



## INFORMATION SYSTEMS

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92-1



### System Concepts

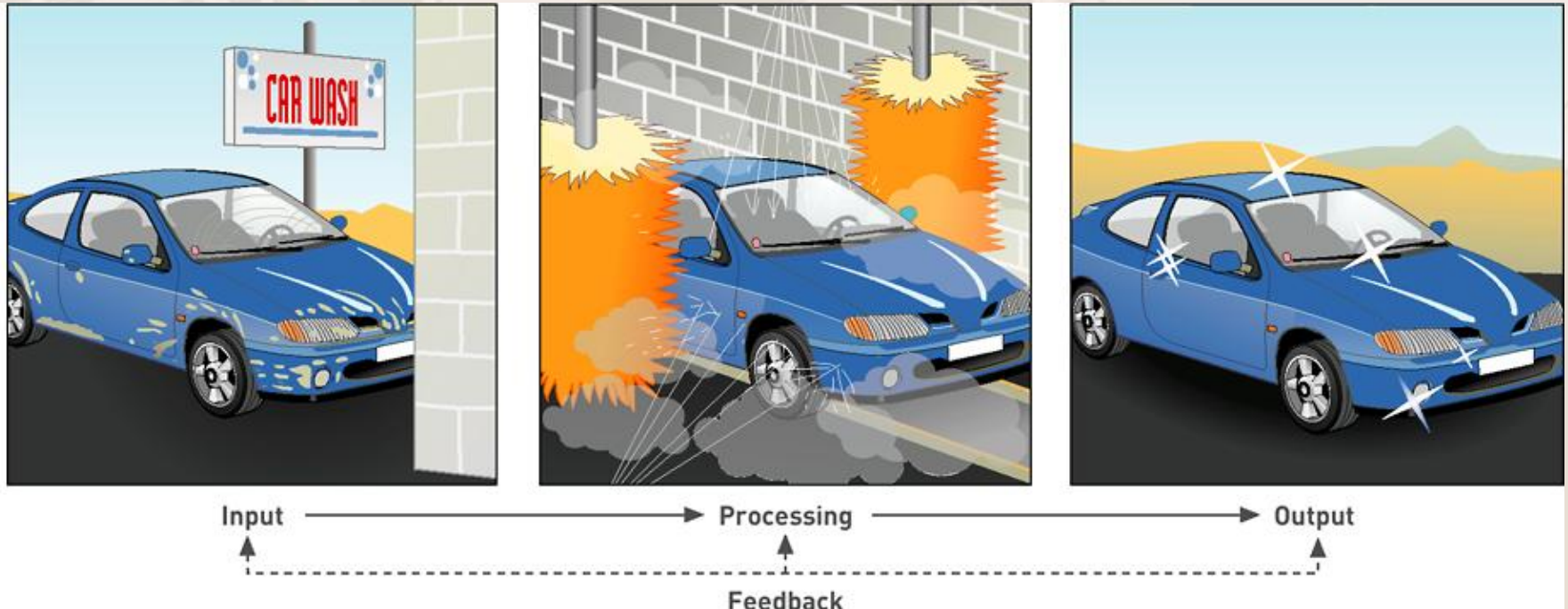
- **System**
  - A set of elements or components that interact to accomplish goals
- **Components of a system**
  - Input
  - Processing
  - Output
  - Feedback



# Management Information Systems

## INFORMATION SYSTEMS

### System Concepts





### What Is an Information System?

- An **information system** is a combination of people, hardware, software, computer networks, and data that organizations use to manage daily and long-term operations.
- Information system:
  - Set of interrelated components
  - Collect, process, store, and distribute information
  - Support decision making, coordination, and control



### Information Systems

1. **Input:** Captures raw data from organization or external environment
2. **Processing:** Converts raw data into meaningful form
3. **Output:** Transfers processed information to people or activities that use it
4. **Feedback:** Output returned to appropriate members of organization to help evaluate or correct input stage



### Manual and Computerized Information Systems

- **An information system can be:**
  - **Manual**
  - **Computerized**



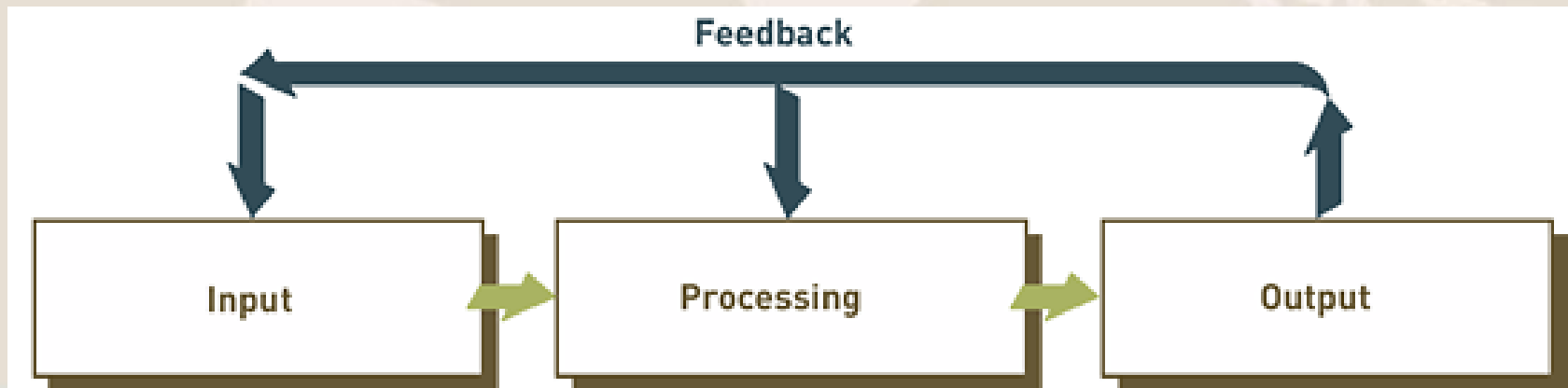
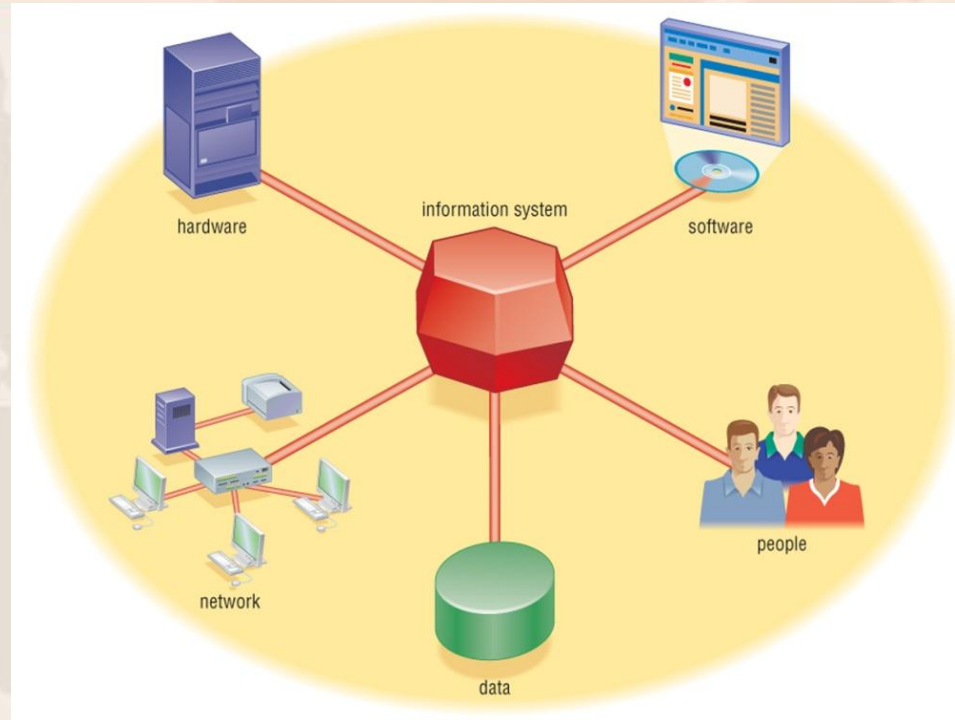
### Computer-Based Information Systems

- **CBIS components**
  - **Hardware:** computer equipment used to perform input, processing, and output activities
  - **Software:** computer programs that govern the operation of the computer
  - **Database:** organized collection of facts and information
  - **Telecommunications:** electronic transmission of signals for communications
  - **Networks:** connect computers and equipment in a building, around the country, and around the world



# Management Information Systems

## INFORMATION SYSTEMS





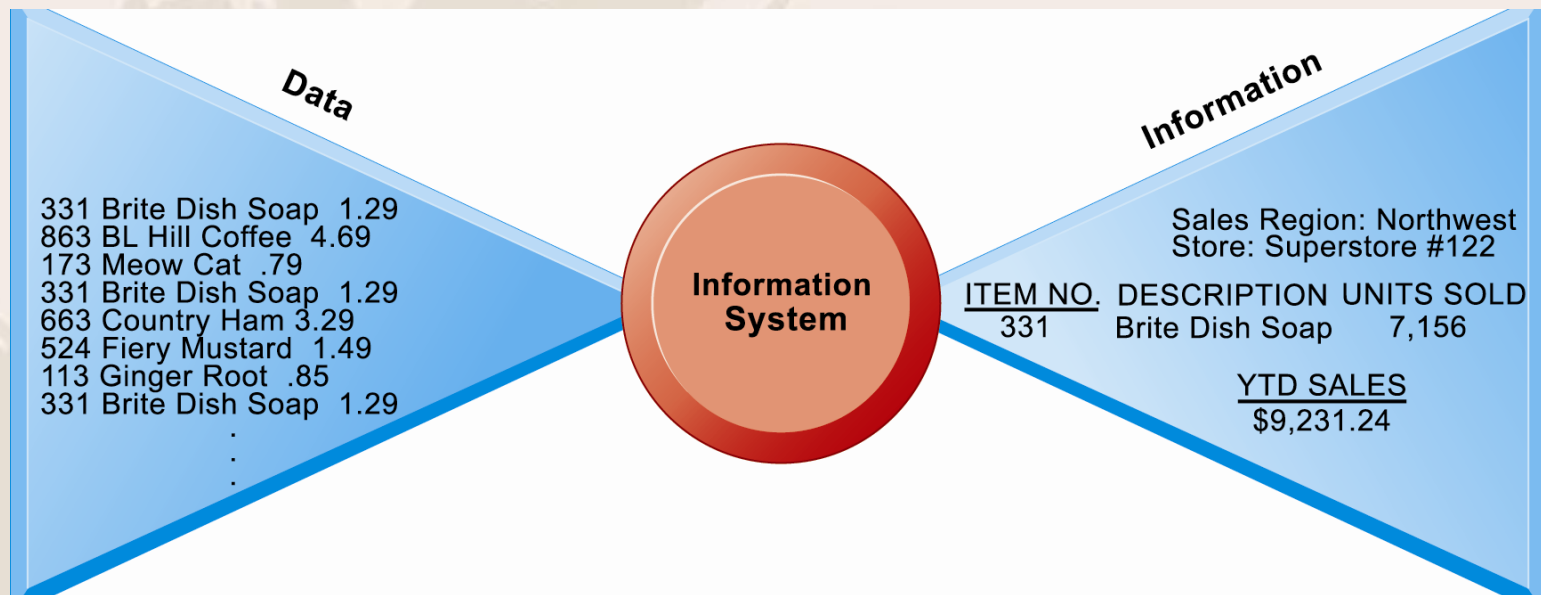


# Management Information Systems

## INFORMATION SYSTEMS

### Perspectives on Information Systems

- Data and Information



Raw data from a supermarket checkout counter can be processed and organized to produce meaningful information, such as the total unit sales of dish detergent or the total sales revenue from dish detergent for a specific store or sales territory.



### ارکان سیستم های اطلاعاتی

- Information storing system (ISS)
- Information processing system (IPS)
- Information retrieving system (IRS)

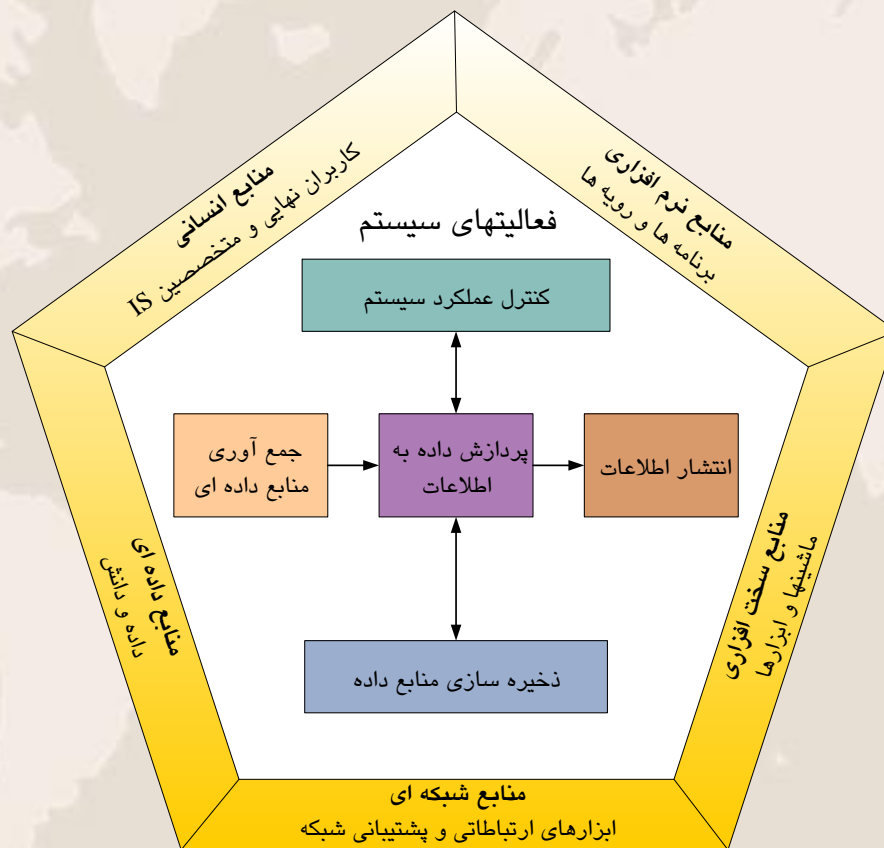


### اجزا سیستم های اطلاعاتی

- ورودی ها:
  - داده ها یا اطلاعاتی از عملیات، رویدادها، پرسش ها، ضوابط
- پردازش و مدل ها:
  - مجموعه ای از قواعد منطقی، فرمول های محاسباتی و ریاضی، مدل های شبیه سازی و ...
- پایگاه اطلاعاتی:
  - محل ذخیره داده ها
- کنترل ها:
  - ایجاد امکاناتی جهت اطمینان از صحت عملکرد سیستم و جلوگیری از اشتباهات
- منابع داده پردازش:
  - سخت افزار، نرم افزار، کاربران
- خروجی ها:
  - محصول سیستم (اولین جزء در طراحی)



### اجزا و فعالیتهای یک سیستم اطلاعاتی





### Information Systems in the Functional Areas of Business

- Finance and accounting
- Sales and marketing
- Manufacturing
- Human resource management
- Legal information systems
  - Ex.



### Information Systems in Industry

- **Airline industry**
- **Investment firms**
- **Banks**
- **Transportation industry**
- **Healthcare organizations**
- **Retail companies**
- **Professional services**



### Perspectives on Information Systems

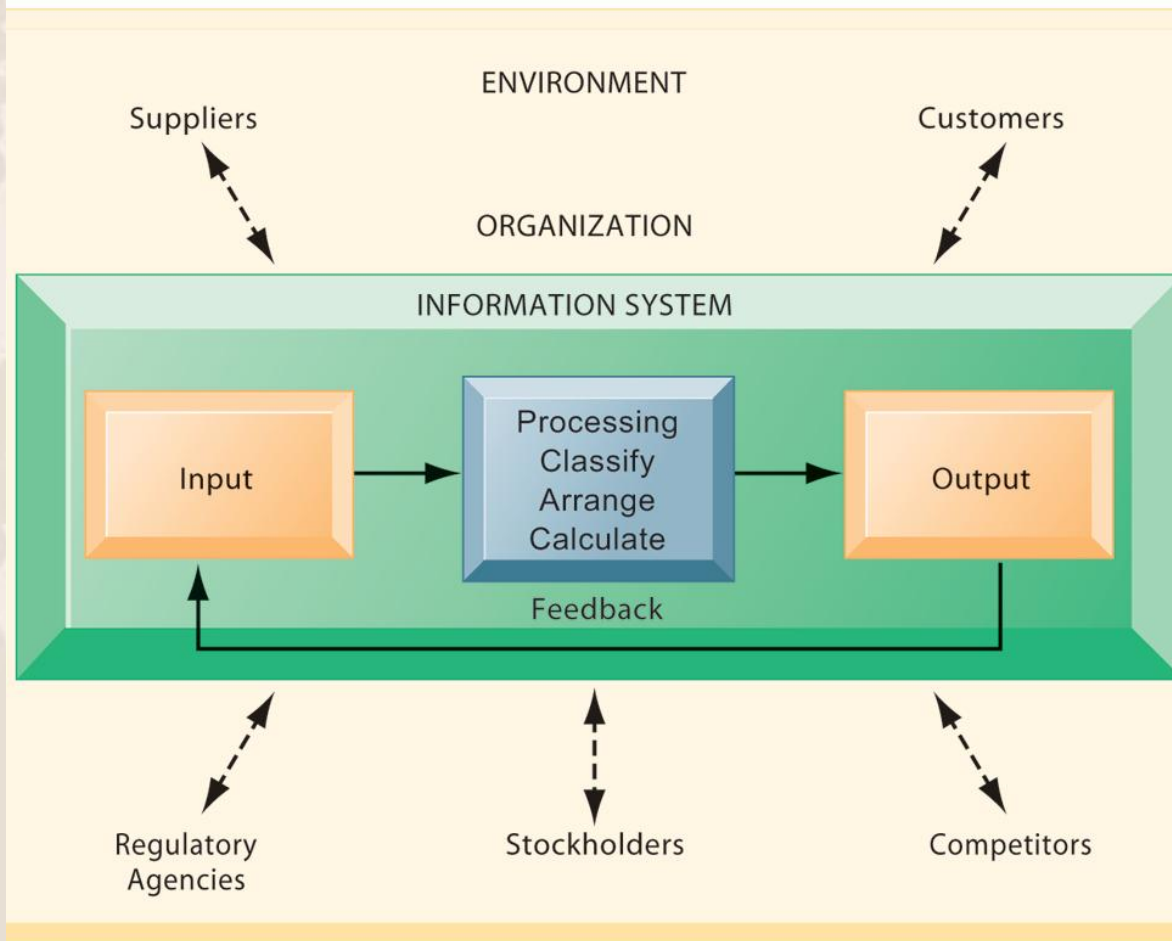
- **Computer/Computer program vs. information system**
  - **Computers and software are technical foundation and tools, similar to the material and tools used to build a house**



# Management Information Systems

## INFORMATION SYSTEMS

### Perspectives on Information Systems







### Information Processing

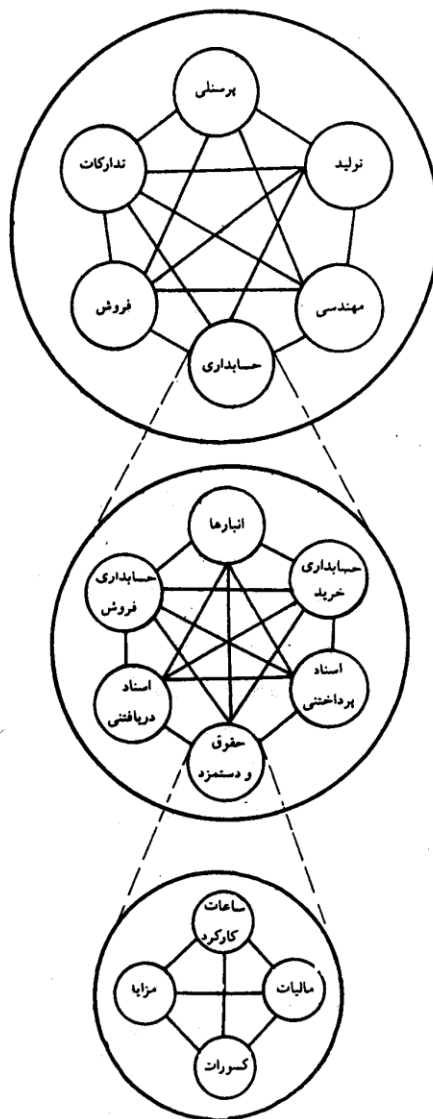
- Calculation
- Sorting
- Merging
- Summarizing
- Compression
- Classifying
- Filtering
- Indexation
- Context analysis



# Management Information Systems

## INFORMATION SYSTEMS

### سلسله مراتب سیستم ها





### طبقه بندی سیستم های اطلاعاتی

#### • از بعد ماهیت

##### – طبیعی

• سیستم های اطلاعاتی موجودات زنده

– سیستم اطلاعات ژنتیک

– سیستم اطلاعات شیمیایی

– سیستم اطلاعات رادیویی

– سیستم اطلاعات عصبی

##### – مصنوعی



### طبقه بندی سیستم های اطلاعاتی

• از نظر کاربرد

– **Management Support System (MSS)**

- MIS
  - Executive IS (EIS)
  - Strategic IS (SIS)
  - Decision Support System (DSS)
  - Expert System (ES)

» پزشکی

» وسایل خانگی



### طبقه بندی سیستم های اطلاعاتی

#### – Operation Support System (OSS)

- Transaction Processing System (TPS)
- Office IS (OIS)
- Human IS (HIS)
- Accounting IS (AIS)
- Production IS (PIS)
- Geographic IS (GIS)
- Document IS (DIS)



امام علی علیہ السلام:

عمود نَفْسِكَ حَسَنُ النِّيَّةِ وَ حَمِيلُ الْمَقْصِدِ تَدْرِكُ فِي مَبَاغِيكَ النِّجَاحَ

خودت را به داشتن نیت خوب و مقصد زیبا عادت ده، تا در خواسته هایت موفق شوی.

غزیرالمکه، ج ۶، ۳۳۶