

DATA

Data Is The New Oil

Today enterprises need radical new BI and Analytical tools to provide pro-active insights and business outcomes

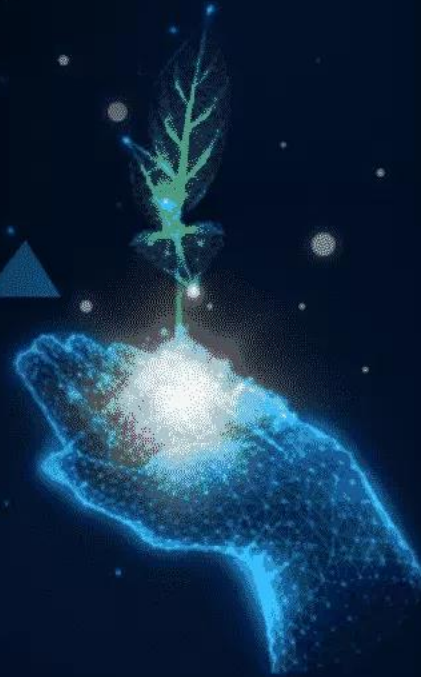


Data. It's everywhere. It's a Digital world out there and whether you are an individual or a company, in any given day huge amounts of data has been generated and no wonder we call it a 'Digital Universe'. Amid the aggressive conversations on going Digital across the world, enterprises of all sizes are looking at how they can use the data for better outcomes and arrive greater business profitability.

Given the impact of data on our lives and on businesses, clearly the biggest challenge for both the vendors and the enterprise IT organizations is to mine the relevant data and achieve better business outcomes, but it is easier said than done, as more data means more complexity.

A World Economic Forum (WEF) observation stated: "This personal data – digital data created by and about people – is generating a new wave of opportunity for

DATA
IS NOT THE NEW OIL,
IT'S THE
NEW SOIL



Data refers to raw, unprocessed facts and figures collected from various sources. It can be in the form of numbers, text, images, or other types of information, and on its own, it lacks context or meaning. Data serves as the **foundational input** for further analysis and processing.

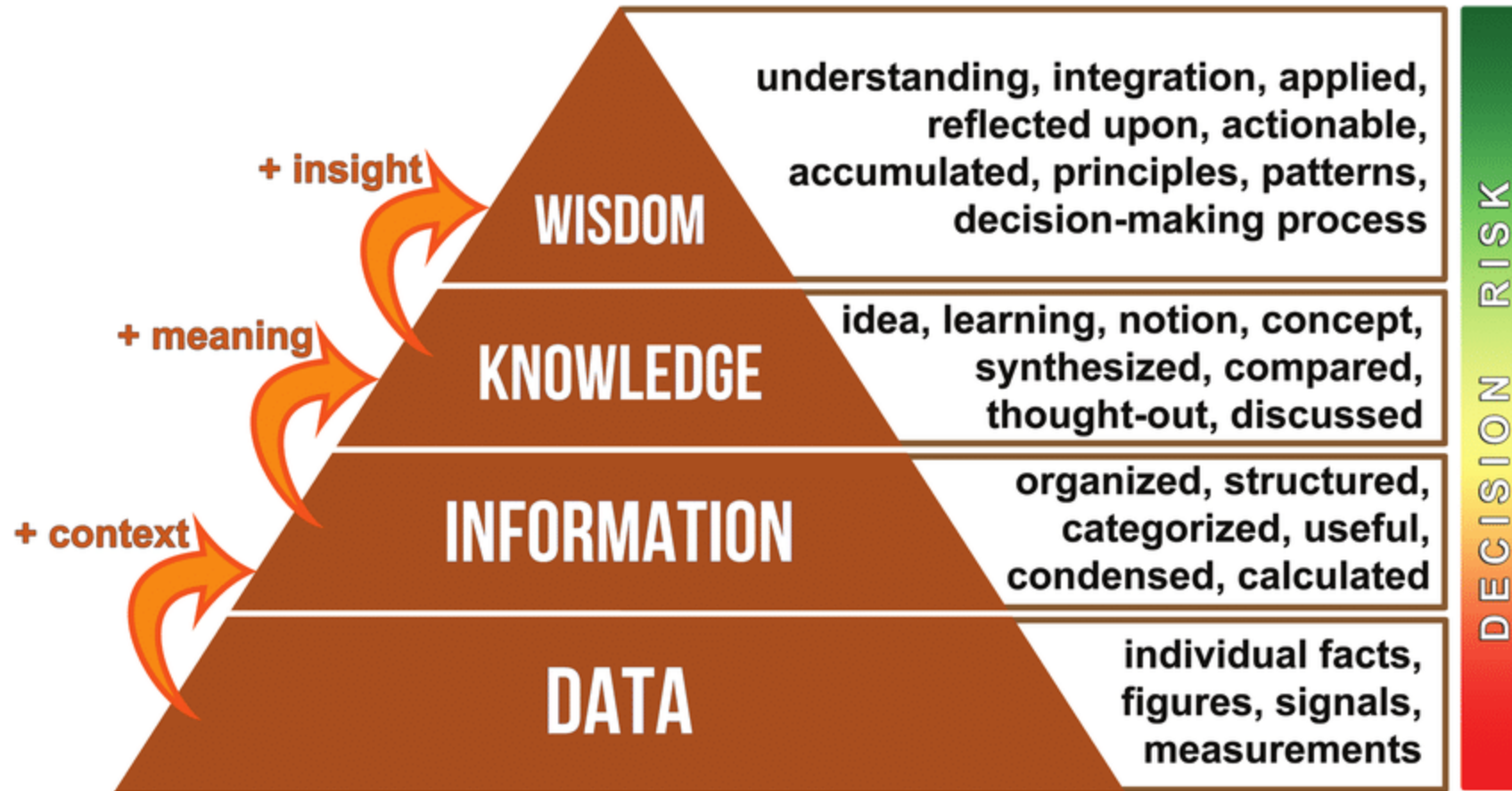
Characteristics of Data:

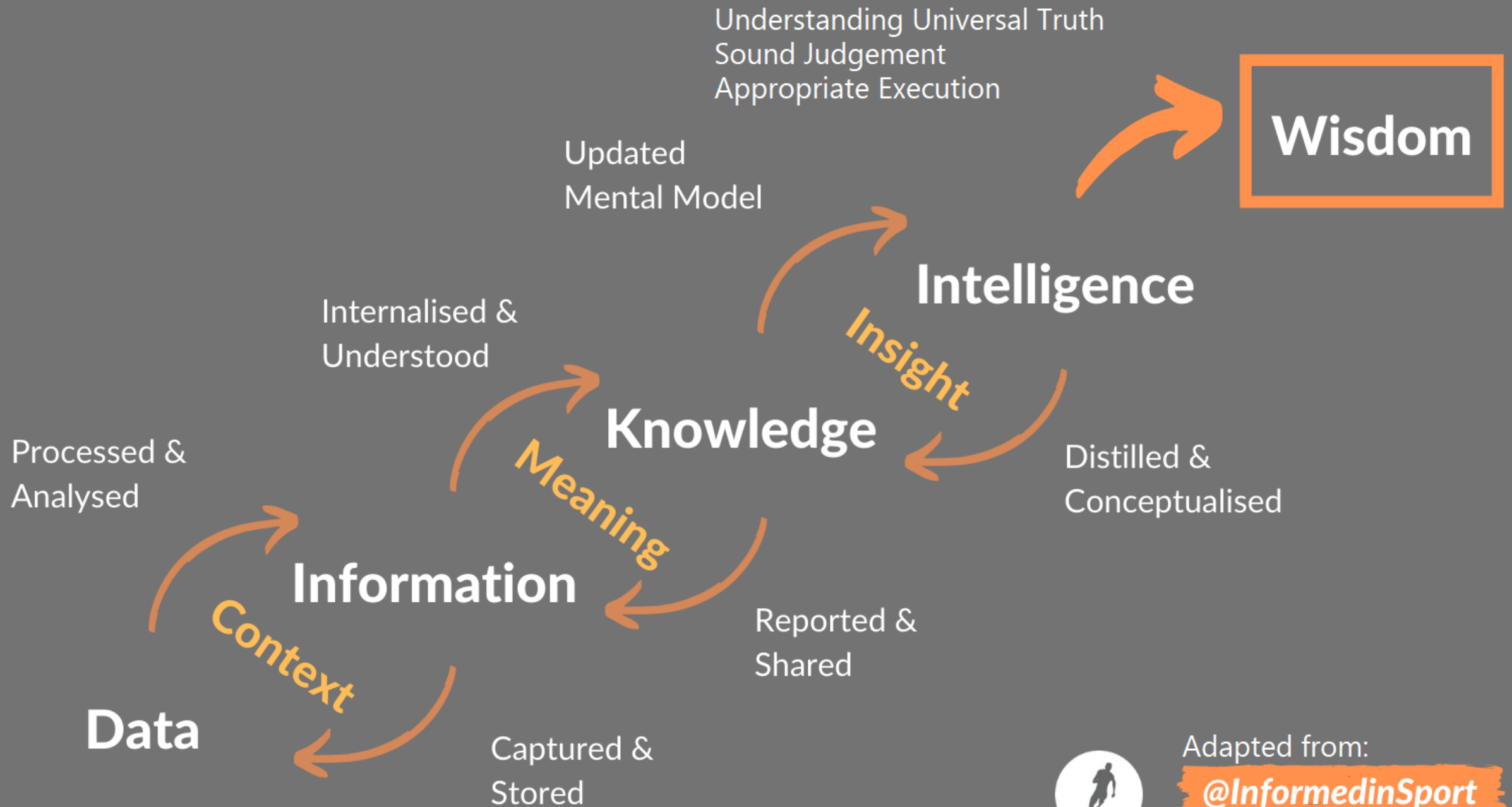
Raw: Unorganized and unprocessed; needs interpretation to be useful.

Types: Can include numbers, text, dates, images, or any other form of recordable information.

Sources: Collected from various sources such as sensors, surveys, transactions, or observations.

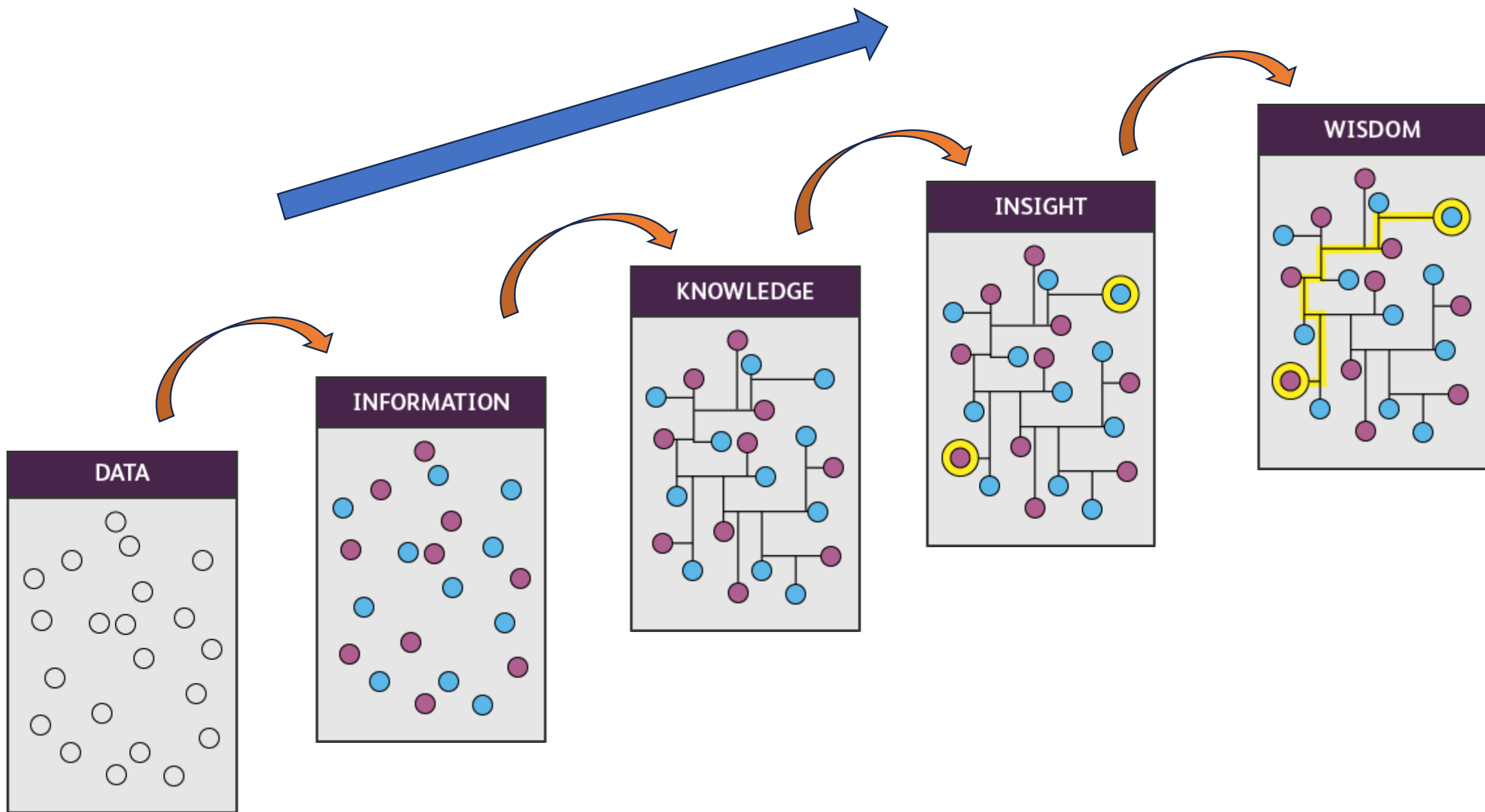
Context: Lacks inherent meaning without additional processing or organization.





Adapted from:

@InformedinSport



Data is not the new oil

(its value is not based on scarcity)

Data increases in value the more it is connected

Components of the DIKIW Model

Data

Raw, unprocessed facts and figures collected from various sources.

Characteristics:

Form: Can be numeric, text, or binary.

Context: Lacks inherent meaning without processing.

Example: Transaction logs, sensor readings, or survey responses.

Role: Serves as the foundational input for further processing.

Information

Data that has been organized or processed to give it context and meaning.

Characteristics:

Transformation: Data is aggregated, sorted, and contextualized.

Purpose: To provide answers to basic questions like "who," "what," "where," and "when."

Example: A report showing total sales by region for a given period.

Role: Bridges the gap between raw data and actionable insights by providing relevant context.

Knowledge

Information that has been analyzed to uncover patterns, relationships, and deeper meaning.

Characteristics:

Analysis: Involves statistical analysis, pattern recognition, and trend identification.

Purpose: To answer "how" and "why" questions, providing a deeper understanding of information.

Example: Analysis revealing that sales increase by 20% during holiday promotions.

Role: Enables understanding and interpretation of information to guide decision-making.

Insights

Valuable discoveries and realizations derived from analyzing knowledge. Insights offer actionable and strategic perspectives.

Characteristics:

Discovery: Provides new understandings or perspectives that were not immediately obvious.

Purpose: To identify actionable opportunities or risks based on the analysis of knowledge.

Example: Realizing that implementing targeted promotions during identified peak periods could significantly boost sales.

Role: Translates knowledge into actionable recommendations and strategies.

Wisdom

The ability to make informed, strategic decisions based on accumulated knowledge and insights.

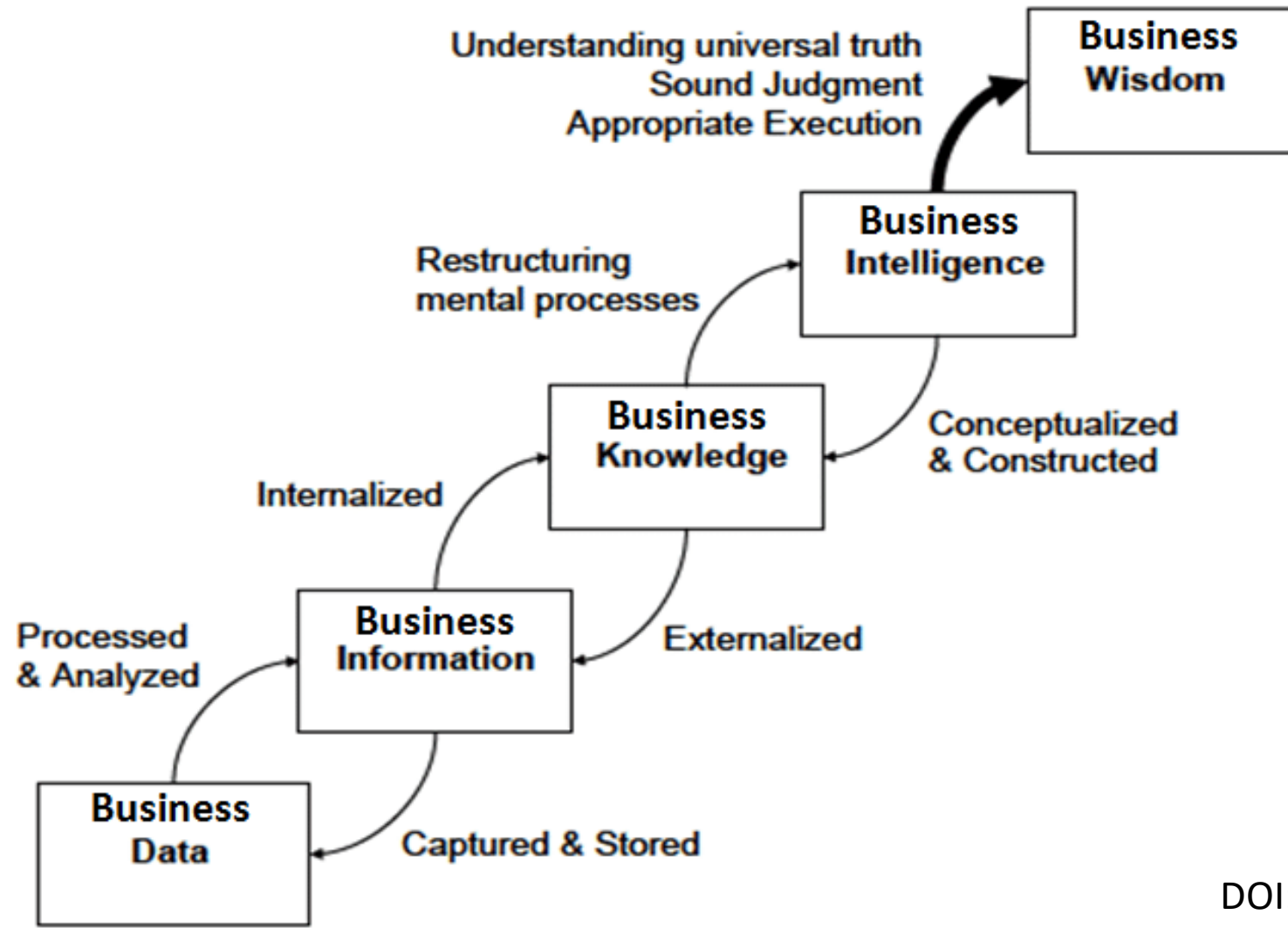
Characteristics:

Application: Involves judgment, experience, and foresight to apply insights effectively.

Purpose: To guide long-term strategies and decisions that optimize outcomes.

Example: Developing a marketing strategy that incorporates targeted promotions and customer engagement based on seasonal sales patterns.

Role: Facilitates strategic decision-making that integrates insights and knowledge to achieve organizational goals.



This model oversimplifies the relationship between these elements, and several issues challenge its applicability:

Non-Linearity of Data Transformation:

- 1. Data vs. Information:** Data alone does not directly translate into information. Data needs to be processed, organized, and contextualized to become useful information. The process is not a straightforward path; instead, it involves significant interpretation and validation.
- 2. Data Quality Issues:** Data can be inaccurate, incomplete, or misleading. As data collection grows exponentially, so does the risk of including erroneous or false data. The quality of data is crucial, as poor-quality data undermines the integrity of the information derived from it.

Importance of Accurate Data:

Quality Over Quantity: Merely accumulating vast amounts of data is not beneficial if that data is not accurate or reliable. The focus should be on collecting high-quality, truthful data to ensure that the information derived is valid and useful.

Unknown Ratios of Inaccuracy: There is no conclusive study on whether the proportion of inaccurate data has increased relative to overall data growth. It is possible that as data collection expands, so does the proportion of flawed data, impacting the quality of subsequent information and knowledge.

Role of Information and Knowledge:

Accurate Information: For information to contribute effectively to knowledge, it must be accurate and properly understood. Misleading or incorrect information detracts from the ability to gain true knowledge.

Knowledge Development: Knowledge is not just about information but also involves the application of skills, education, and experience in a specific domain. It requires a deeper understanding beyond mere information.

Wisdom and Its Requirements:

Wisdom as Application: Wisdom involves applying accumulated knowledge and intelligence in ways that benefit humanity and improve decision-making. It goes beyond simply having knowledge; it requires the practical application of that knowledge for broader, ethical purposes.

The traditional DIKW pyramid, which implies a direct path from Data to Wisdom, oversimplifies the transformation process. Data needs careful processing and validation to become useful. High-quality data and accurate information are essential, and applying knowledge and insights effectively is key to achieving wisdom. In short, focusing on data quality and proper analysis is crucial for reaching actionable insights and true wisdom.

A nonlinear model of data, information, knowledge, intelligence and wisdom better reflects their interrelationship. While data volume is expected to grow exponentially, it's uncertain if the other areas will expand similarly. This improved model could help educators and others focus on enhancing knowledge and wisdom, providing greater personal and societal benefits, rather than just increasing data collection and information.

