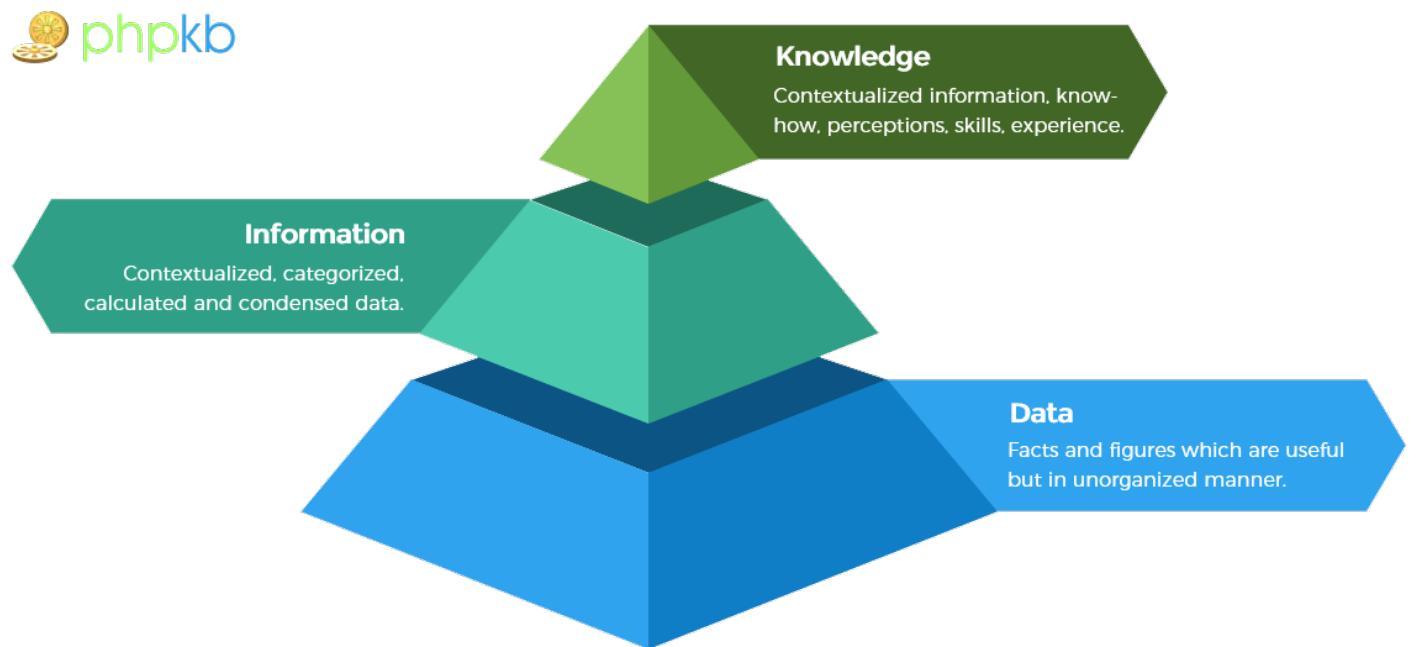


# Defining Knowledge, Information, Data

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To talk about the concept of knowledge management (KM), one must start by clearly defining the meaning of the words "knowledge", "data" and "information". It is important to understand what constitutes knowledge and what falls under the category of information or data. We often hear the terms data, information, and knowledge tossed around. In this article, we will explore the differences between knowledge, data, and information. Usually, they are considered to form a hierarchy, from data to information to knowledge.



In everyday language, the word "knowledge" takes on a variety of meanings. Sometimes we mean know-how, while other times we are talking about wisdom. On many occasions, we even use it to refer to information. Part of the difficulty of defining knowledge arises from its relationship to two other concepts, namely data and information. These terms are often considered as lower denominations of knowledge, but the exact relationship varies from one example to another.

## Data

Data are just bits and numbers, facts, and figures. They are discrete, self-contained, and in isolation have no meaning. Data are like Legos we collect and used to build information. Data are the value of a measurable or calculable attribute. They are also unorganized and unprocessed facts. They are static they just sit there. For example, John is 6 feet tall. This is data; it does not lead anywhere. However, the meaning one brings to the evaluation of this data could be important. Such an evolution may indicate that John's height makes him an asset to the school basketball team. This becomes information. Data are a prerequisite to information.

Every organization needs data and some companies depend more heavily on data than others. For example, insurance companies, banks, the internal revenue service, and the social security administration are heavy number crunchers. Millions of transactions are processed daily. The problem with too much data is that no judgment is offered to perform an action unless data mining is undertaken. An organization must decide on the nature and volume of data needed to create information.

## Information

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The word information is derived from inform, which means "to give shape to". Information means shaping the data to arrive at the meaning in the eyes of the perceiver. It is an aggregation of data that makes decision-making easier. It is also facts and figures based on reformatted or processed data. For example, a profit and loss statement provides information. Facts are assembled into a form that reflects an organization's state of financial health over a specific period.

Unlike data, information means understanding relations. It has meaning, purpose, and relevance. It has shape because it is organized for a reason. Unlike data, which emphasizes the quantity and efficiency of processing, the focus of information is qualitative. Data become information when meaning or value is added to improve the quality of decision-making.

## Knowledge

Knowledge is "information in context to produce an actionable understanding". Knowledge is the most cherished remedy for complexity and uncertainty. It is a higher level of abstraction that resides in people's minds. It is broader, richer, and much harder to capture than the data or information. People seek knowledge because it helps them succeed in their work. Knowledge is actionable (relevant) information available in the right format, at the right time, and at the right place for success. It is important to remember that knowledge has different meanings depending on the discipline where it is used. In the context of knowledge management, knowledge is "human understanding of a specialized field of interest that has been acquired through study and experience". In a way, it is information that has been enhanced by the experience provided by the validation process over time. It is based on learning, thinking, and familiarity with the problem area in a department, division, or in the company as a whole. The focus is on sustainable competitive advantage.

Knowledge is not information and information is not data. Knowledge is derived from information in the same way information is derived from the data. It may be viewed as understanding information based on its perceived importance or relevance to a problem area. It can also be thought of as a person's range of information. Embracing a wider sphere than information, knowledge includes perceptions, skills, training, common sense, and experience. It is the sum total of our perceptive processes that help us draw meaningful conclusions.

Knowledge has always been an essential component of human progress. People use their knowledge to come up with value-added products and services to take on the competition.

Action, or the ability to act, is what makes knowledge valuable. This is the most important criterion for knowledge within an organization. What knowledge do you need for what actions? How will you use knowledge for actions? Will the actions be the right ones? In short, what critical capability does knowledge give you?

One important aspect of knowledge is specificity, which means it cannot be transferred from one problem domain to another. One must have the surgeon's know-how to repair a heart valve, the auto transmission specialist's know-how to replace a reverse gear, and the painter's know-how to create an accomplished portrait. Such extensive knowledge is referred to as *tacit knowledge* and often takes years to acquire.

① Do not fall into the trap of trying to categorize everything as data, information, or knowledge. Everyone provides their context and decides which is which. My information can be your knowledge whereas your knowledge can be my information.

## Tacit and Explicit Knowledge

Two more important terms are **tacit knowledge** and **explicit knowledge**. This is a key distinction in knowledge management.

**Explicit knowledge** can be said, written down, and transmitted. It is objective, lending itself to rules and definitions. It is easily captured, stored, and transmitted electronically. Most of all, it is what we know that we can put into words. Explicit knowledge encompasses the things we know that we can write down, share with others, and put into a database. One example is the steps used to perform CPR. Those steps can be described in a detailed, exact sequence of actions you can teach to someone.

**Tacit knowledge** includes know-how, judgment, experience, insights, rules of thumb, and skills. It exists within a context. But **Forbidden**

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it is silent. It is hard to express, process, capture, or transmit in any systematic or logical manner. The distinction between tacit and explicit knowledge is critical. Tacit knowledge is what we do not know that we know. It includes know-how, rules of thumb, experience, insights, and intuition. Let us take the example of CPR again. If your mother had a cardiac arrest, who would you want to treat her: someone who knows the steps of CPR but lacks experience, or an emergency room doctor with years of experience treating cardiac arrests?

## Intellectual Capital

Intellectual capital includes everything an organization knows. That can be ideas, different kinds of knowledge, and innovations. The bottom line, though, is that it is the knowledge that an organization can turn into profit.

## Knowledge Capital

Knowledge capital is essentially a reflection of how well an organization leverages the knowledge of its workforce, the needs of its customers, and the knowledge of the suppliers to ensure the value-added outcome. Knowledge capital is the way an organization derives wealth from its information resources on a regular basis.

## Knowledge Management

Knowledge management focuses on how an organization identifies, creates, captures, acquires, shares, and leverages knowledge. Systematic processes support these activities, also enabling the application of successes. All of these are specific actions organizations take to manage their knowledge.

There are other related terms to knowledge management. They are "knowledge sharing", "knowledge creation", "knowledge capturing" and "knowledge retrieval". To many people, the word "management" also means to control something, but knowledge is not a thing that can be controlled. For knowledge to be controlled, it must be static and unchanging in nature, but knowledge is constantly changing. There are several activities associated with knowledge-creating, identifying, capturing, sharing, acquiring, and leveraging knowledge, to name a few. So, collectively all these activities constitute a bigger process called knowledge management.

The bottom line is that knowledge is the most important asset. Knowledge-what we know, how well we use it, and how quickly we can learn new things-makes us competitive. It can give us an advantage that makes the difference.

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