BS IT 1 2024 - 2025

DATA TALK:

DATA, INFORMATION, AND INFORMATION SYSTEMS

THE FOUNDATIONS OF DIGITAL DECISION-MAKING

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DATA

(raw, unprocessed facts)

Data represents raw elements or unprocessed facts, including numbers and symbols to text and images (Jain, 2024). When collected and observed without interpretation, these elements remain just data—simple and unorganized. When these pieces are analyzed and contextualized, they transform into something more meaningful.

Data comes in various forms:

- Quantitative data, like an item's weight, volume, or cost, is provided numerically.
- Qualitative data is descriptive but non-numerical, such as a person's name and sex.

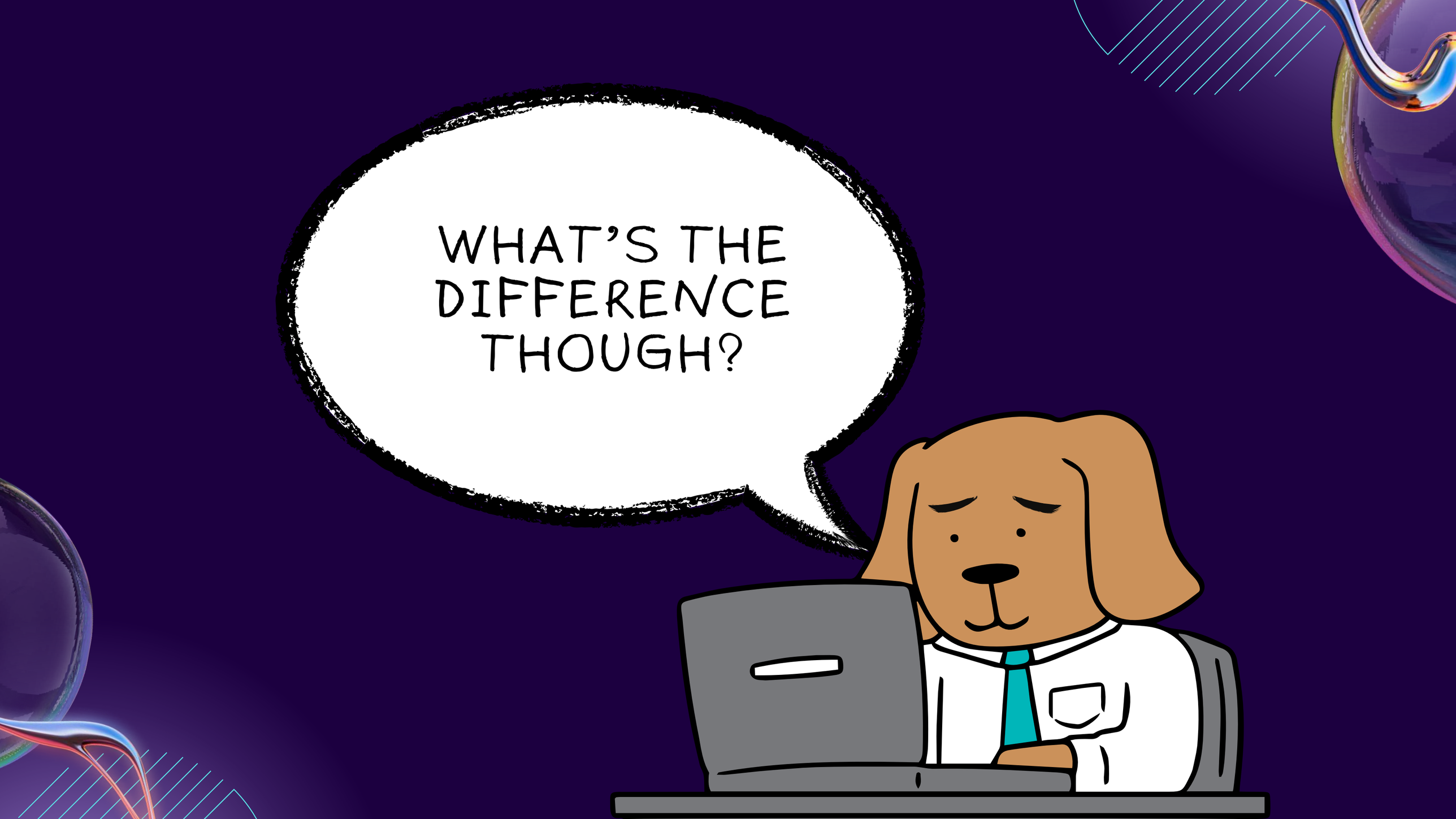
INFORMATION

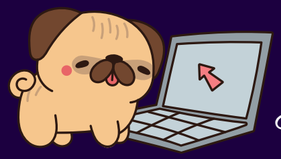
(data made valuable, accessible, and in context)

Data processing, organization, interpretation, and structure provide information (Jain, 2024). The intelligible output created from raw data informs judgments, tactics, and actions. Information is just data that has been made valuable and accessible—it is a necessary component of decision making.

For example, if data points include daily temperature readings over a year, information is used to identify temperature trends, explain seasonal changes, and forecast future weather conditions.

Information is basically data but in context, there's no use for data when it cannot be given value.


WHAT'S THE DIFFERENCE THOUGH?



credits to Bloomfire, (Jain, 2024)

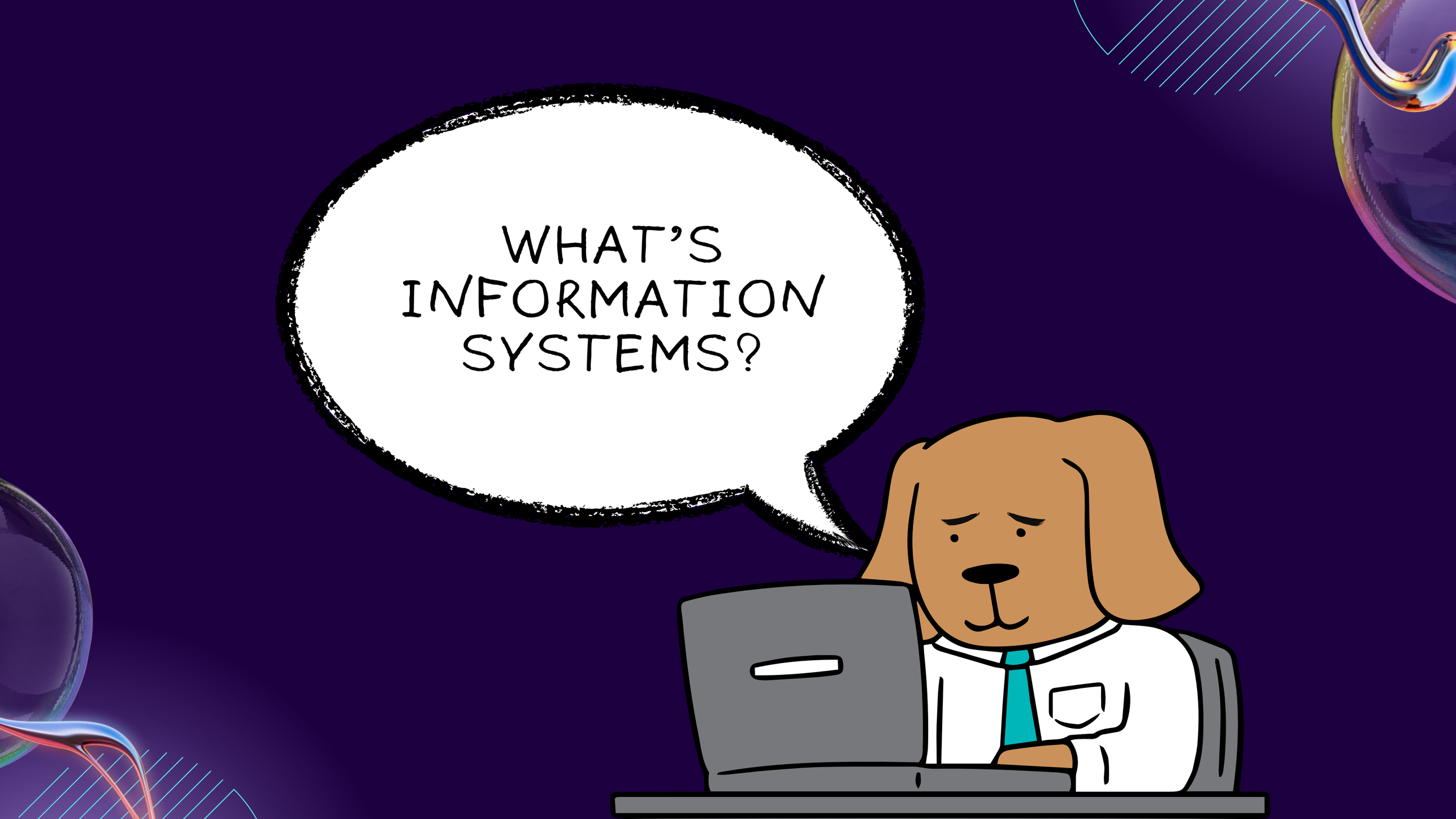
Data

- A collection of facts or statistics
- Unorganized
- Without Context
- Can be quantitative (numerical) or qualitative (descriptive)
- Examples: number of website visitors, individual customer survey responses, product price

Information

- The result of analyzing and interpreting data
- Has context
- Can be used to help make decisions
- Examples: website traffic changes, customer sentiment based on survey results, product price comparison

Bloomfire


WHAT'S INFORMATION SYSTEMS?

INFORMATION SYSTEMS

(business side of the tech industry)

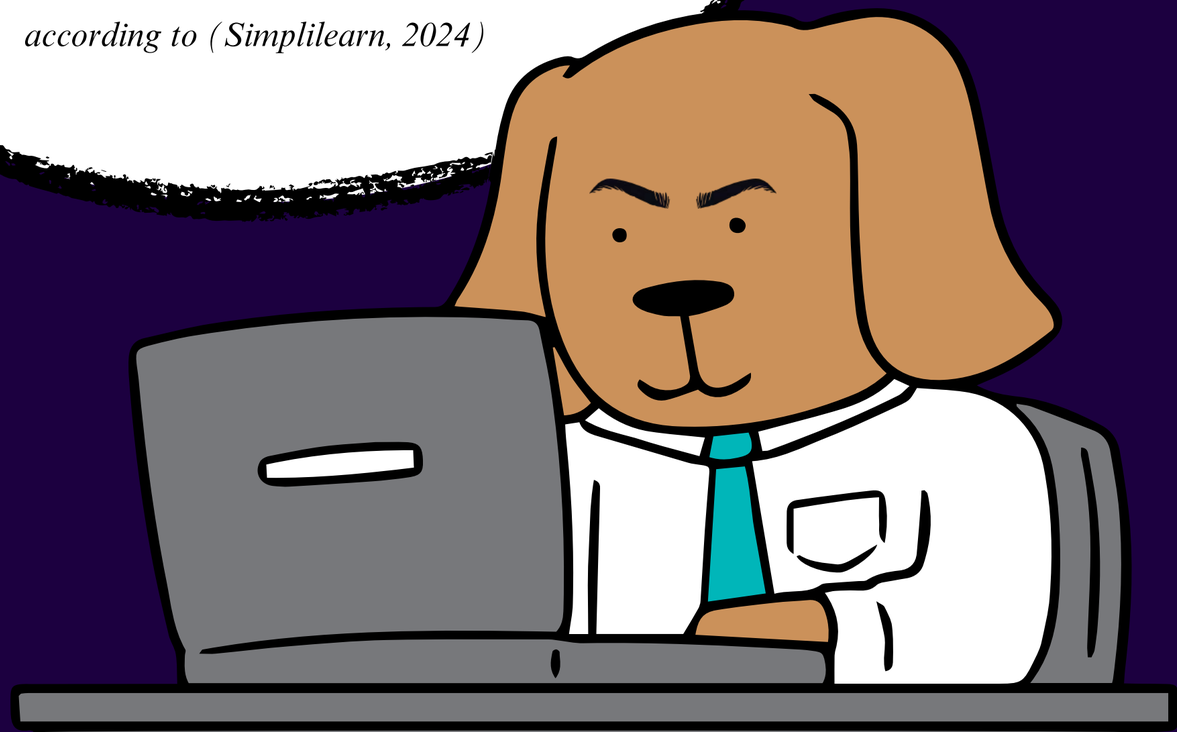
Information systems is an academic field that studies the complementary networks of hardware, software, people, and business processes that businesses employ to gather, filter, analyze, create, and disseminate data (Ak, 2015). Any information system seeks to help with planning, operations, management, and decision making.

A formal, sociotechnical, organizational system that collects, processes, stores, and distributes data.

According to sociotechnical theory, information systems are made up of four components: task, people, structure (or roles), and technology.

HERE'S SIX MOST POPULAR TYPES OF INFORMATION SYSTEMS

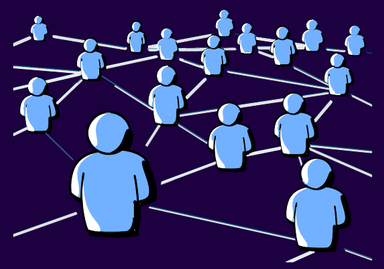
according to (Simplilearn, 2024)



1. TRANSACTION PROCESSING SYSTEM (TPS)

- Transaction processing is essential to helping businesses perform daily operations. Transactions are any activity or event affecting the company and include deposits, withdrawals, shipping, billing customers, order entry, and order placement. TPS supports these business transactions (Techslang, 2024).

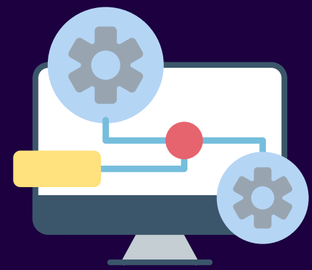
2. OFFICE AUTOMATION SYSTEM (OAS)



- OAS comprises computers, communication-related technology, and personnel assigned to perform official tasks (Simplilearn, 2024). It covers office transactions and supports official activity at every level in the organization, subdivided into managerial and clerical activities.

3. KNOWLEDGE WORK SYSTEM (KWS)

- The KWS is a specialized system that expedites knowledge creation and ensures the business's technical skills and knowledge are correctly applied. The Knowledge Work System aids workers in creating and disseminating new information using graphics, communication, and document management tools (Simplilearn, 2024). It is a tool companies use to help them organize company knowledge to be easily accessible (Deel, 2024).



4. MANAGEMENT INFORMATION SYSTEM (MIS)

- Middle managers handle much of the administrative chores for day-to-day routines and performance monitoring, ensuring that all the work is aligned with the organization's needs. That's why MIS is such a valuable tool. Management Information Systems are designed to help middle managers and supervisors make decisions, plan, and control the workflow. The MIS pulls transactional data from various Transactional Processing Systems, compiles the information, and presents it in reports and displays (Simplilearn, 2024).

5. DECISION SUPPORT SYSTEM (DSS)

- The DSS is a management-level, interactive, computer-based information system that helps managers make decisions (Fairlie, 2023). The Decision Support System gives middle managers the information necessary to make informed, intelligent decisions. It uses different decision models to analyze or summarize large amounts of data into an easy-to-use form that makes it easier for managers to compare and analyze information (Segal, 2024). Often, these summaries take the form of charts and tables.

6. EXECUTIVE INFORMATION SYSTEM (ESS)

- The EIS is like the MIS but for executive-level decision-making. Because the decisions involve company-wide matters, the stakes are higher, and they demand more insight and judgment. It provides greater telecommunication, better computing capabilities, and more efficient display options than the DSS. Executives use EIS to make effective decisions based on summarized internal data taken from DSS, MIS, and external sources (Rouse, 2024). In addition, executive support systems help monitor performances, track competitors, spot opportunities and forecast future trends.


EXAMPLES COMING UP!

TRANSACTION PROCESSING SYSTEM

(a software system, or software/hardware combination, that supports transaction processing)

GCash

VisaNet

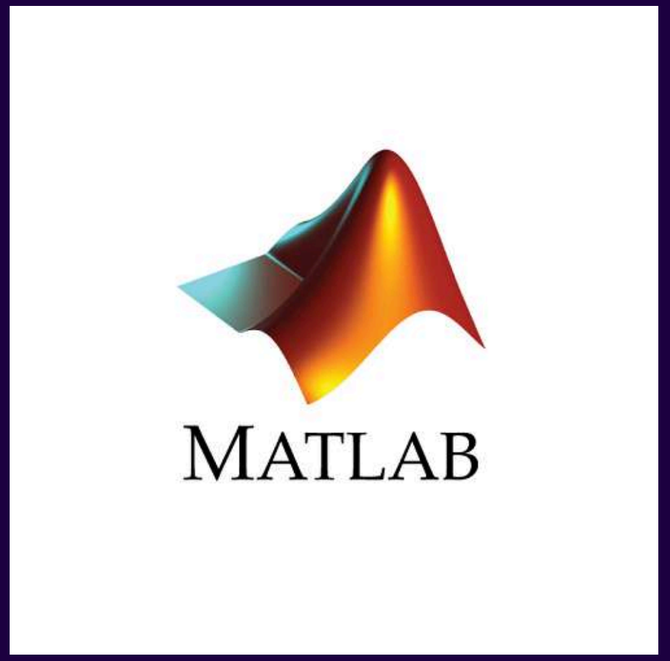
amazon

OFFICE AUTOMATION SYSTEM

(helps people and organisations increase productivity, communication and collaboration)

KNOWLEDGE WORK SYSTEM

(commonly used by engineers for the analyzing and design of systems)



MANAGEMENT INFORMATION SYSTEM

(integrated business applications that enable organizations to make better decisions)

DECISION SUPPORT SYSTEM

(computerized program used to support determinations, judgments, and courses of action)

EXECUTIVE INFORMATION SYSTEM

(connect the whole enterprise through a network of virtualized BI instances)
+ (helps a lot in tackling business analytics and challenges)


HERE COMES MY ANALYSIS/REACTION

ANALYSIS/REACTION

As I learned more about data, information, and information systems, I realized how important they are in today's information technology landscape. Initially, I assumed that data and information were basic ideas that could be interchanged and understood. However, my research uncovered a more complex contrast between the two. Data, in its most basic form, is simply a collection of facts, figures, or symbols that are often unintelligible/useless without context. Information, on the other hand, is the result of processing, organizing, or structuring data in a way that makes it usable and meaningful. The transformation of data into information is the cornerstone of all technical activities, as information drives decision-making, problem-solving, and creativity.

This grasp of data and information naturally prompted me to learn more about information systems (IS), which I discovered to be the foundation of modern businesses. An information system is more than just a collection of interconnected technologies; it is a complex framework that integrates people, processes, and technology to manage and convert data into useful information. It became evident that information systems play a critical role in enabling enterprises to achieve their objectives more efficiently. In today's data-driven world, information systems power businesses by increasing customer service, optimizing processes, and assisting with strategic choices.

ANALYSIS/REACTION

One of the most revealing components of my portfolio was learning about the various types of support systems in information systems. These support systems, which include Decision Support Systems (DSS), Management Information Systems (MIS), and Executive Information Systems (EIS), are intended to meet various levels of organizational objectives. DSS, for example, helps people make complex decisions by analyzing massive amounts of data and delivering insights that may not be obvious at first glance. In contrast, MIS focuses on providing managers with routine information so that they may make informed decisions quickly. EIS is designed for top executives, providing a high-level picture of the organization's performance and assisting with strategic planning.

Understanding these support systems has extended my perspective on how information systems are about more than simply technology; they also help organizations make better decisions at all levels. This discovery has strengthened my belief in the need of gaining a thorough understanding of IS, as it is a sector that demands not only technical expertise but also the capacity to comprehend and address the needs of a wide range of stakeholders and of course customers.

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