

Äriinfosüsteemid Business Information Systems

Heino Talvik

heino.talvik@gmail.com

Sissejuhatus

Kes ma olen?

Heino Talvik

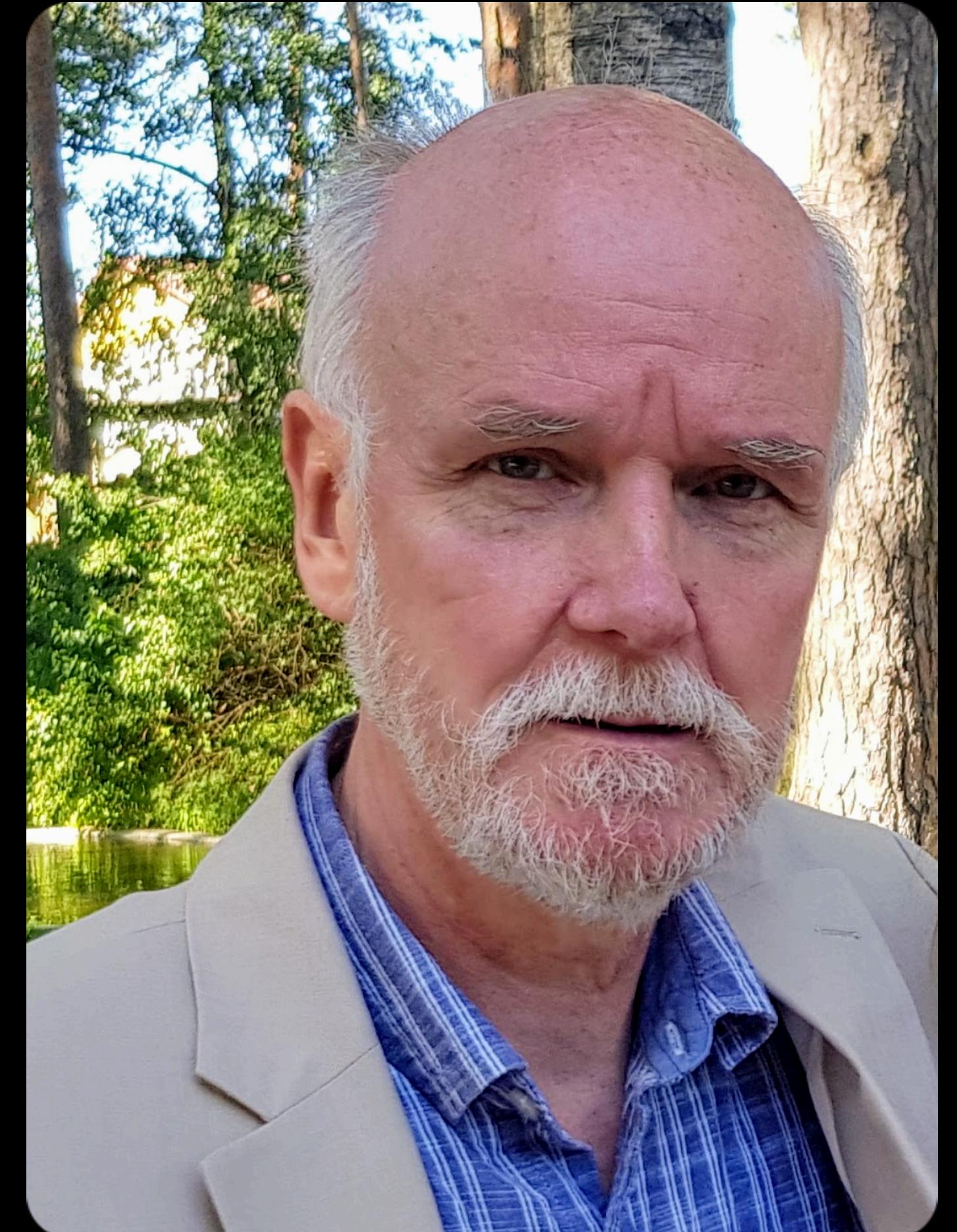
TRÜ haridusega füüsik (1979)

Õpetaja,

Tarkvara arendaja

Hoiupank, SEB, UnifiedPost AS

heino.talvik@gmail.com



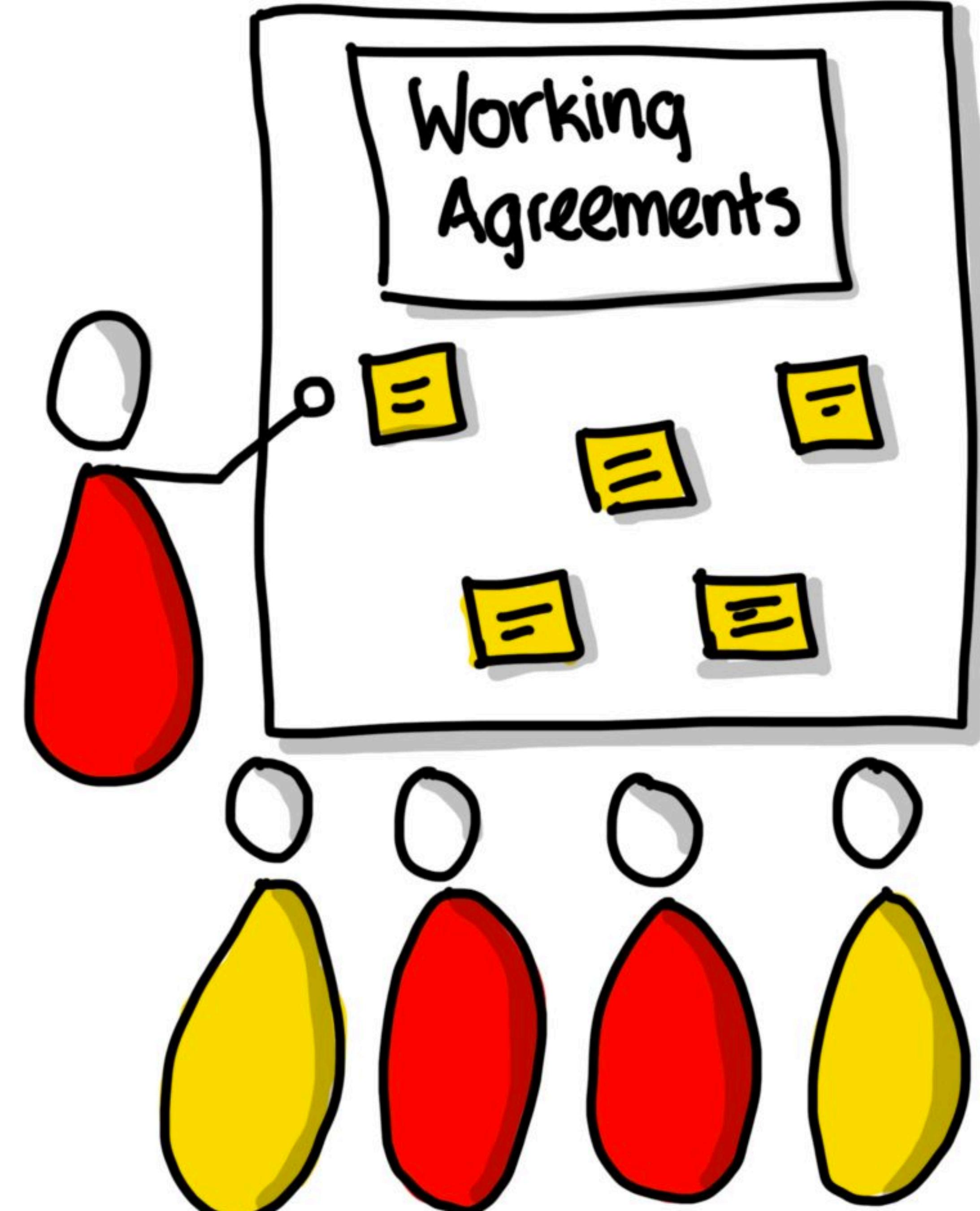
Sissejuhatus

Kes teie olete?



Kokkulepped

- Loengutel on arvuti kaasavõtmine hädavajalik, muidu ei saa laboratoorseid töid teha.
- Kursuse lõpetab suuline eksam. Miks küll?
- Moodles on iga loengu ajal avatud registreerimise vorm. Registreerimine on vajalik. 50% osalus tagab hinde "kasin - E"
- Lab. tööd on praktilised tööd arvutiga.
- Loengu ja labori käigus küsimuste esitamine annab plusspunkte



Milleks mulle seda ainet vaja?

- Kohustuslik
- Kuidas muudavad infosüsteemid äritegevust ja miks on see tänapäeval ettevõtte juhtimisel nii oluline?
- Et osata mõõta äri tulemuslikust ja efektiivsust



Milleks mulle seda ainet vaja?

Töökohale kandideerimiseks vajaliku silmaringi omandamiseks

ACCT	FIN	MKT	POM	HRM	MIS
ACCOUNTING	FINANCE	MARKETING	PRODUCTION OPERATIONS MANAGEMENT	HUMAN RESOURCES MANAGEMENT	MIS
Forecast revenues	Determine best sources for funds	Develop new goods and services	Process customer orders	Hire new employees	Directly support all functional areas

Sissejuhatus

Teie eesmärgid

- ette valmistada ennast JTO (Juhtiv Tehnoloogia Ohvitser) CTO kutseks.
 - aru saada IT tehnoloogilistest võimalustest
 - osata rakendada IT-d oma äri võimekuste arendamise vankri ette.
 - Mõista ja ennetada IT-ga kaasnevaid ohtusid



Teoreetiline alus

- Gümnaasiumi informaatika

- 1) „Programmeerimine”;
- 2) „Tarkvaraarendus”;
- 3) tarkvaraanalüüs ja testimine;
- 4) kasutajakeskne disain ja prototüüpimine;
- 5) digiteenused.



Sissejuhatus

kursuse teemad /main topics 1/2

- Mis on Äri Informaatika

- Taristu:

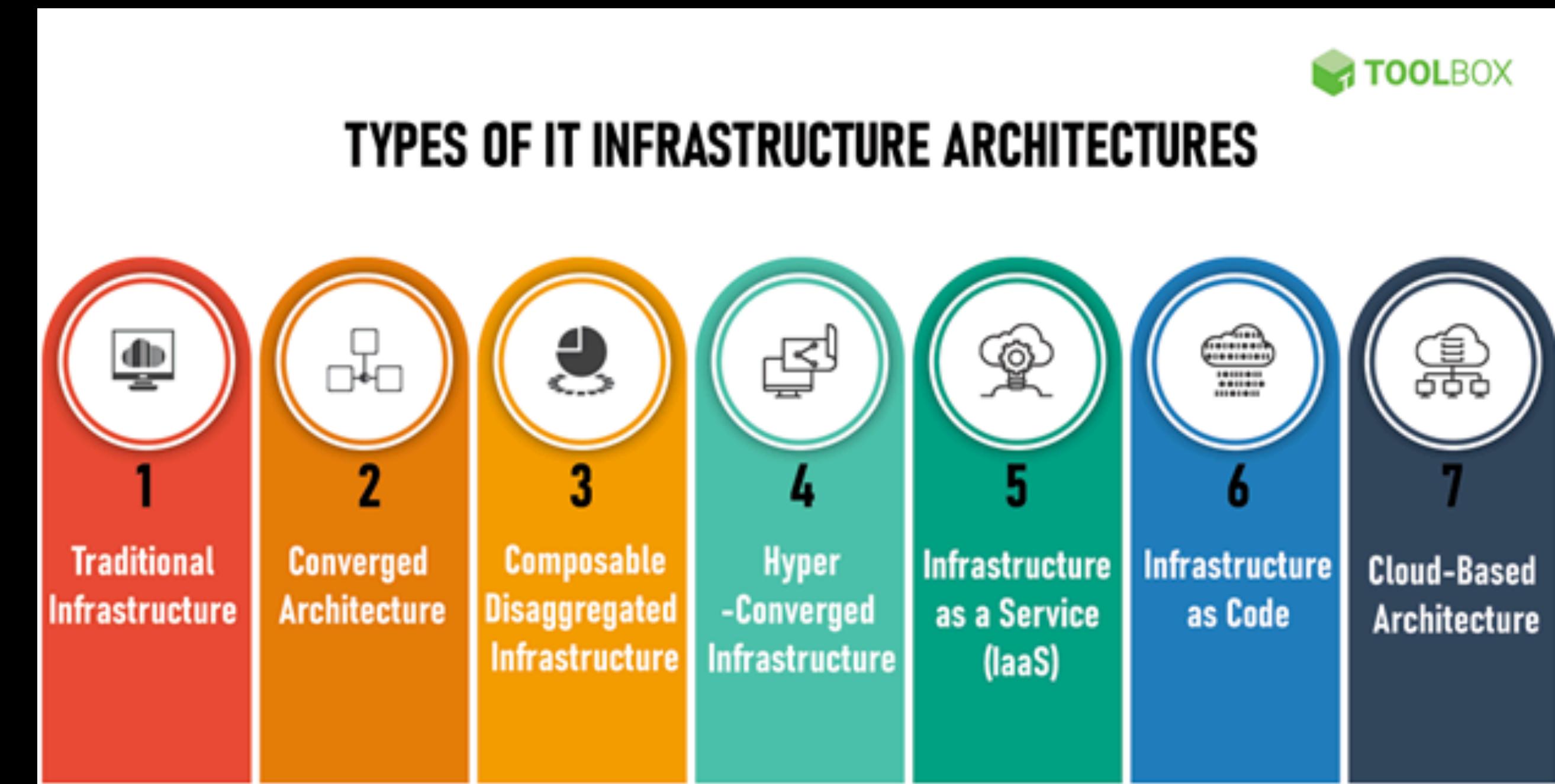
Operatsioonsüsteemid; Riistvara; Andmebaasid;
Protokollid; võrgud; Taristu haldus

- Pilve arhitektuur

- Asjade internet (IoT)

- Blokiahel

- Tehisintellekt



Sissejuhatus

kursuse teemad /main topics 2/2

- Konteiner- ja mikroteenus arhitektuur
- Enterprise Applications, ettevõtte rakendused SCM CRM ERP
- Tarkvara tarne metoodikad
- Digitaliseerimine
- e-kommerti mudelid
- e-kommerts, digitaalsed turud ja digitaalsed kaubad
- Andmeaidad
- Turvalisus & GDPR
- Ettevõtte arhitektuurilised mudelid

Sissejuhatus

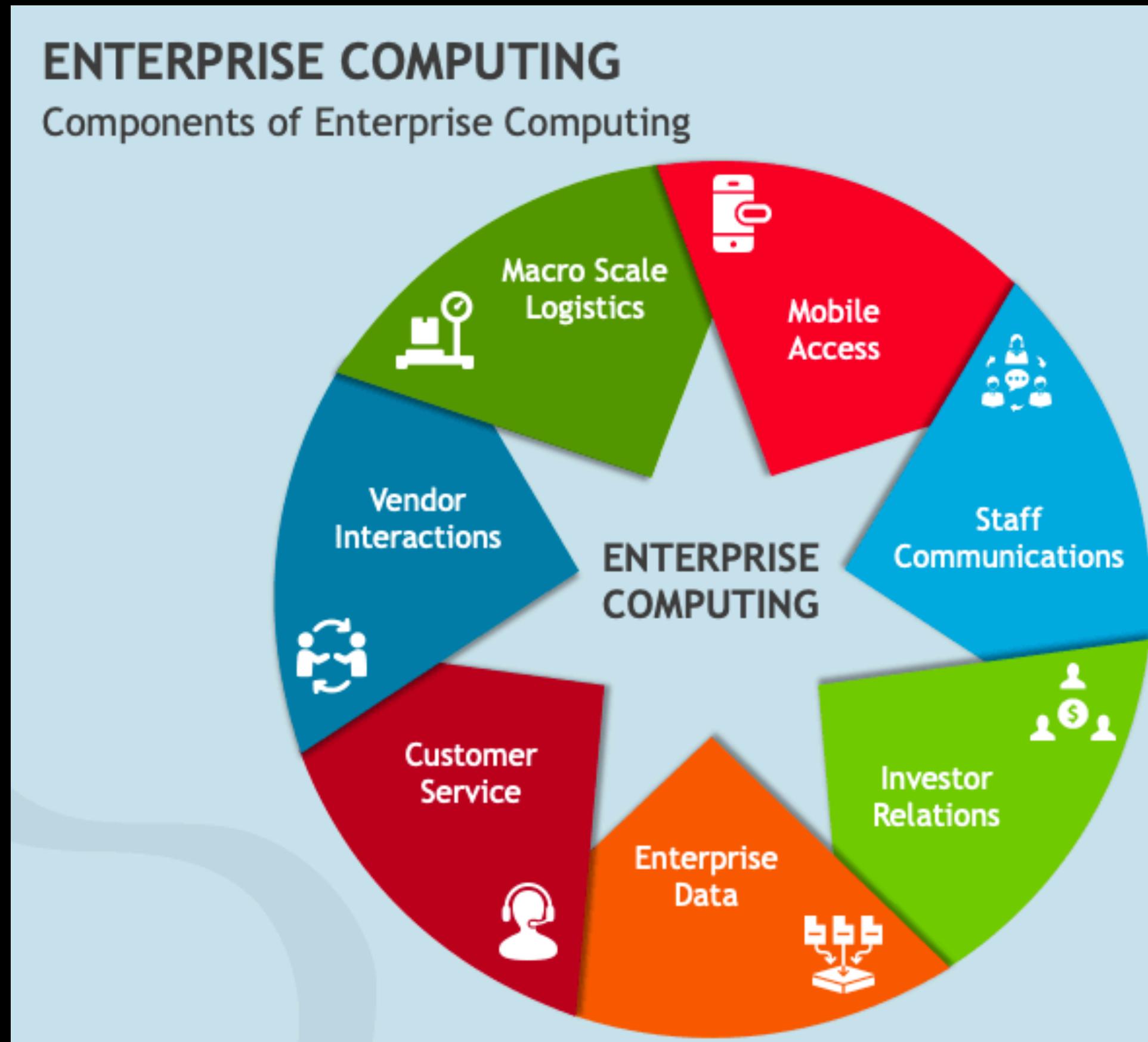
- IT ja IS
- Logistika ja IT
 - Mõista tõhusa teabe tähtsust - (logistika osa)
 - Õppida tundma InfoSüsteemide üldtüüpe ja nende logistilisi rakendusi
 - Tajuda interneti mõju logistikale
 - Saada aru, kuidas muutuv IT maailm muudab äri (logistikat)
 - Aru saada infotehnoloogilistest väljakutsetest



Ettevõtte andmetöötlus / Enterprise Computing

Enterprise Computing on arvutitehnoloogia valdkond, mis keskendub suurte ja keerukate infosüsteemide loomisele ja **haldamisele ettevõtete ja organisatsioonide jaoks**.

- Ettevõtte arhitektuur - ettevõtte strateegia, äriprotsesside, infosüsteemide ja infrastruktuuri omavaheline seos ja kooskõlastamine.
- Ettevõtte rakendused - tarkvararakendused, mis toetavad ettevõtte põhi- ja tugifunktsioone, nagu raamatupidamine, personalijuhtimine, kliendihaldus, varude haldus, tootmine, logistika jne.
- Ettevõtte andmed - suured ja mitmekesised andmekogumid, mis on seotud ettevõtte tegevuse, klientide, partnerite, tarnijate, konkurentide ja turuolukorraga.
- Ettevõtte võrgud - arvutivõrgud, mis ühendavad ettevõtte erineaid asukohti, töötajaid, seadmeid ja süsteeme, kasutades erineaid sideprotokolle ja -tehnoloogiaid.
- Ettevõtte turvalisus - meetmed ja praktikad, mis kaitsevad ettevõtte infosüsteeme ja andmeid volitamata juurdepääsu, ründe, häire, kahjustuse või kadumise eest.



HOW TO:
DRAW A HORSE

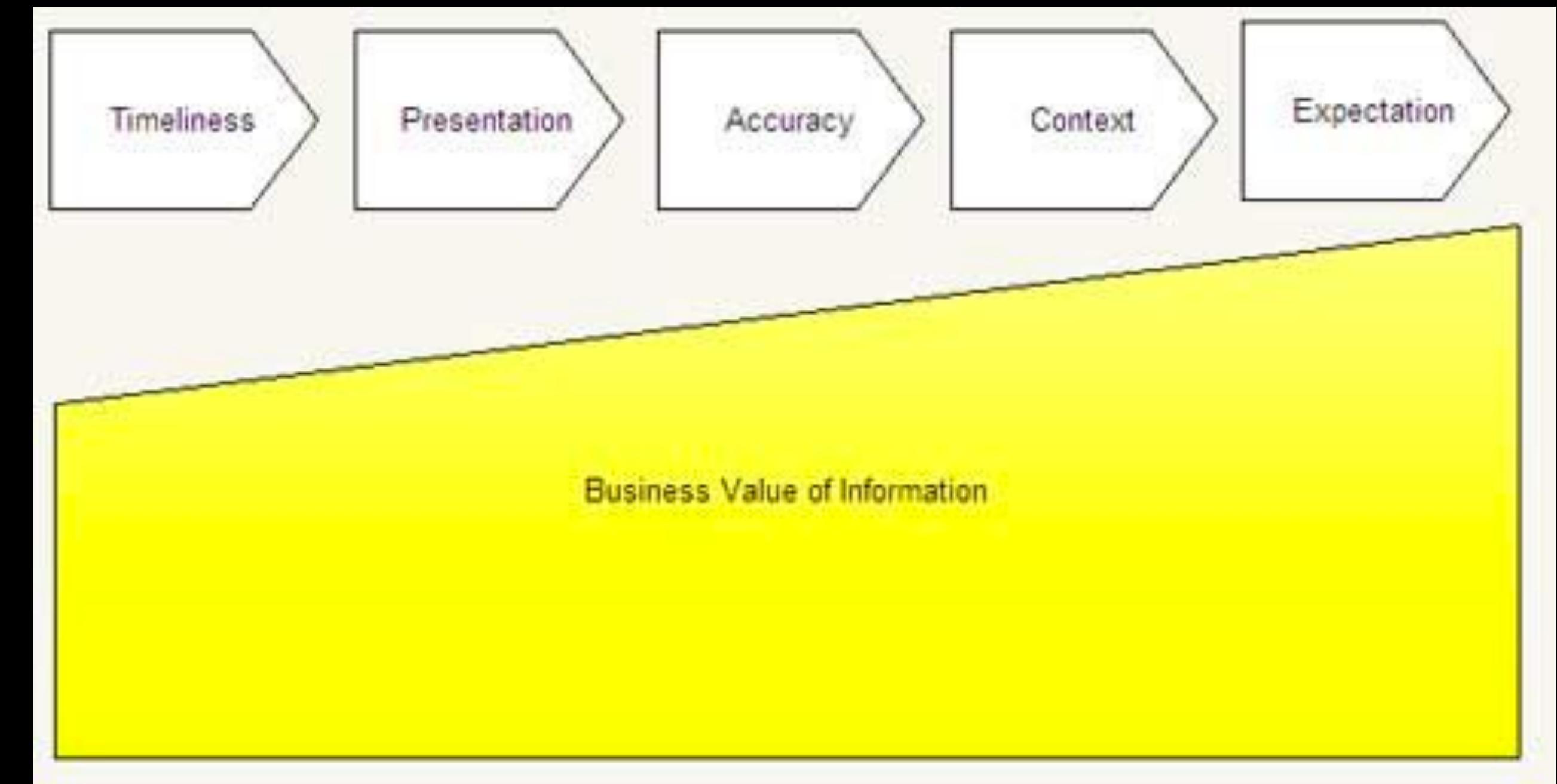
BY VAN OKTOP



- ① DRAW 2 CIRCLES

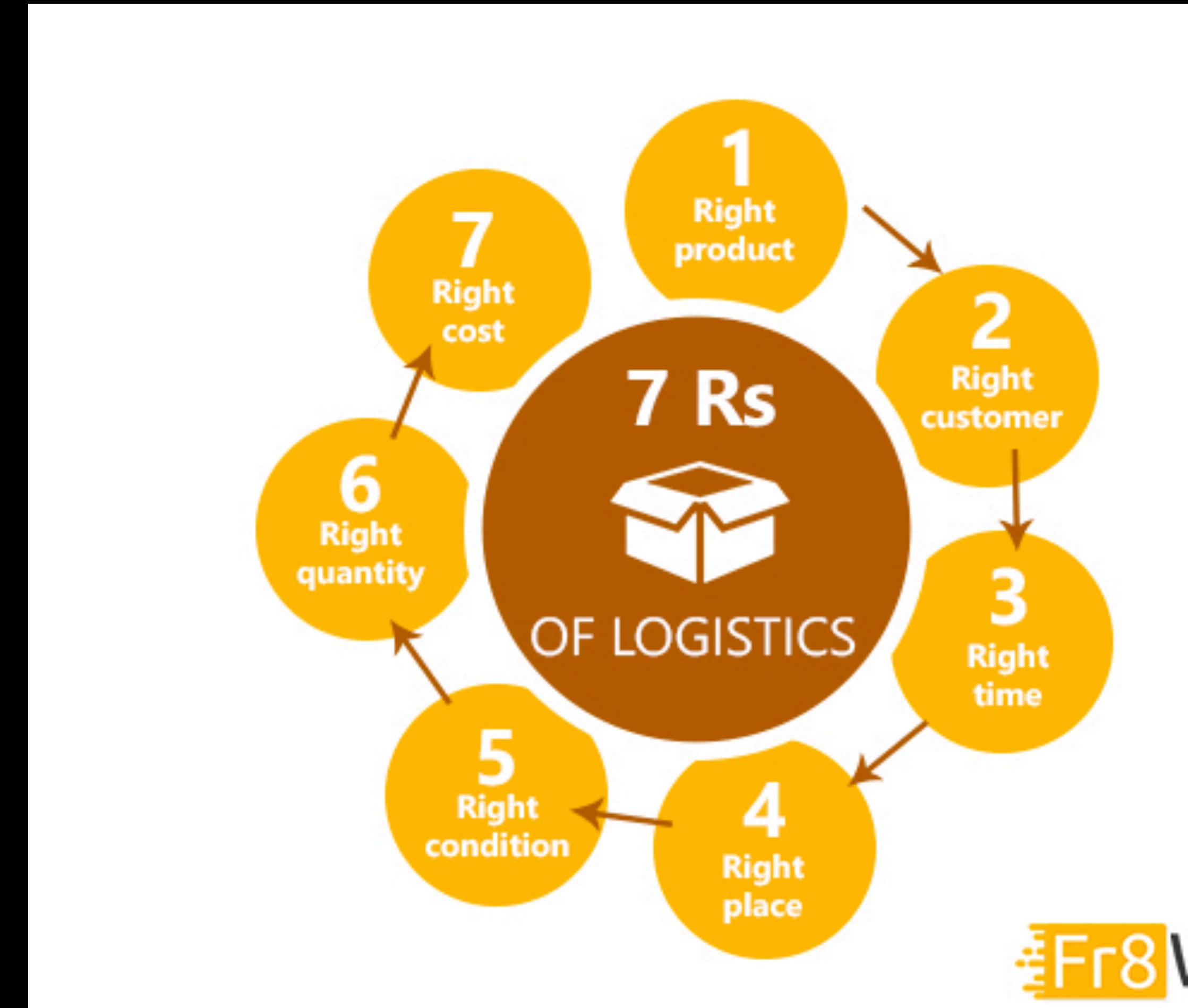
Purpose of Business Information System

... getting the right information to the right people, at the right time, in the right amount, and in the right format.

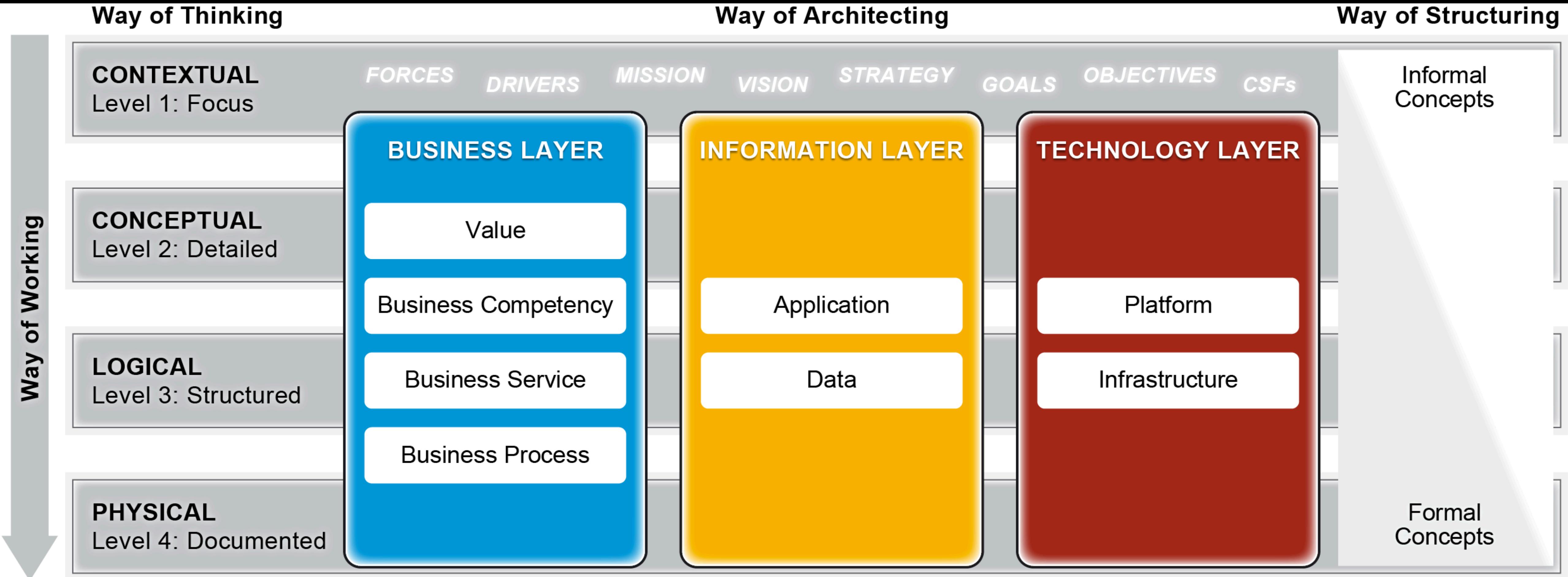


Purpose of

... getting the Right product, in the Right quantity, in the Right condition, at the Right place, at the Right time, to the Right customer, at the Right price.

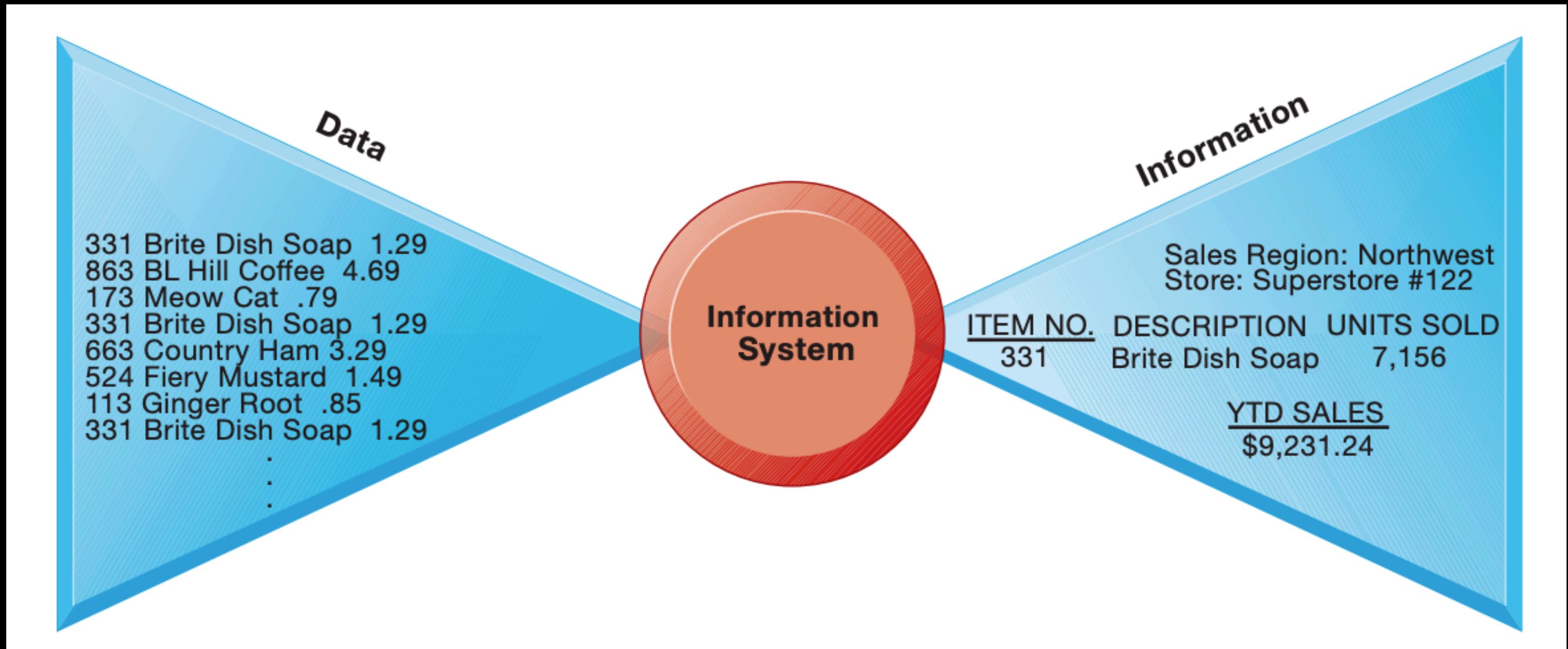


Introduction



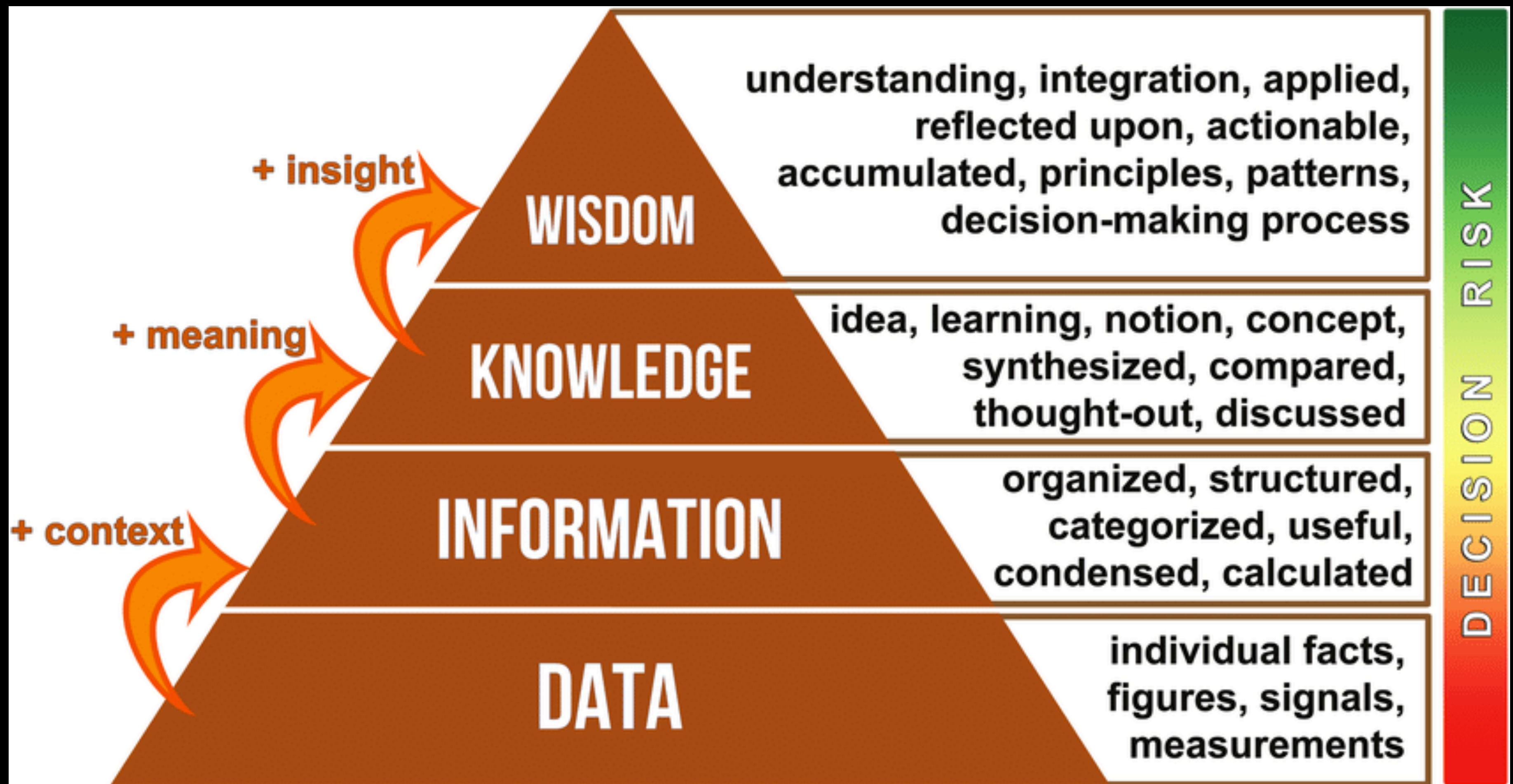
What is information?

- Fact



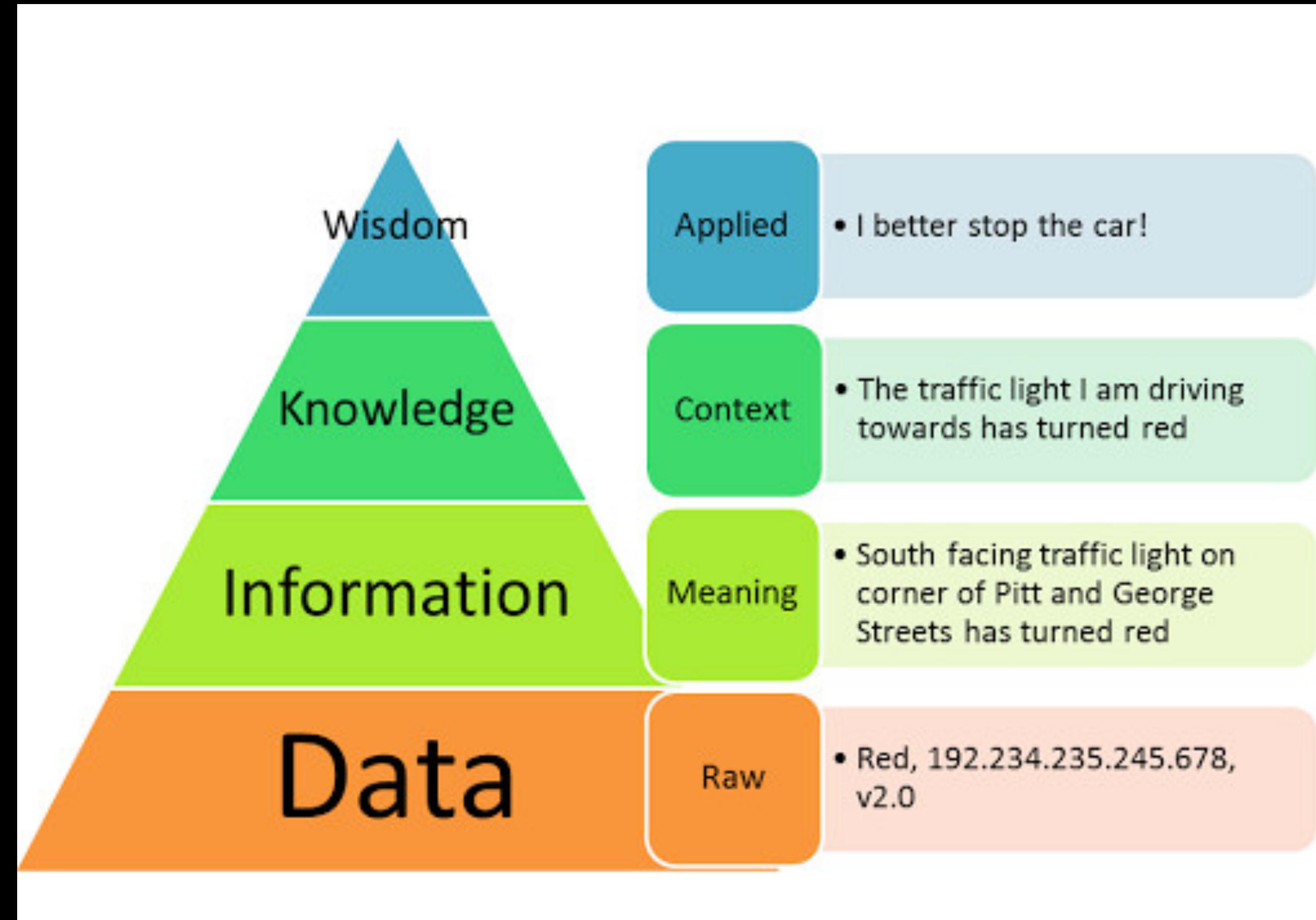
What is information?

- Fact
- Data



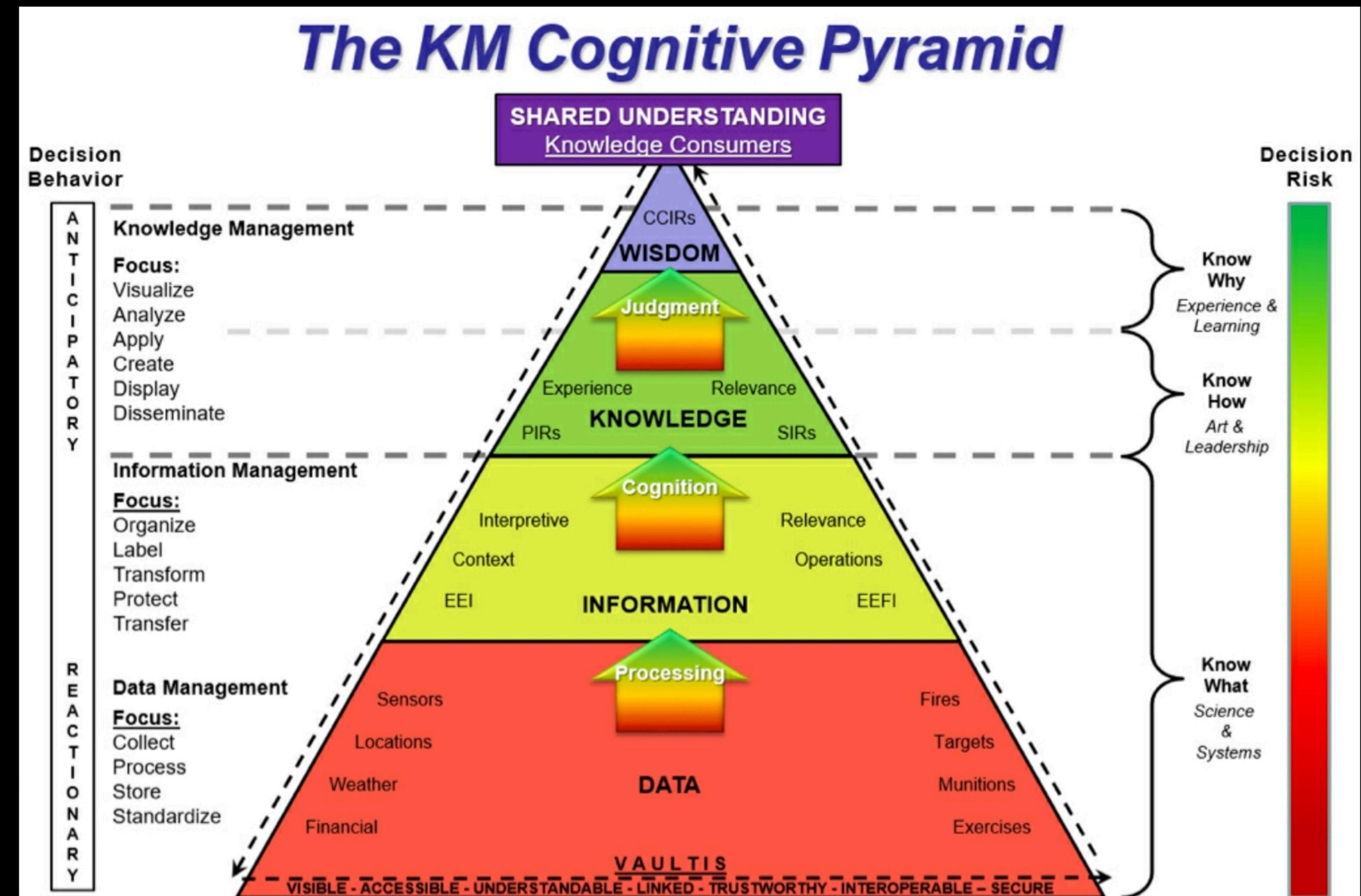
What is information?

- Fact
- Data
- Information
- Knowlage



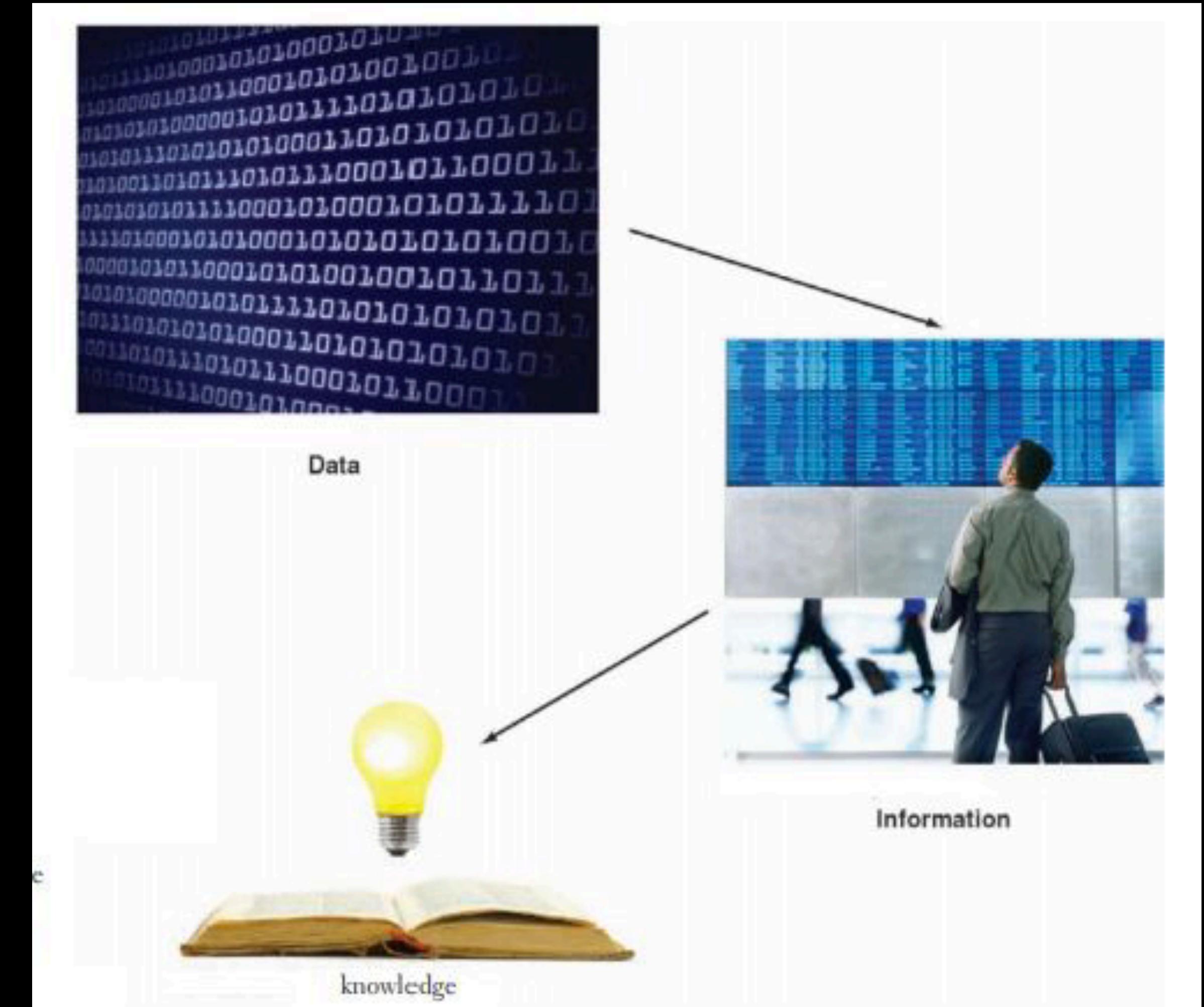
What is information?

- Fact
- Data
- Information
- Knowledge



Data → Information → Knowledge

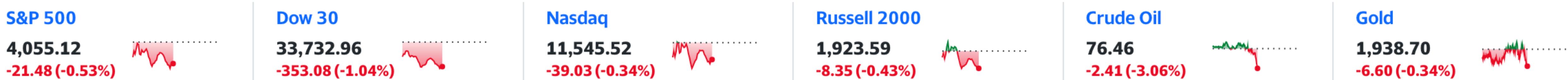
- Collecting
- Organizing
- Meaning



What Is an Information System?

(1 of 3)

- Information technology: the hardware and software a business uses to achieve objectives
- Information system: interrelated components that manage information to:
 - Support decision making and control
 - Help with analysis, visualization, and product creation
- Data: streams of raw facts
- Information: data shaped into meaningful, useful form



What Is an Information System?

(2 of 3)

- Activities in an information system that produce information:
 - Input
 - Processing
 - Output
 - Feedback
- Sharp distinction between computer or computer program *versus* information system

IM, ISM, or KM – What's the Difference?

IS = IM / ISM /KM

- Information Management
 - collection and management of information
 - distribution of information to one or more interested parties

IM, ISM, or KM – What's the Difference?

IS = IM / ISM /KM

- Information Management
 - collection and management of information
 - distribution of information to one or more interested parties
- Information System Management
 - key focus is on the improvement of decision-making, and the improvement of core business processes across the organization

IM, ISM, or KM – What's the Difference?

IS = IM / ISM /KM

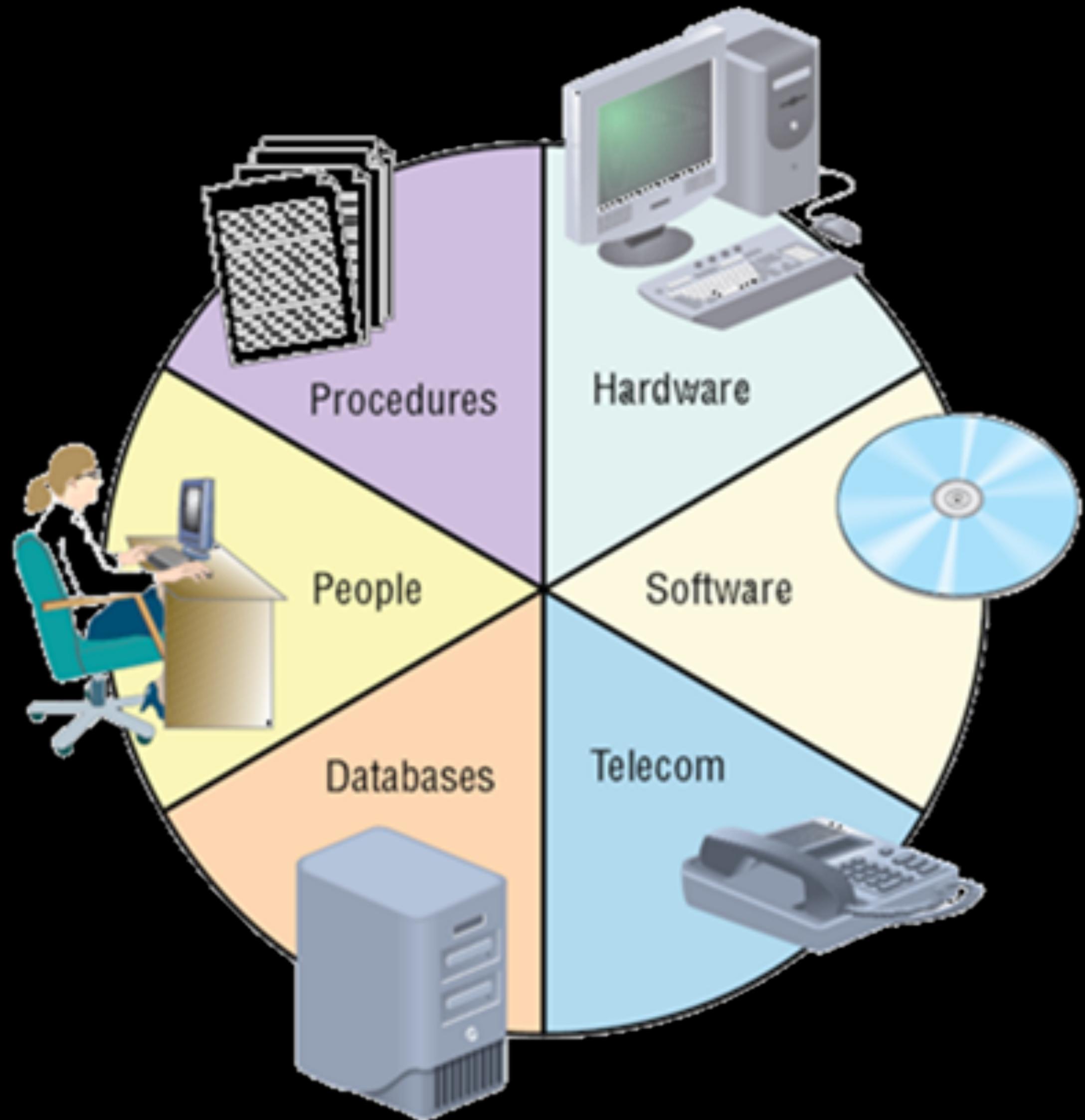
- Information Management
 - collection and management of information
 - distribution of information to one or more interested parties
- Information System Management
 - key focus is on the improvement of decision-making, and the improvement of core business processes across the organization
- Knowledge Management
 - important capability of organisation

IM, ISM, or KM – What's the Difference?

Industry	Dominant Focus	Description
Publishing	IM	Information and content management are core to the successful production of books, magazines, papers, etc. Data and information quality are central to overall product quality.
Manufacturing	IS	Manufacturing efficiencies and effectiveness are dependent on integrated ERP/Fulfilment systems to ensure the scalable flow of data between automated supply chain processes.
Service (Consulting)	KM	Developing a reflective/learning organization that can respond to new/unique situations effectively through interpersonal knowledge creation and sharing.
Telecommunications	IS	Develop technology solutions to provide accessible communication/digital media/internet for end-customers. More concerned with the transfer/storage of content than the creation of it.

Computer-based information system (CBIS)

- Hardware
- Software
- Database
- Network
- Procedures
- Peoples

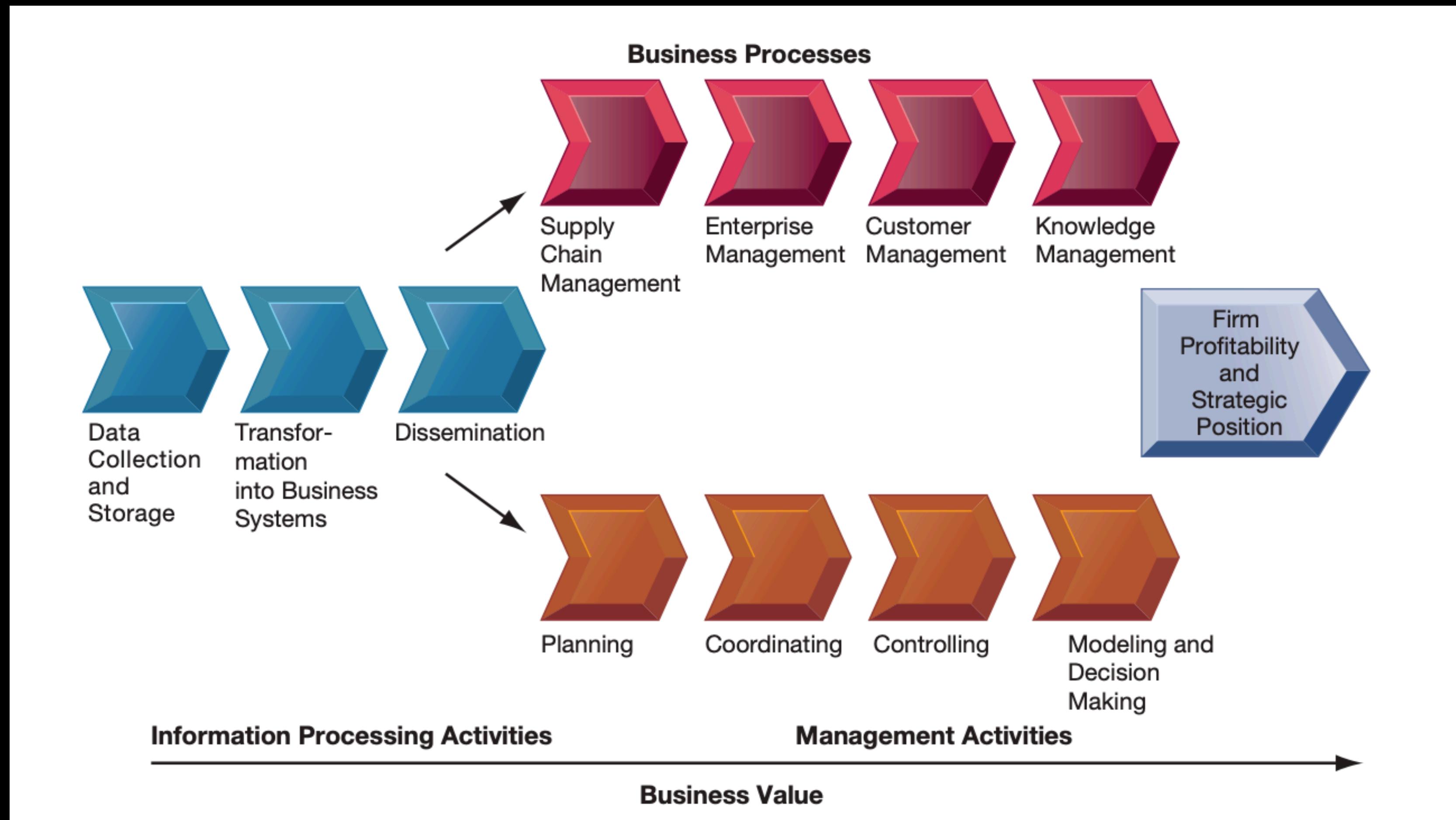


What Is an Information System?

(3 of 3)

- Feedback
 - Output is returned to appropriate members of organization to help evaluate or correct input stage
- 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

What Is an Information System?



Business Information Systems

- Points:

- ✓ The role of information systems in business and for you
- ✓ Information systems hardware
- ✓ Information systems software
- ✓ Data, databases and database management
- ✓ Information networks
- ✓ Organizational integration
- ✓ Connecting with customers and suppliers
- ✓ Making better decisions
- ✓ Planning and selecting information systems
- ✓ Development of information systems
- ✓ Management of information systems



Information Systems

What Every Business Student
Needs to Know

Second Edition

Efrem G. Mallach



Business Information Systems

- Organizations, management and the networked enterprise
- Hardware and software
- Data and databases
- Networks and Telecommunications
- E-business, e-commerce and e-government
- Decision support and business intelligence
- Company systems
- Interorganizational systems
- Development of information systems
- Management of information systems
- Ethics and security
- Global management and digital entrepreneurship



Business Information Systems

- The role of e-commerce in business and society
- E-commerce hardware and software
- Data, databases and data analytics
- Networks, telecommunications and cloud services
- E-business, e-commerce and e-government
- Decision support and business intelligence
- Enterprise systems and value chains
- Inter-organizational systems and platforms
- E-commerce development and management
- Ethics, Security and Privacy
- Global e-commerce and digital entrepreneurship

E-commerce 2021–2022

business. technology. society.

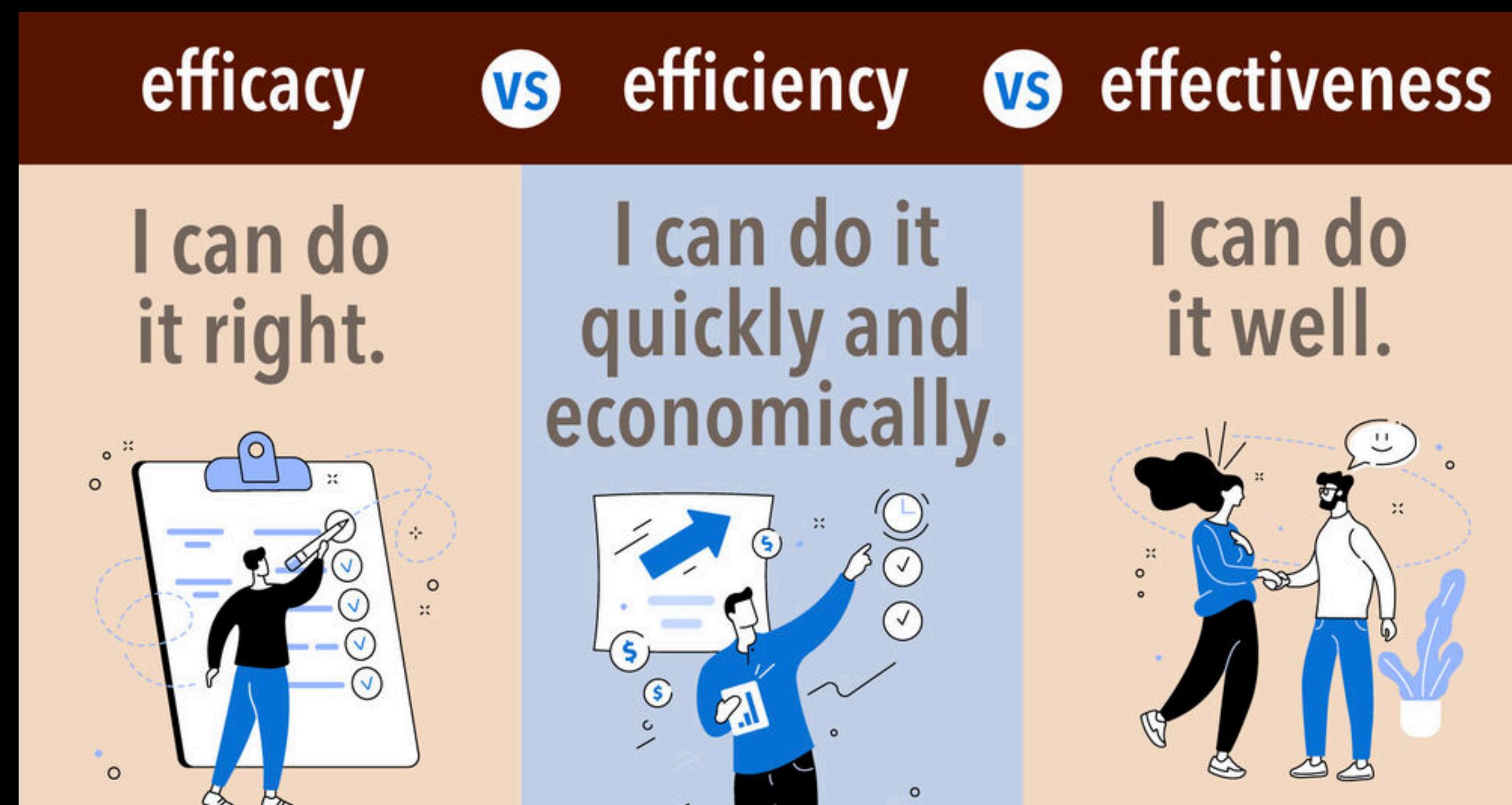
SEVENTEENTH EDITION

Kenneth C. Laudon • Carol Guercio Traver



EFFECTIVENESS versus EFFICIENCY

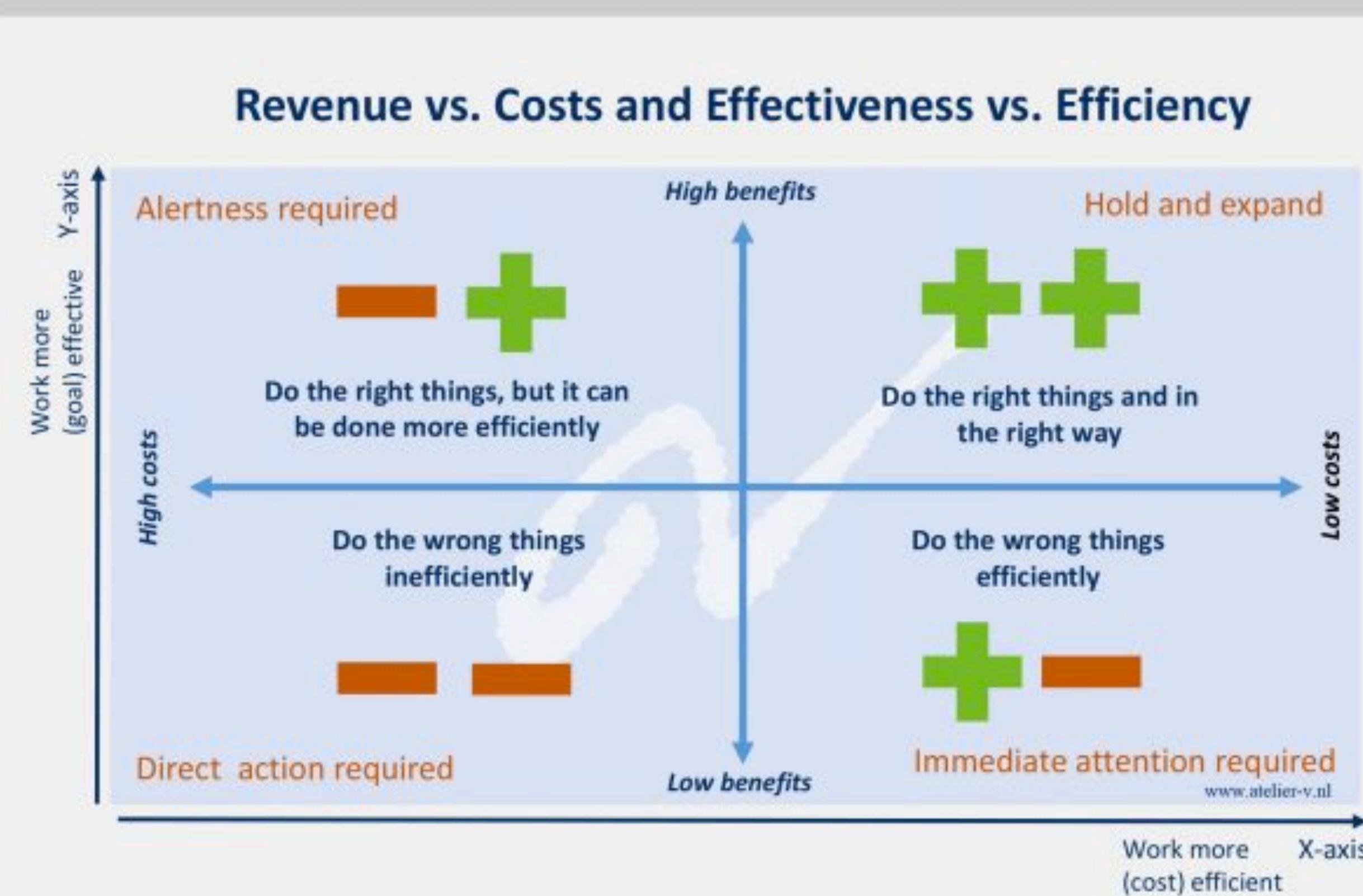
- **Effectiveness** describes how well you achieve your objective. To measure effectiveness, you must know what that objective is.
- **Efficiency** describes how much output you get from each unit of input. To measure efficiency, you must be able to measure input and output.



EFFECTIVENESS versus EFFICIENCY

Adding value is more than cost reduction

BAR HIGHER:
Quality (effective)



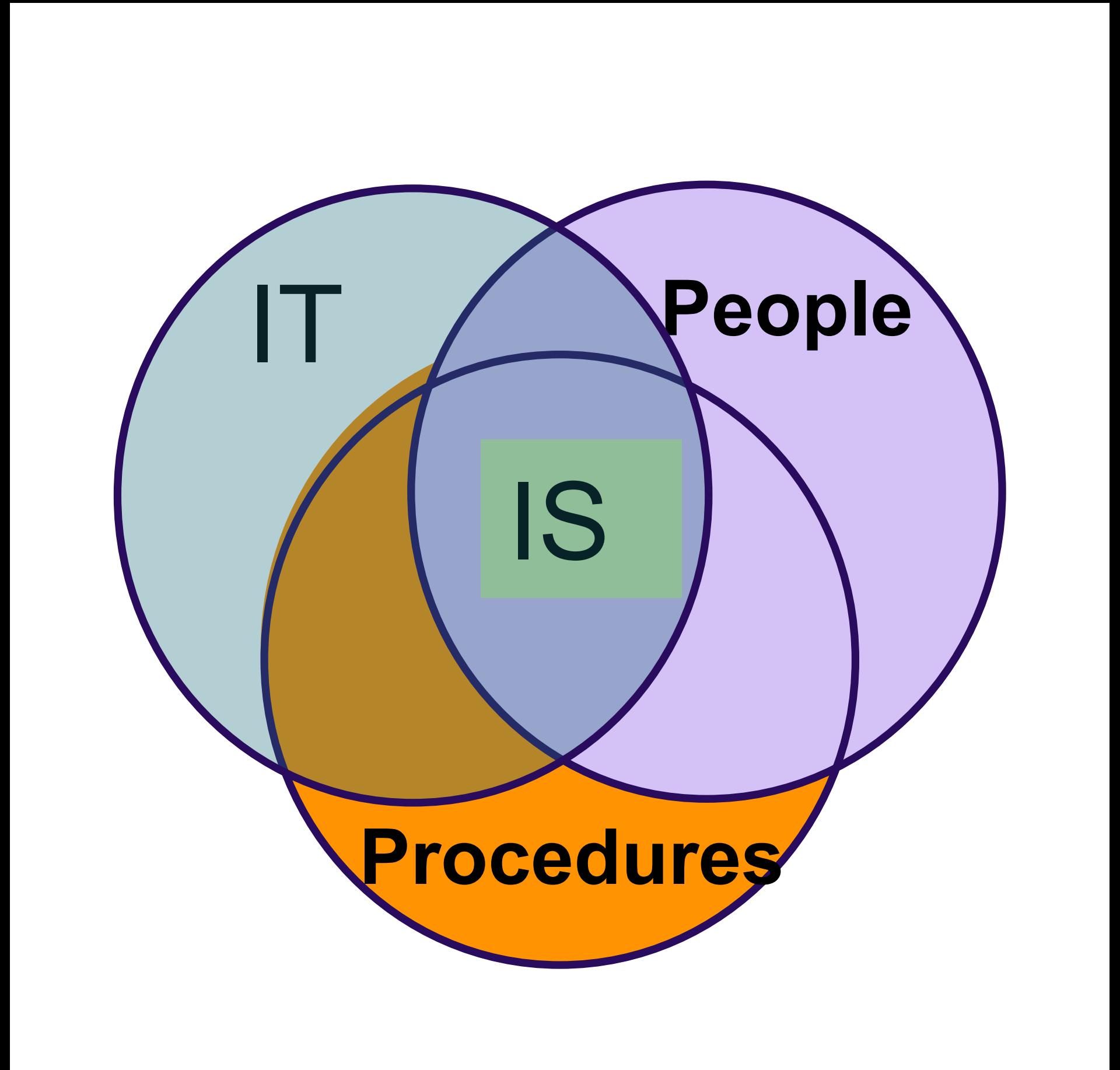
MORE GRIP:
Costs (efficient)

EFFICIENCY VS EFFECTIVENESS



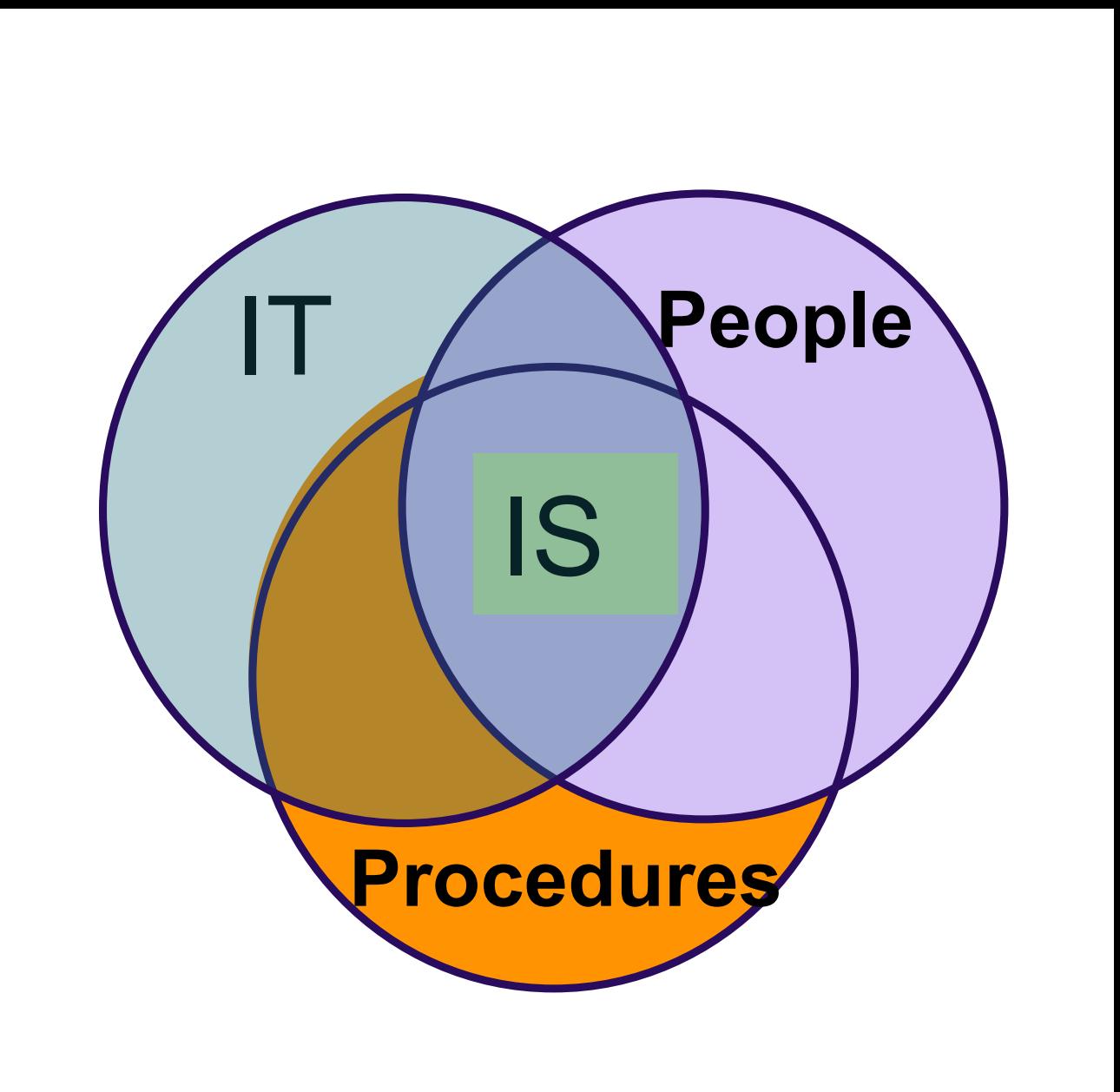
Difference Between IT and IS

- Information technology (IT)
 1. Products
 2. Methods
 3. Inventions
 4. Standards



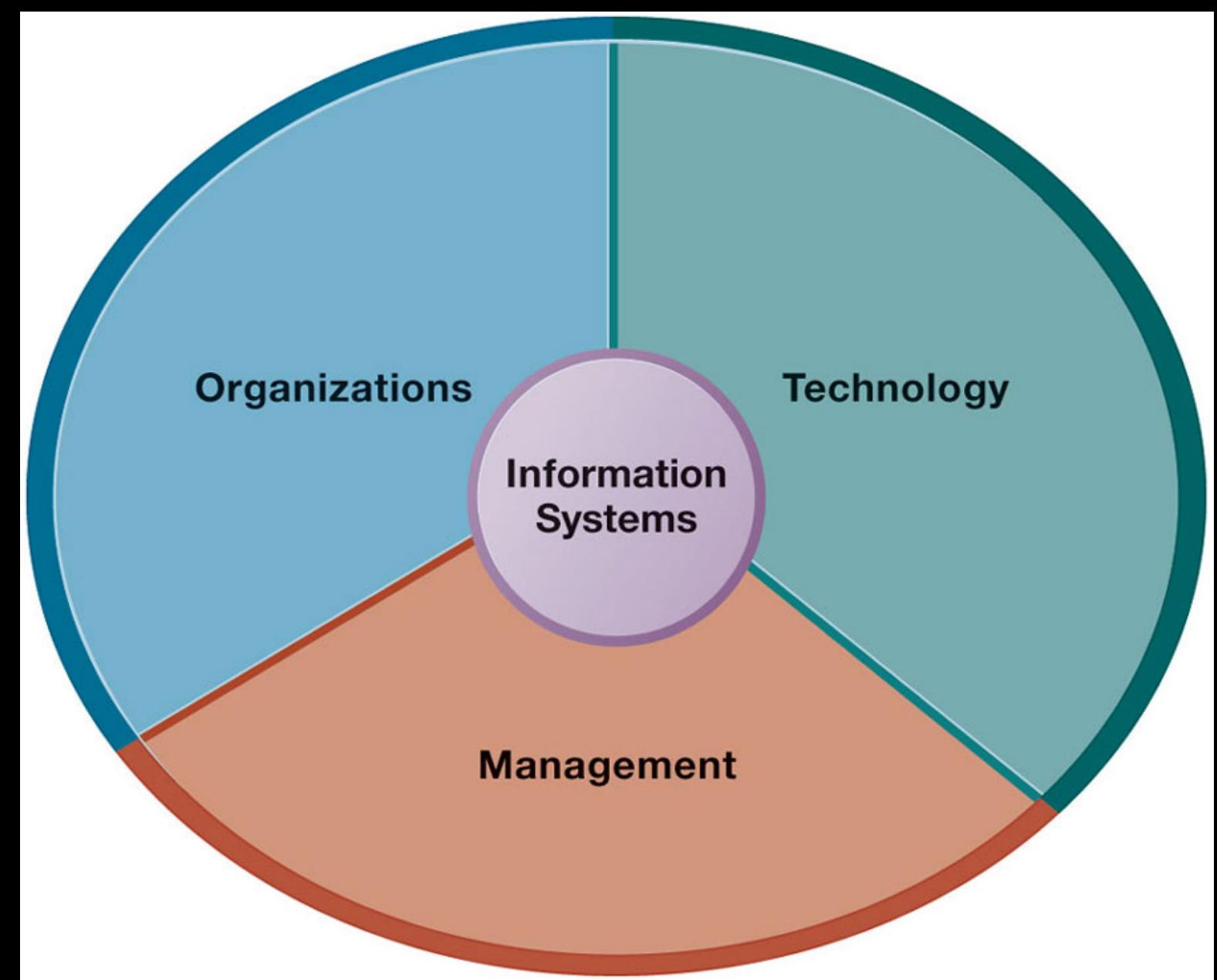
Difference Between IT and IS

- Information technology (IT)
 1. Products
 2. Methods
 3. Inventions
 4. Standards
 - A. IT drives development of new IS.
 - B. IT = Hardware + Software + Data
 - C. **IS = IT + Procedures + People**



Business Information Systems

- Information technology (IT)
 - 1. Products
 - 2. Methods
 - 3. Inventions
 - 4. Standards
 - A. IT drives development of new IS.
 - B. IT = Hardware + Software + Data
 - C. IS = IT + Procedures + People
 - D. BIS = Business + IS



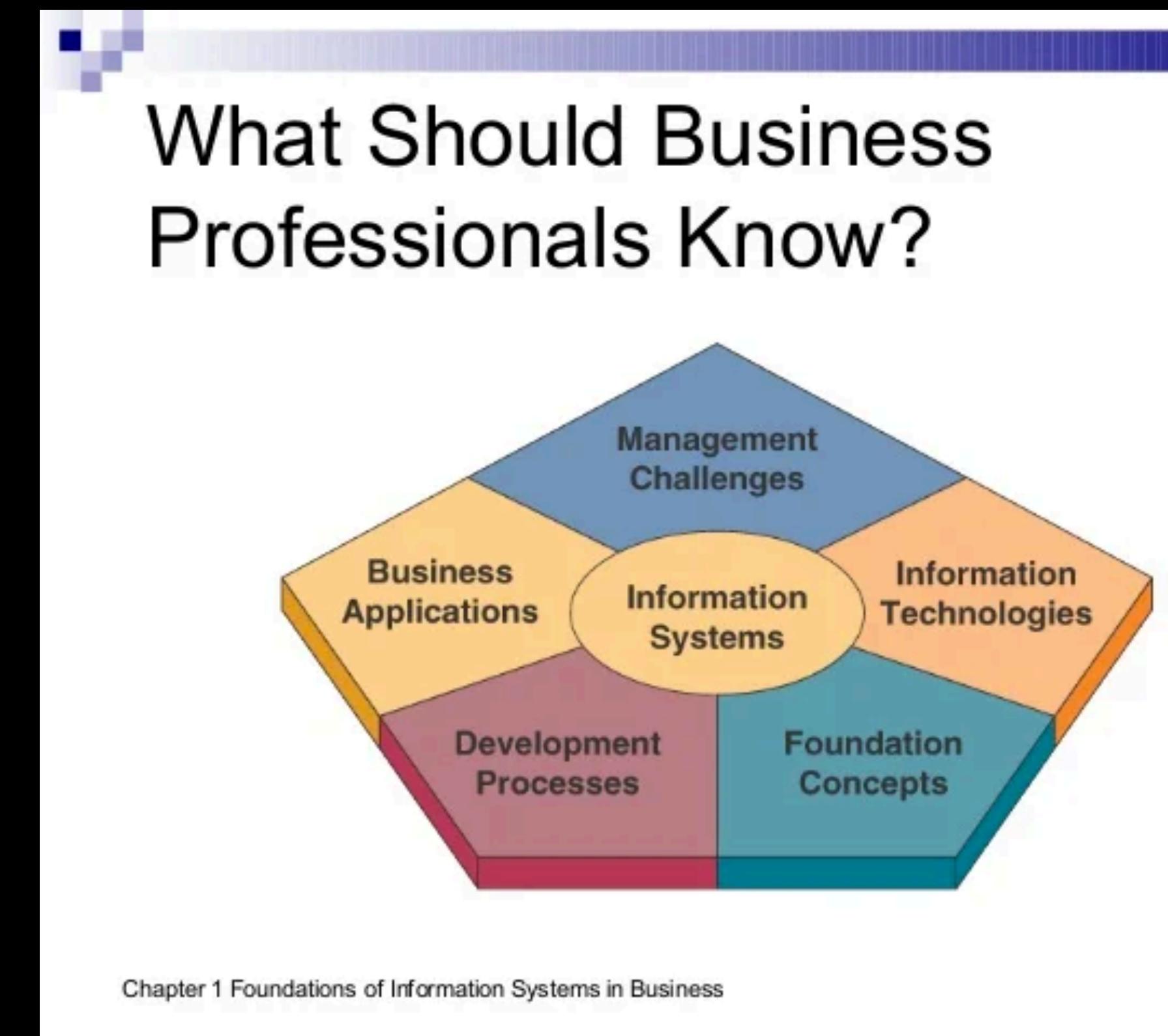
Top line of BIS course

Most important benefits of course:

- Gives background needed to assess, evaluate, and apply emerging information systems technology to business.
- Gives marketable skills by helping you learn abstraction, systems thinking, collaboration, and experimentation.
- Makes you aware of well-paying, high demand MIS-related jobs.

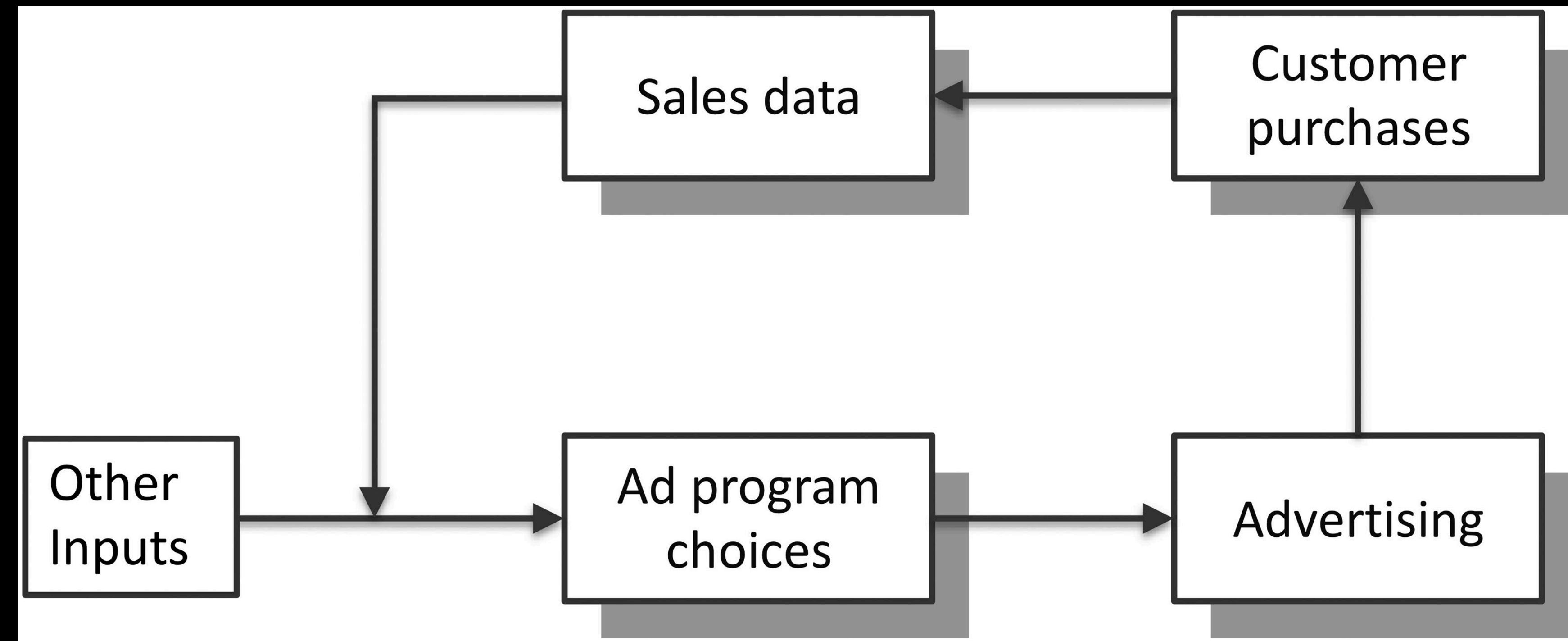
Business professionals need to:

- Take active role to ensure systems meet their needs;
- Understand how IS constructed;
- Consider users' needs during development;
- Learn how to use IS;
- Remember ancillary requirements (security, backups).



Business Information Systems

- The Value of Information
- Systems and Information Systems (IS)



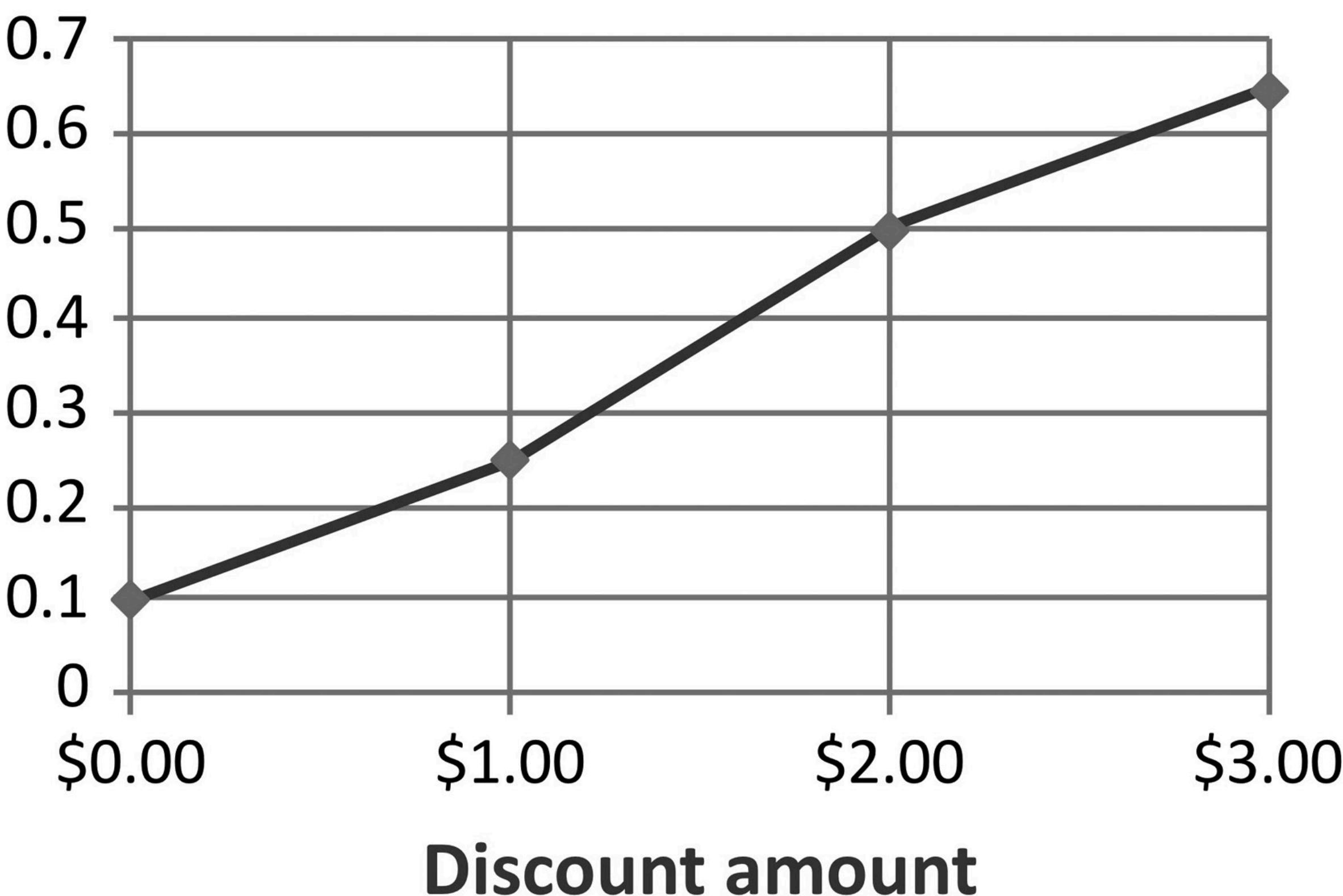
Business Information Systems

Fraction who buy socks

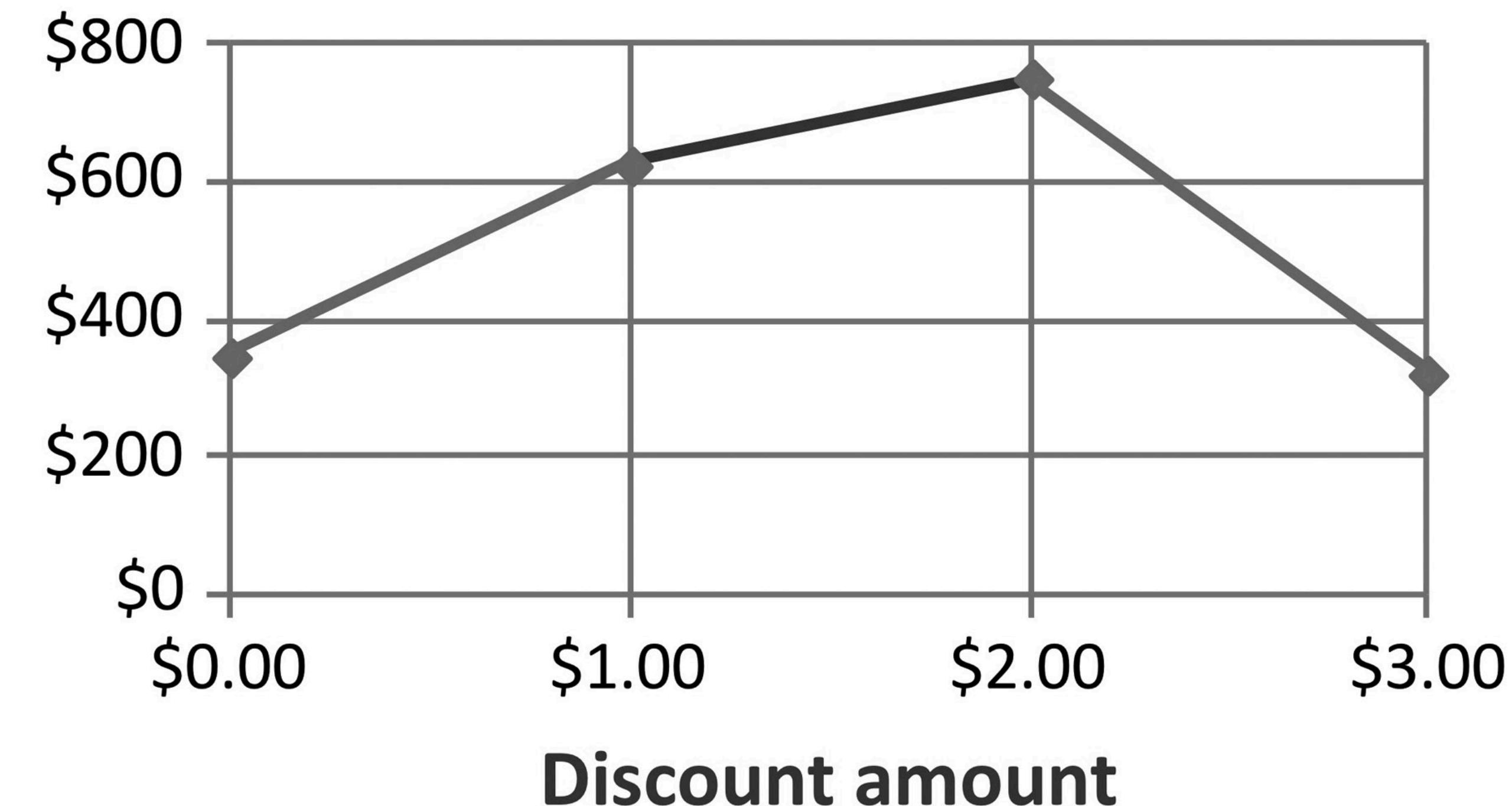


Business Information Systems

Fraction who buy socks



Sock profit per 1000 pr. shoes



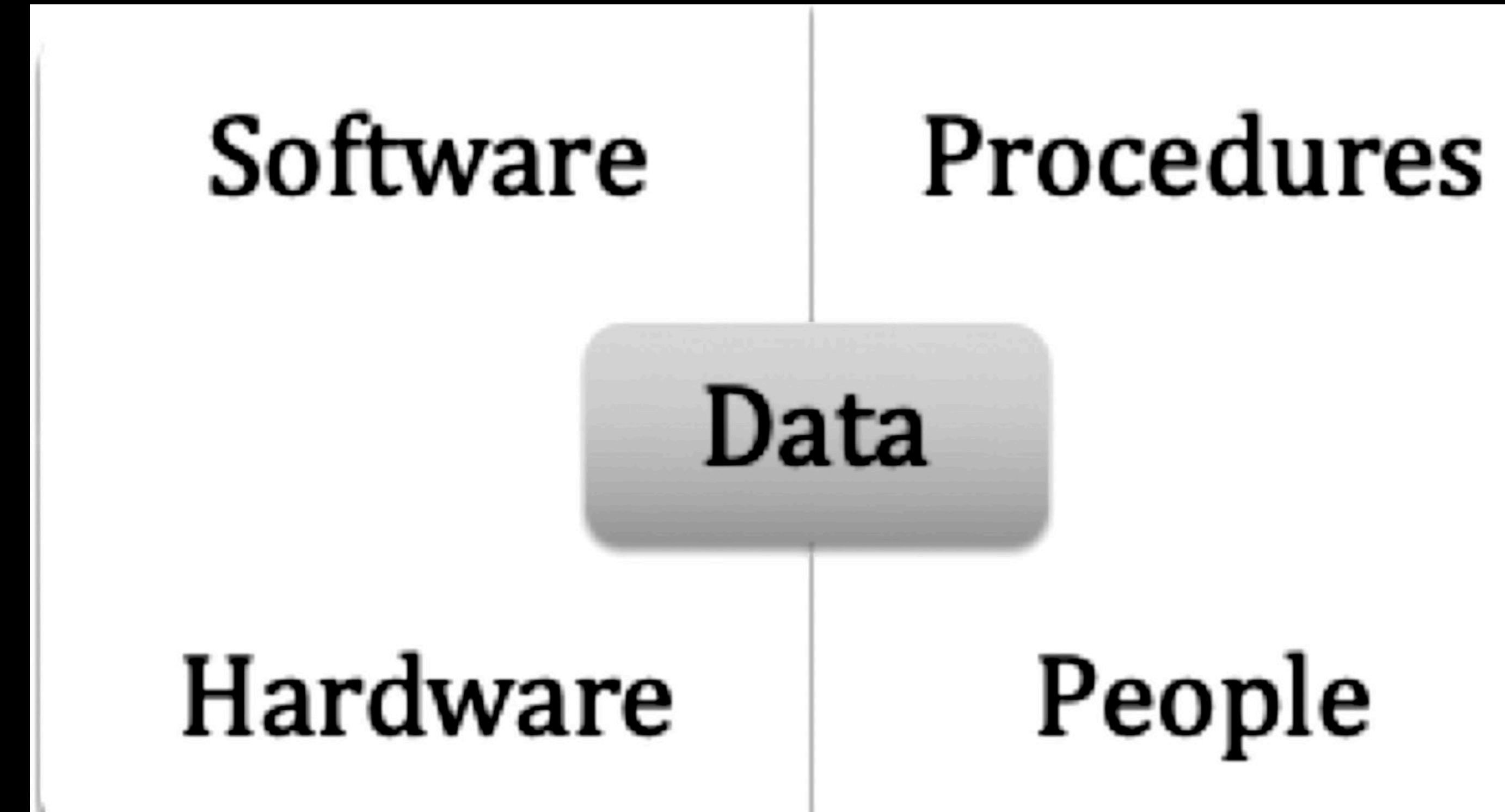
Business Information Systems

- The Value of Information
- Systems and Information Systems (IS)
 - system is a group of components that interact for a purpose
 - system has a boundary
 - systems are open
 - information system (IS) is a system whose purpose is processing information



Business Information Systems

- The Value of Information
- Systems and Information Systems (IS)
 - Data
 - Software
 - Procedures
 - Hardware
 - People



Business Information Systems

- The Value of Information
- Systems and Information Systems (IS)
- What is Information?
 - data - is raw facts in isolation from other facts
 - information - is data that has been organized and processed to be meaningful to a person

\$ with info
-\$ without
value

Business Information Systems

- The Value of Information
- Systems and Information Systems (IS)
- What is Information?
 - data - is raw facts in isolation from other facts
 - information - is data that has been organized and processed to be meaningful to a person
 - information - is anything that reduces uncertainty
 - knowledge - the ability to apply information in a business situation

\$ with info
-\$ without
value

Business Information Systems

- The Value of Information
- Systems and Information Systems (IS)
- How IS work?

\$ with info
-\$ without
value

IS activity begins with data. Data comes from somewhere and is entered somehow.

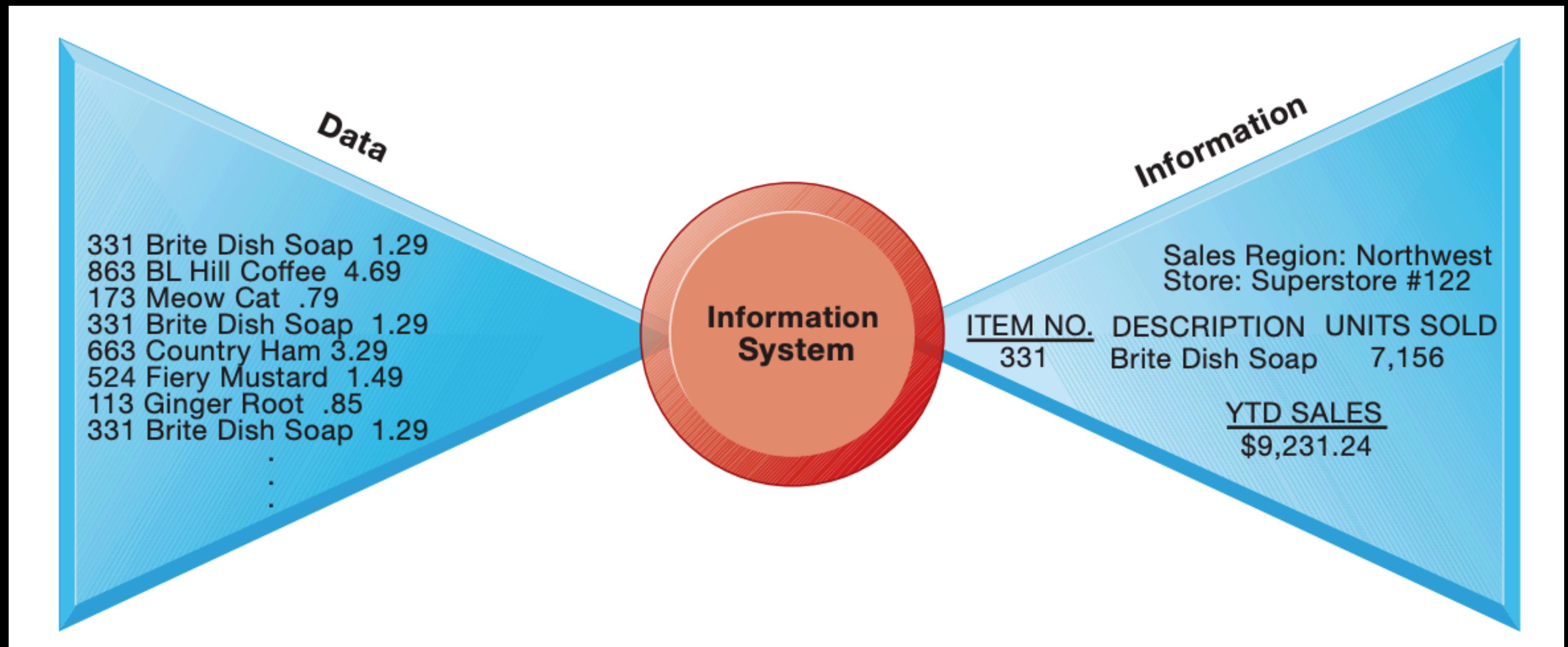
Data is processed into information via two types of activities: **computation** and **comparison**.

Computation creates information by carrying out a predefined process on data items.

Comparison selects processing steps on the basis of data.

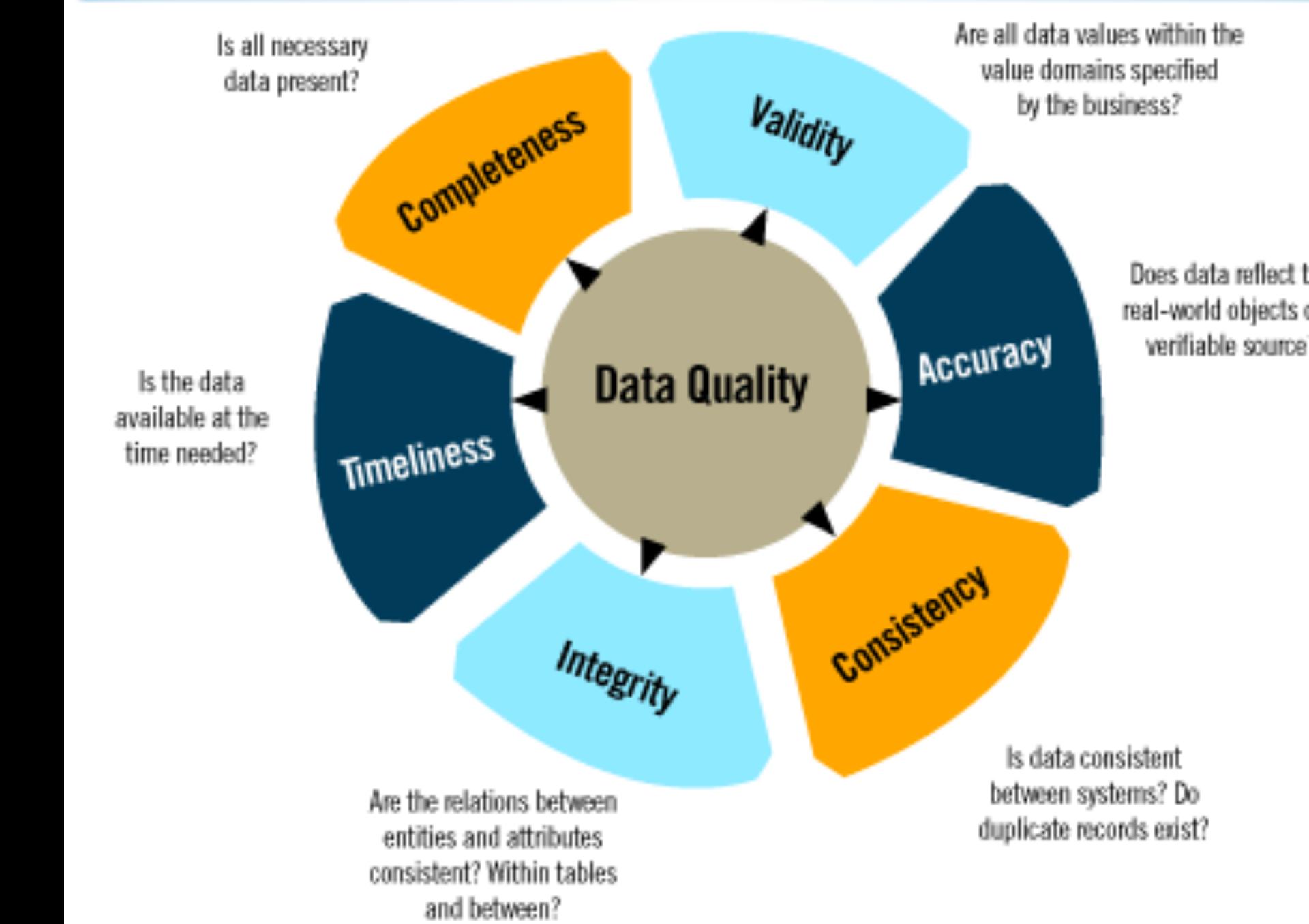
What is information?

- Fact
- Data
- Information
- Knowlage



Business Information Systems

- The Value of Information
- Systems and Information Systems (IS)
- Information Quality



Differences in information value matter when information is used for management decisions. High-quality information enables managers to make good decisions quickly. Lower-quality information leads to poor decisions and wastes decision makers' time.

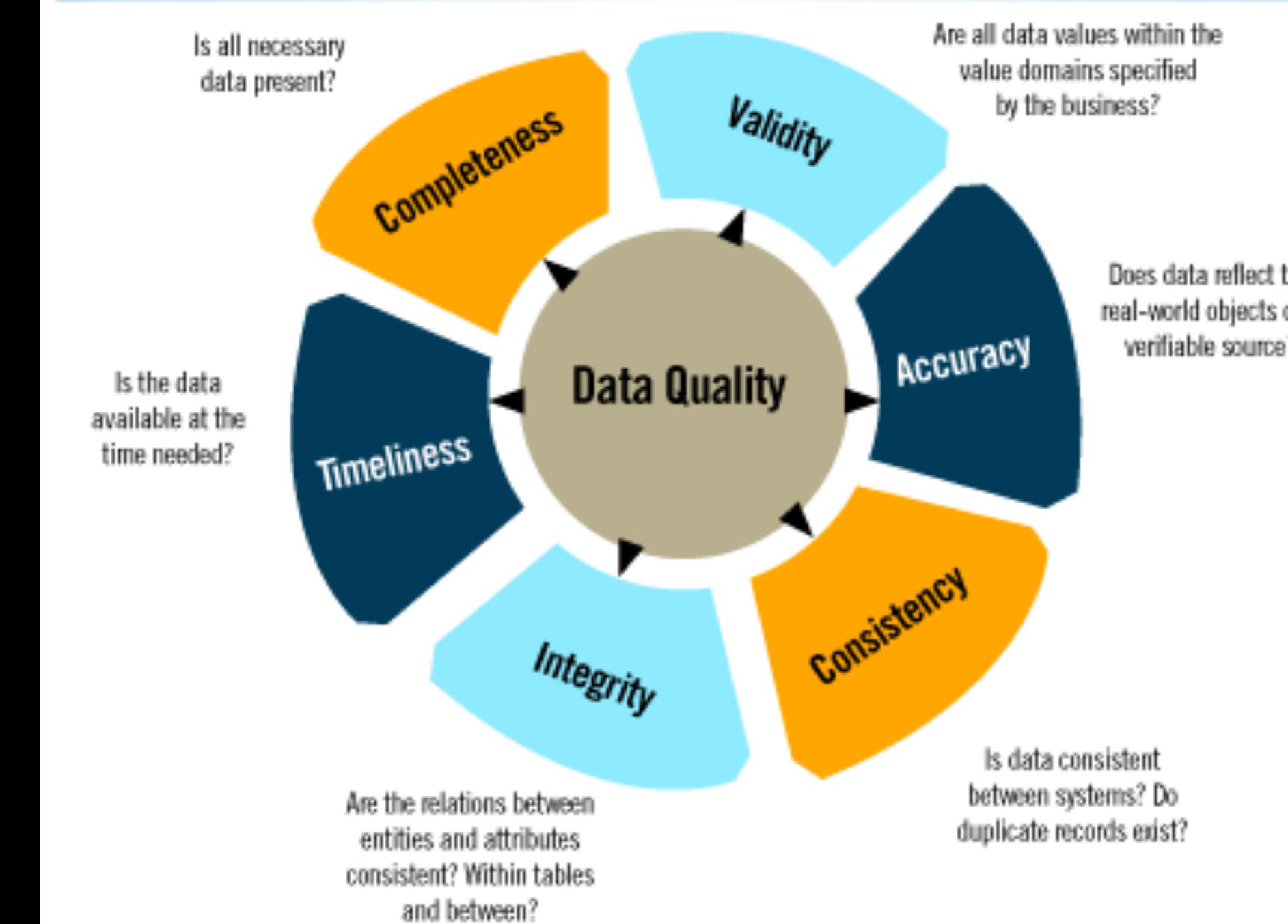
- Correctness - Information is correct if it is derived from the proper data values through the proper processing steps.
- Accuracy - Information is accurate if its value is acceptably close to the value that a perfect calculation using perfect inputs would produce.
- Precision - is the smallest difference that can be represented by the way a data element is stored in a computer or presented to its use.

Business Information Systems

- The Value of Information
- Systems and Information Systems (IS)
- Information Quality

Differences in information value matter when information is used for management decisions. High-quality information enables managers to make good decisions quickly. Lower-quality information leads to poor decisions and wastes decision makers' time.

- Timeliness - information element refers to the relationships among when information is needed, when it becomes available, and when its underlying data was obtained
 - Information must be available in time for its intended use
 - Information must reflect up-to-date data

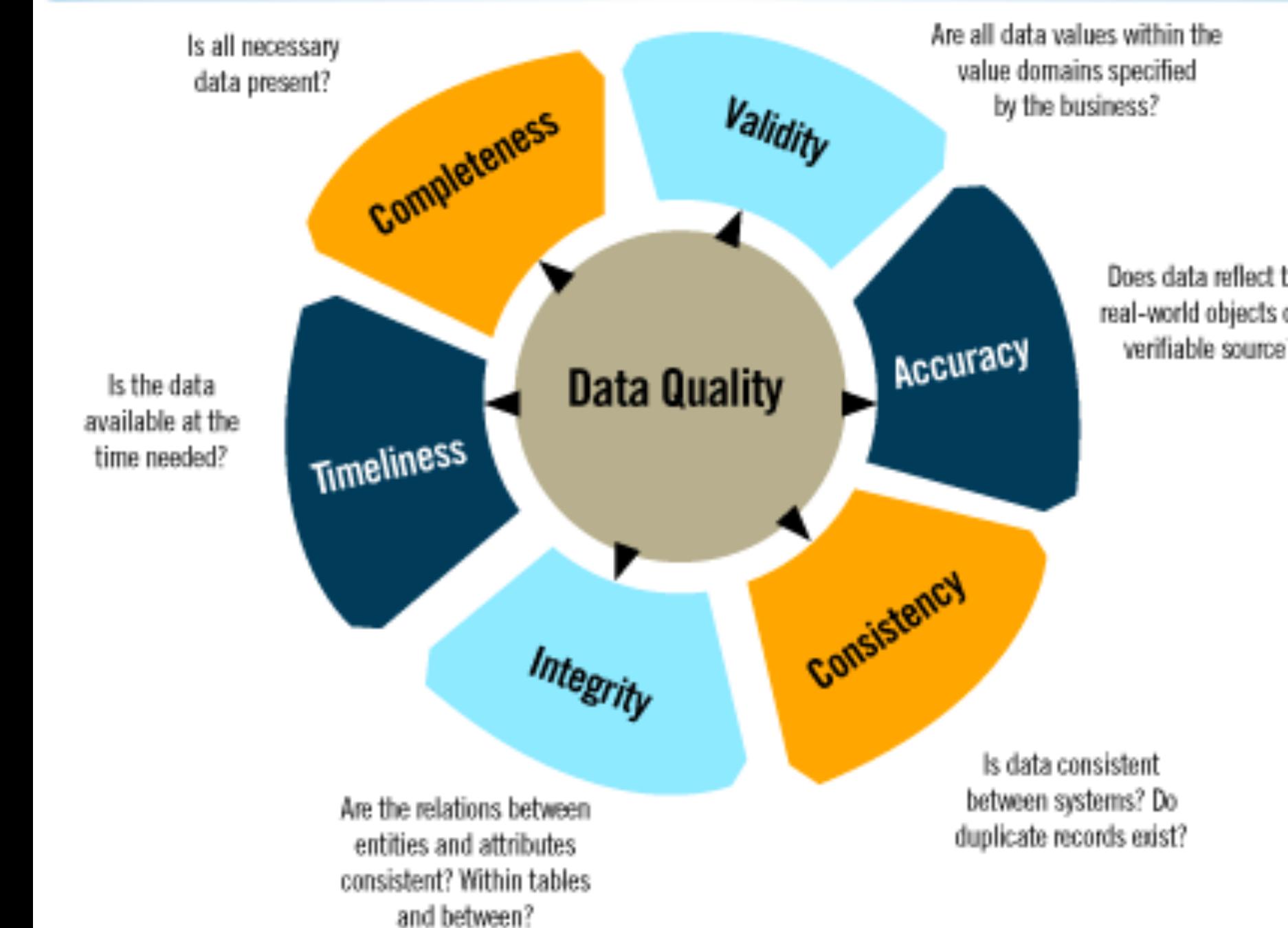


Business Information Systems

- The Value of Information
- Systems and Information Systems (IS)
- Information Quality

Differences in information value matter when information is used for management decisions. High-quality information enables managers to make good decisions quickly. Lower-quality information leads to poor decisions and wastes decision makers' time.

- **Consistency** - means that all data elements that contribute to an information item, or to a set of related items, are based on the same assumptions, definitions, time periods, etc.
Consistency applies to information, or processed data—not to individual data elements.

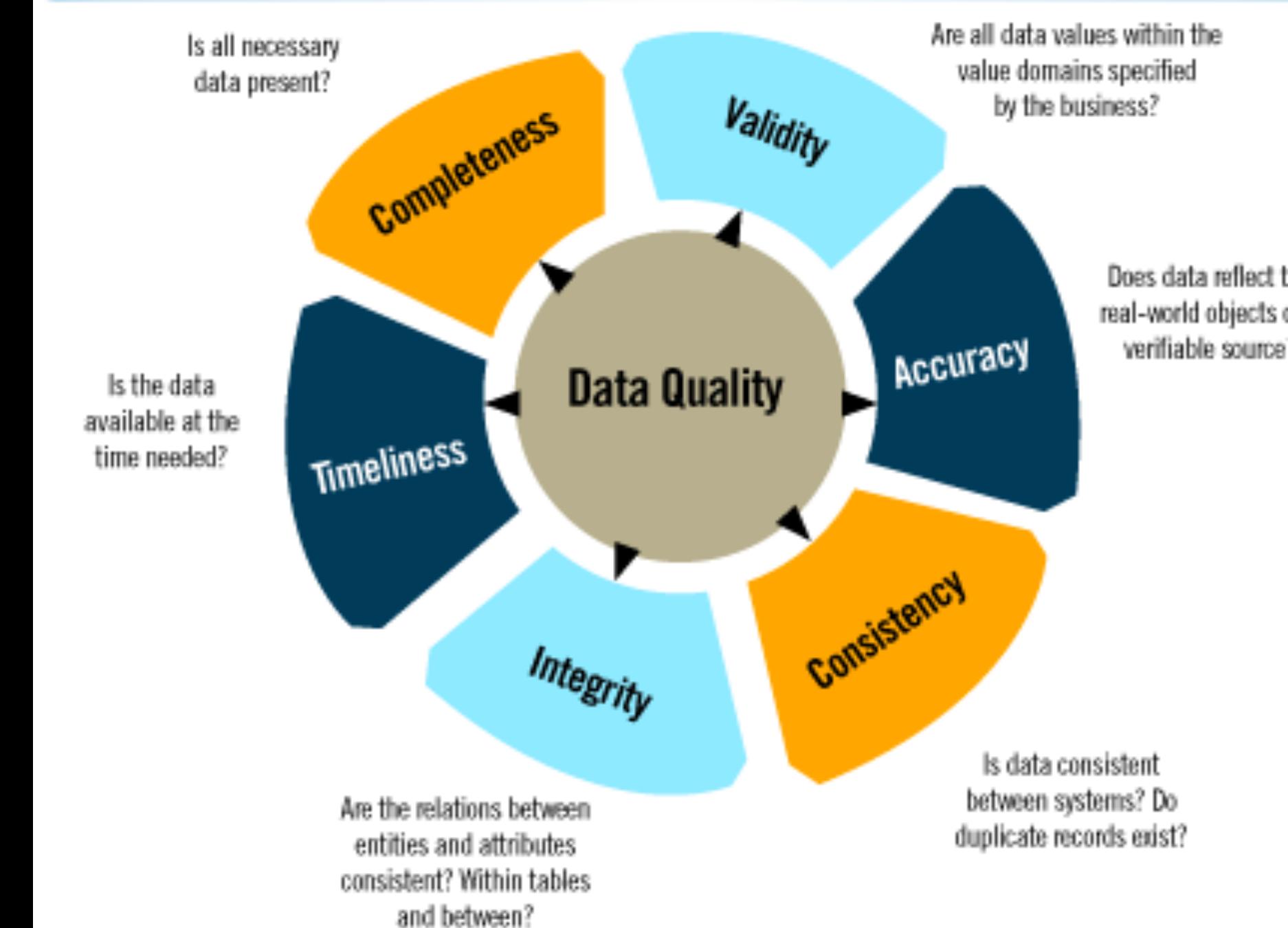


Business Information Systems

- The Value of Information
- Systems and Information Systems (IS)
- Information Quality

Differences in information value matter when information is used for management decisions. High-quality information enables managers to make good decisions quickly. Lower-quality information leads to poor decisions and wastes decision makers' time.

- Conformity to Needs and Expectations

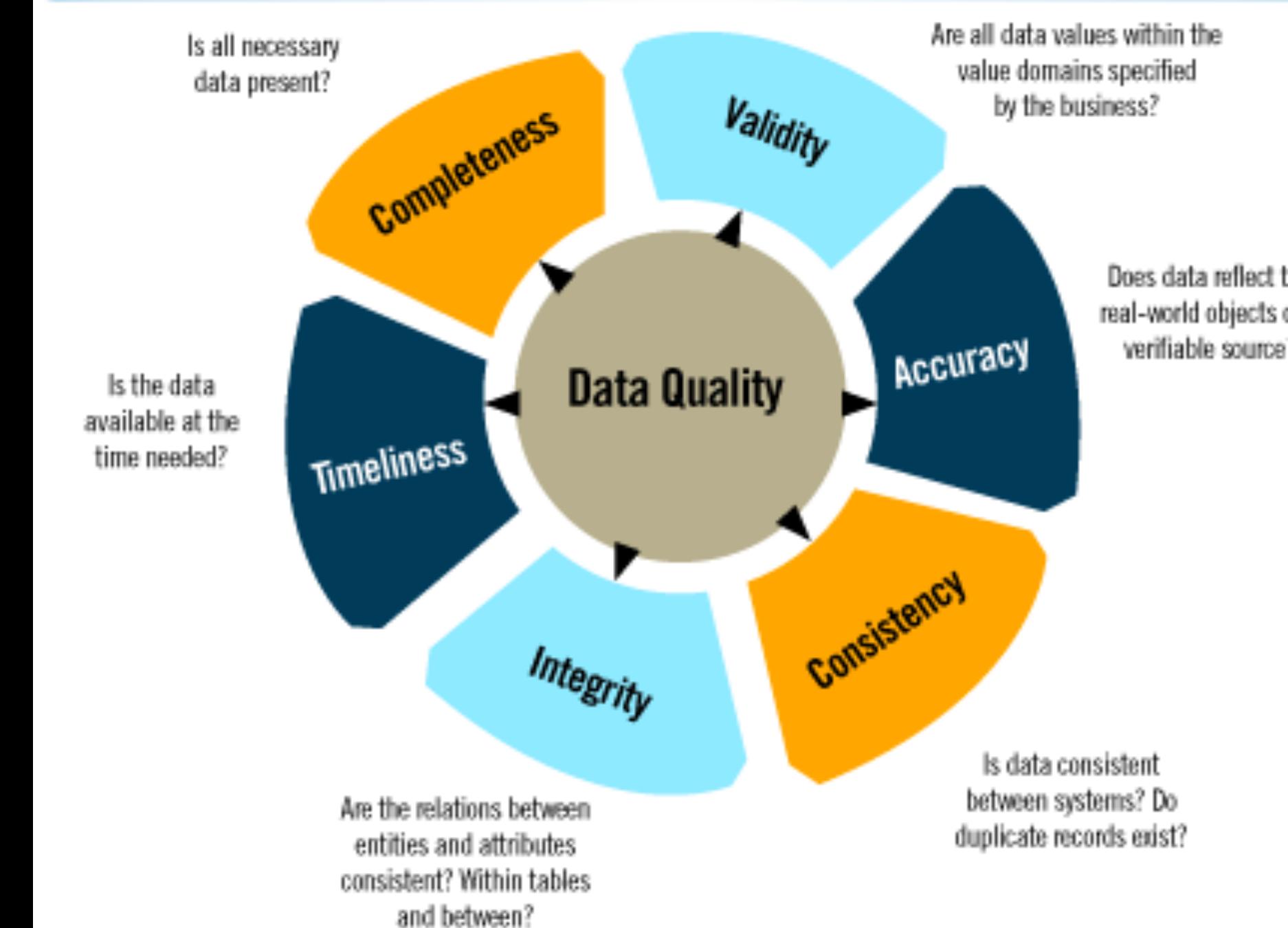


Business Information Systems

- The Value of Information
- Systems and Information Systems (IS)
- Information Quality

Differences in information value matter when information is used for management decisions. High-quality information enables managers to make good decisions quickly. Lower-quality information leads to poor decisions and wastes decision makers' time.

- **Completeness** - Information is complete when it is based on all the relevant factors, omitting none

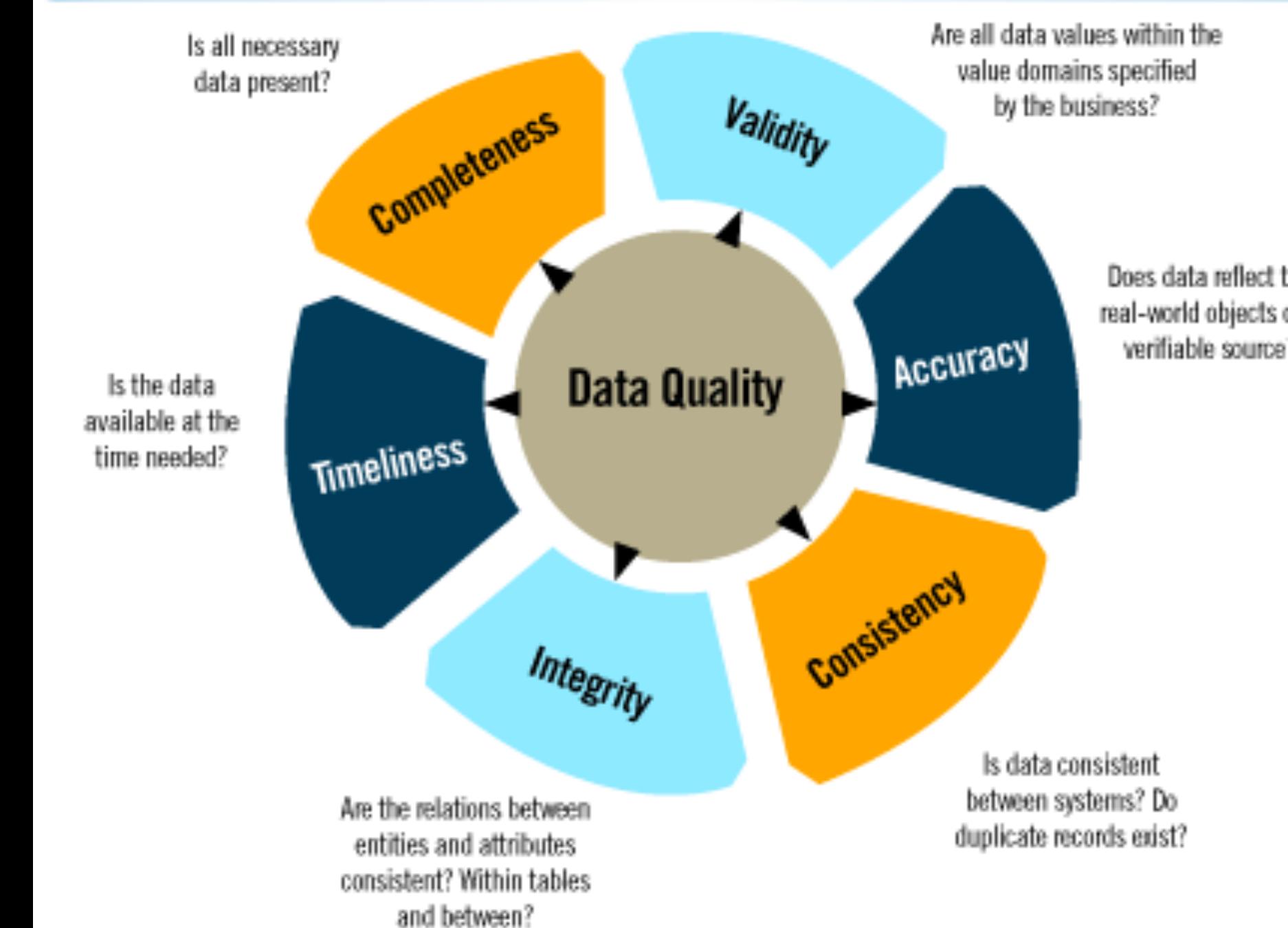


Business Information Systems

- The Value of Information
- Systems and Information Systems (IS)
- Information Quality

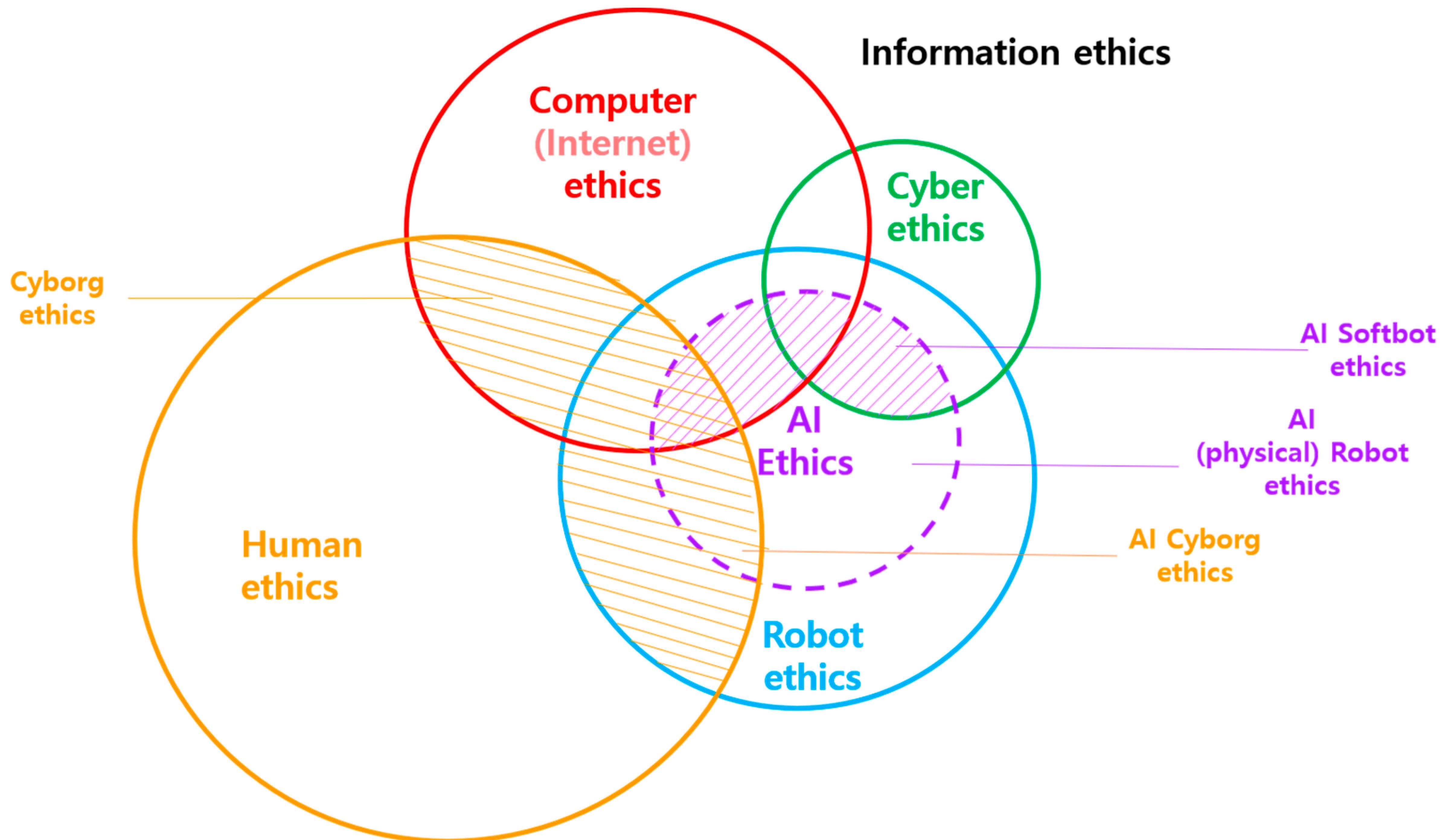
Differences in information value matter when information is used for management decisions. High-quality information enables managers to make good decisions quickly. Lower-quality information leads to poor decisions and wastes decision makers' time.

- **Cost** - is a measure of the resources an organization uses, expressed in financial terms. Information has a cost



Business Information Systems

- The Value of Information
- Systems and Information Systems (IS)
- Information Quality
- Legal and ethical information use
 - Using a Computer, or Information, as a tool to commit a crime
 - Using a Computer, or Information, as the object of a crime
 - Using Information unethically



The Role of Information Systems in Business

- Perspective of IS
 - organization has to measure success
 - Financial ...



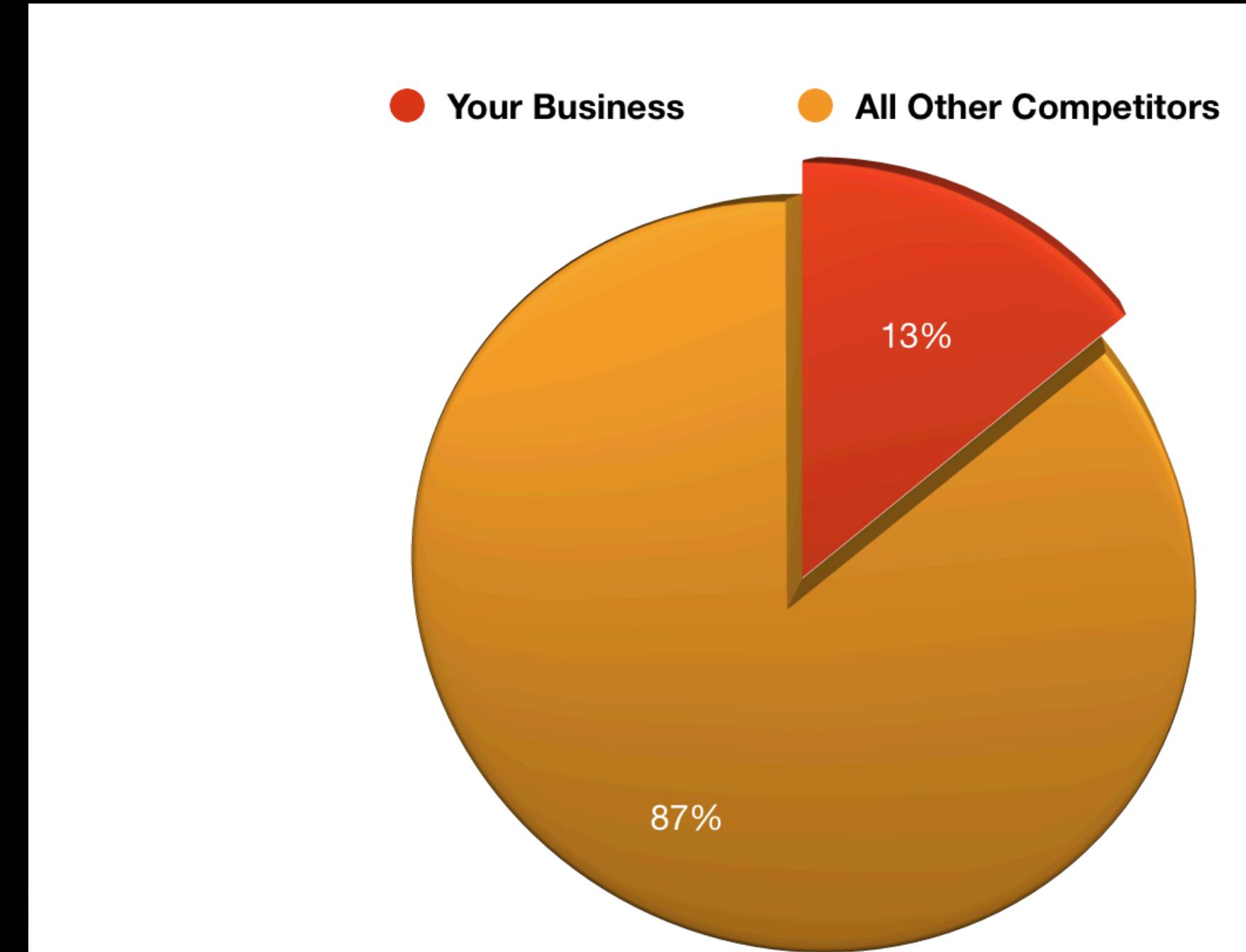
The Role of Information Systems in Business

- Perspective of IS
 - organization has to measure success
 - Financial performance



The Role of Information Systems in Business

- Perspective of IS
 - organization has to measure success
 - Financial performance
 - number of sales / market share



The Role of Information Systems in Business

- Perspective of IS
 - organization has to measure success
 - Financial performance
 - Number of sales / market share
 - Customer satisfaction



The Role of Information Systems in Business

- Perspective of IS
 - organization has to measure success
 - Financial performance
 - Number of sales / market share
 - Customer satisfaction
 - Operational efficiency

$$\frac{\text{Operating Expenses}}{\text{Total Revenue}} = \text{Operational Efficiency}$$

The Role of Information Systems

- Perspective of IS
 - organization has to measure success
 - Financial performance
 - Number of sales / market share
 - Customer satisfaction
 - Operational efficiency
 - Product development

- 1 Idea Sourcing
- 2 Idea Screening
- 3 Market & User Research
- 4 Strategy Development
- 5 Product Creation
- 6 Testing & Feedback Gathering
- 7 Product Improvements

Next topics

Software

Procedures

Data

Hardware

People