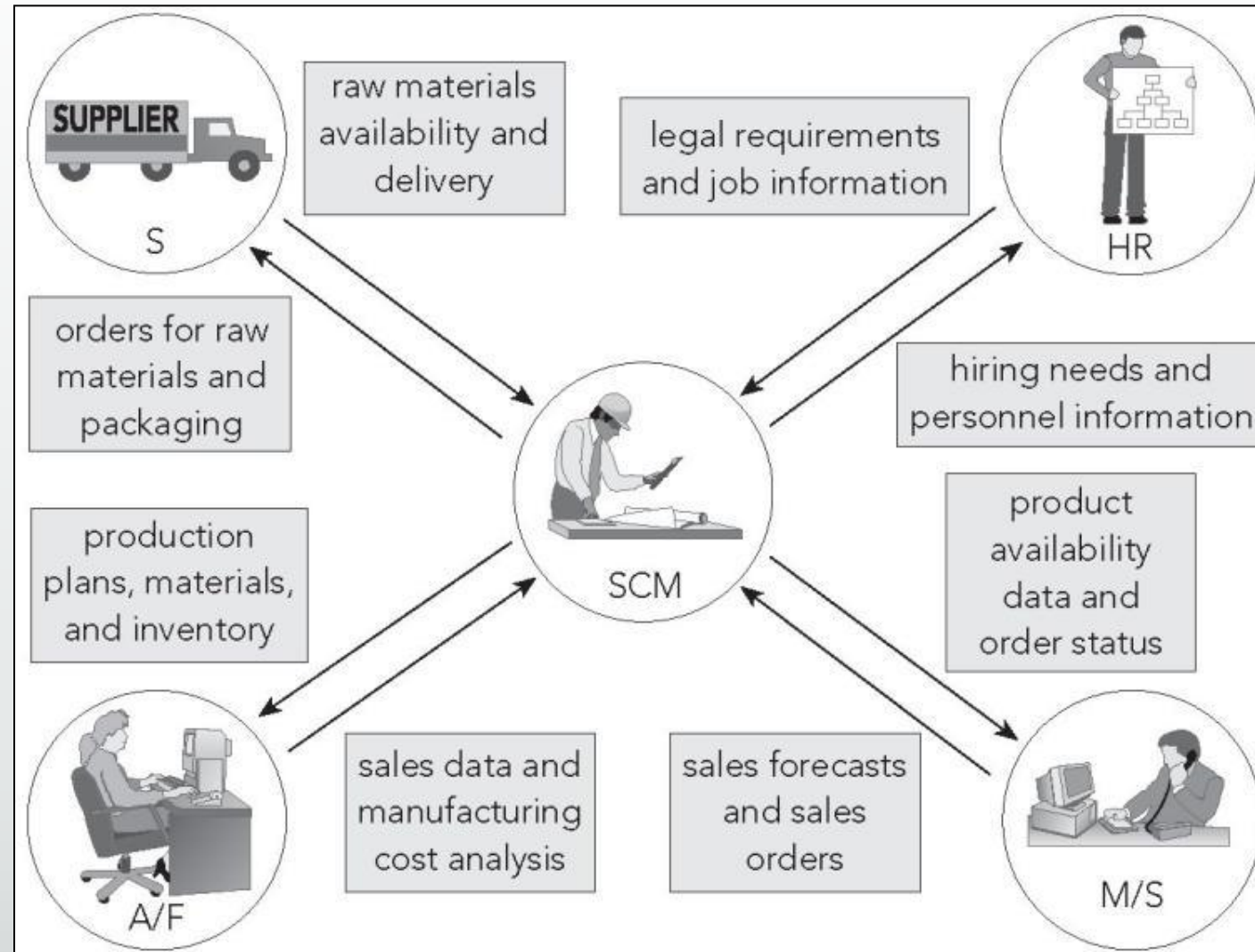
Types of enterprise software 2

- **Customer relationship management**: managing relations with customers

- Used in combination with other enterprise systems to provide customer service
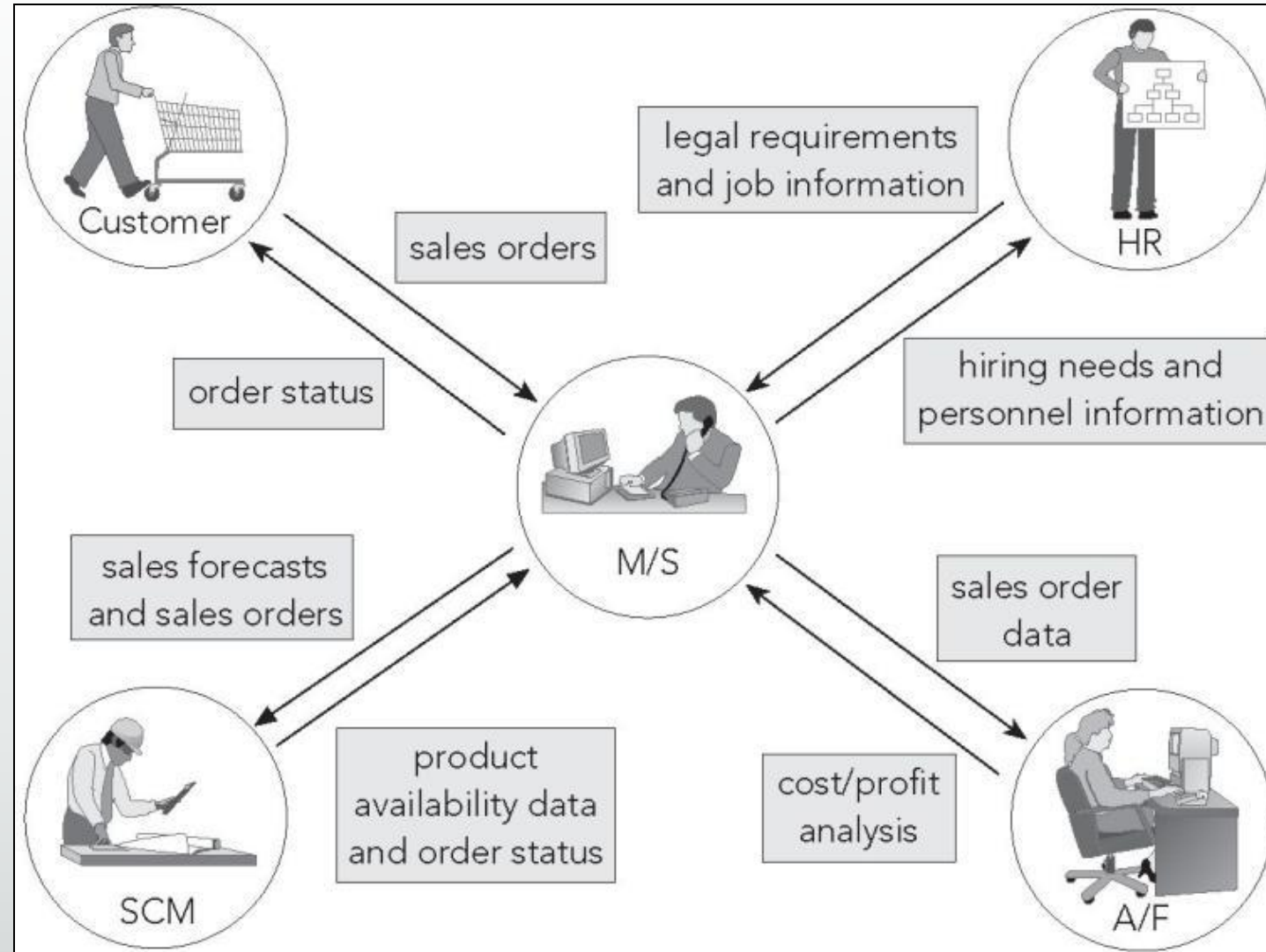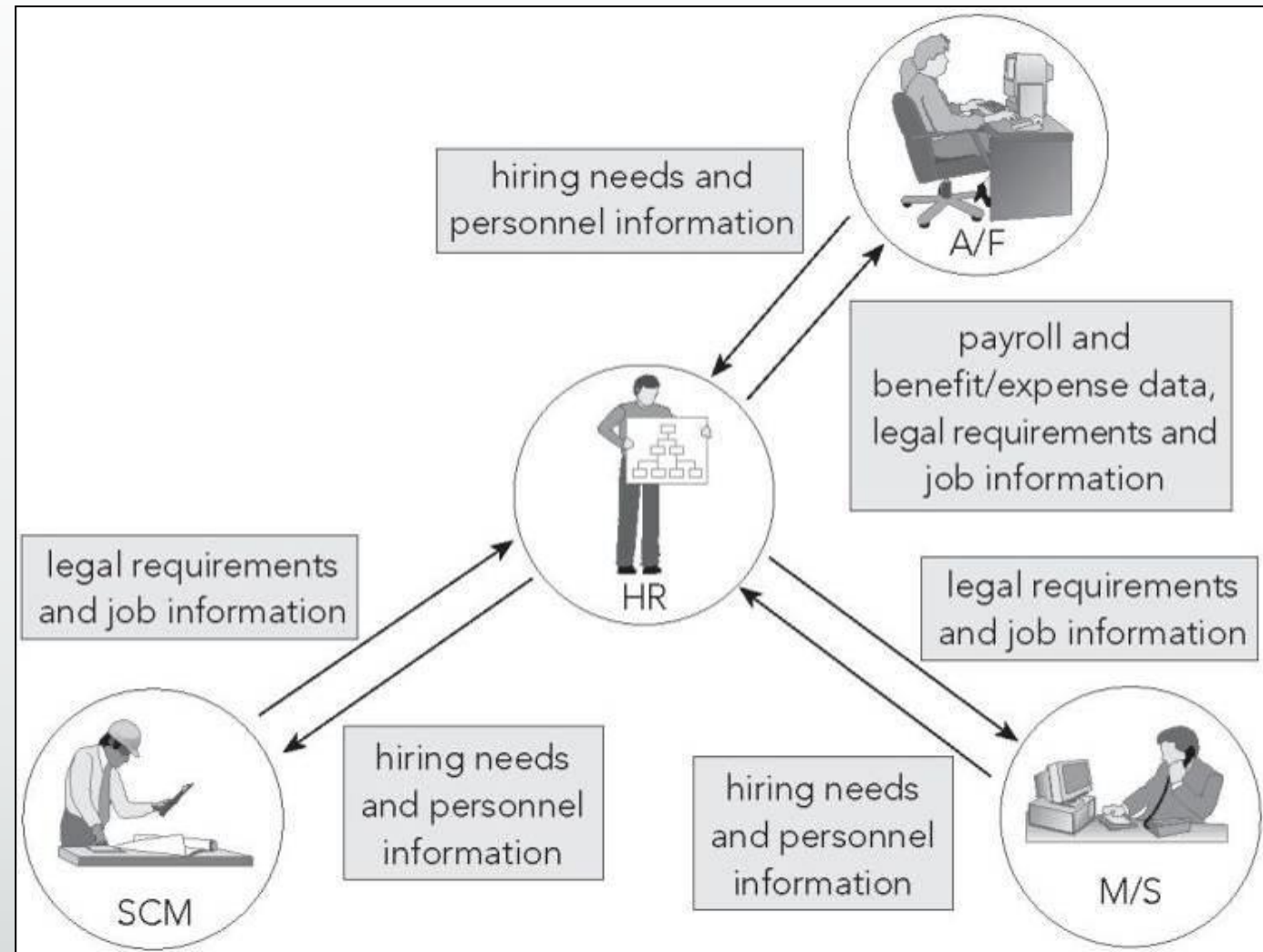
Types of enterprise software 3

- **Supply chain**: sequence of activities involved in producing and delivering products.

- Activities include marketing, purchasing raw materials, manufacturing, shipping, billing, collection, and after-sale services

- Also known as **enterprise resource planning** (ERP) systems

Types of enterprise software 4

- Human Resources (HR)

- Recruiting and hiring

- Training

- Payroll

- Benefits

- **Business Intelligence**: gather data to help organisation compete

- Often contains statistical models

- Access large pools of data

- **Data warehouse**: large database that usually store transactional records

- **Decision support system**: supports decision-making

- Extrapolates data to predict outcomes

- **Expert system:** supports knowledge-intensive decision-making

- Uses artificial intelligence

References

- As specified in the syllabus