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Information and Knowledge Conceptions and Connection: Analytical Study

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ABSTRACT

This study aimed to deal with the defined information from other perspectives, and new search bases about knowledge, its conception and connections with information, data and wisdom, then introducing the research point of view about it through a sound scientific approach. Based on the study subject and type, the Content Analysis method was chosen to achieve the study objectives through analyzing literature reviews that discussed this study subject.

INTRODUCTION

In the last few years, there was an expansion in the use of "Information" and "Knowledge" terms. The overlap between these two terms and other remaining sciences has caused many bases to define these two conceptions and according to identifying these concepts, the connections and classifications, which have changed and varied, will be determined.

There are some bases which explain the concept on a on a documentary basis (Library Science facility), and there are conceptual bases which were created according to the investments studies of experiences and decision making in the administrative field. Problem of classification and qualitative division of "Information" and "Knowledge" was also created. There were also overlaps between the formal classifications with regard to preservation and the qualitative classifications according to the type of "Information" and "Knowledge".

In this study, the researcher aims to:

- Highlight these concepts broadly and in a more comprehensive way than previously made according to his point of view. The researcher also builds connections between Data, Information, Knowledge and Wisdom on these concepts and defines classifications according to the type not the followed preservation form.

Study problem:

The study problem is totally related to the researcher study and his knowledge of many literatures reviews concerning knowledge, concepts and their connections.

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The researcher has concluded, through many observations that the researcher found about the concept, connection and the bases that these concepts are based on, that it is necessary to discuss Knowledge from other perspectives and new research bases, and then introducing his relevant point of view through a sound scientific approach.

Methodology

Based on the study subject and its type the method of "Content Analysis" was chosen to achieve the objectives of the study through analyzing literature reviews that discussed the same subject.

Analytical Framework

This Study methodology in content analysis will be applied in analyzing literature reviews that dealt with knowledge and information as follows:

Information

The information has a major role at both the individual and community levels, because it is the element that cannot be excluded from any activities. Information is the raw material of scientific searches and the fundamental basis to make the right decision. In addition, the one who gets the right information at the appropriate time has the sense of competitiveness and leadership in any field, in a busy world based on science in everything and does not leave any room for improvisation and randomness.

According to [2] the word (information) acquired 11 meanings and three of which were abandoned or historical as follows:

- Shaping a particular thing.
- Motivation, Reinforcement or Revitalization
- Training and Achieving discipline and directing

Whereas the current meanings are:

- Delivering or receiving information
- Things that we receive or get from media.
- Knowledge spread by others or obtained by studying, researching or directing
- Awareness of specific incident or situation
- Facts or available numbers for broadcasting or getting benefits from them
- Reporting against particular person or party
- Officially charging somebody of a particular crime
- Digital quantity that measures uncertainty in the results of experiments
- Information: is what changes the knowledge status of the recipient in a given subject.
- There is a difference between information as a fundamental phenomenon and symbols that carries such information.

Study No. [3] defines information as processed data to have meaningful meaning, ability to change knowledge status of the recipient and help us to answer the questions of who? When? What? Where?

Study No. [4] defines Information as the thing that changes the knowledge status of the recipient (reader, viewer, listener or whatever sense is receiving by) in a given subject.

Shawky [5] defined information as formulated data in a mmeaningful manner to be a base for decisionmmaking.Knowledge is the main base of the ability to create ththoughts and achieving high levels of quality and technical crcreativity. In addition, it is regarded as a necessary action to actively perform administrative activities efficiently. based on that concept of knowledge, all information owned by any organization in its internal systems, skills and mental abilities of the workers is forming in total a source of knowledge to the organization, in case it is scientifically and logically used, which necessarily reflected upon the organization performance to distinguish it from any other competing organizations. [6]

In other words, knowledge is considered the main base for today's organizations and an administrative, meaningful and modern method to cope with the requirements of the age. In addition, knowledge is the most important source in generating richness, achieving individuality and creativity in light of given thoughts through which a numerous intellectual concepts have been raised. [12]

Knowledge Concept

In relation to the definitions of knowledge; study No. [1] defined it as a mixture of concepts, ideas, thoughts, rules and pprocedures which guide actions and decisions; In other wwords, It is a mixed information with experiments, facts, rules and values that work altogether as a unique mixture that permits the individuals and organizations to create new situations and manage the criteria of changes.

Study No. [7] defined it as the thing that expresses the ability of individuals inside an organization and that is reflected upon the organization as a whole, understanding, performance and doing the work effectively.

Moreover, knowledge is defined as a mixture of contextual experience, skills, abilities and information which are cumulative to the workers and business organizations. [8]

Knowledge is also defined as those ideas and concepts that the organization reach and which is used to take an effective manner towards achieving goals. [9]

Characteristics of Knowledge

Knowledge has characteristics and features that distinguish it from any other activities and its characteris-

tics have been diversified according to the differences in point of views related to the researchers and to those who concerned with this field to get the expected benefit from it.

Study No. [10] added that what really distinguish knowledge is the intangible standardizations. Whereas, knowledge is an intangible product to the extent that it cannot be subject to trade as a commodity, on the contrary, it is sufficiently standardized to be a subject of competition. Thus, it is widely used in trading. This intangibility standardization is the main concern of several organizations that depend on knowledge.

Study No. [11] added five characteristics that distinguish knowledge from other intellectual and human activities as follows:

1. Cumulativeness: As the knowledge remains right and competitive in this current stage and it is not necessary to remain the same in the next stage, which means that knowledge is changeable by adding the new knowledge to an old one.
2. Organization: The generated knowledge is organized in an order that enable the beneficiary person to reach it and pick the required part from it.
3. Searching for techniques: Reasoning and causing aim to satisfy the human need of searching and reasoning for everything and knowing the causes of phenomena because we can control it in a better way.
4. Comprehensiveness and Certainty: Comprehensiveness of knowledge is not only applied to the phenomena that fall under research only, but also applied to the minds that receive the same. The fact asserts itself on the others when it appears and it is capable of being transferred to all people. Certainty does not mean that knowledge is constant but means that it based on convincing and compelling evidences; however it does not mean that is not variable.
5. Accuracy and Abstraction: the accuracy means expressing the facts mathematically.

Classification of knowledge

Study No. [12] divided knowledge into four kinds as follows:

- Unknown Knowledge: is represented by the innovative knowledge discovered through experimentation, search and discussion.
- The fundamental main knowledge: is regarded as the fundamental level of required knowledge by all organizations.
- The advanced knowledge: is the knowledge that gives the current organization the competitive sense.
- Creative Knowledge: is the knowledge that allows the owned organization to change the working method of the educational sector that the organization is belonging to.

Study No. [9] Divided knowledge into two fundamental types:

a) Implicit knowledge

Study No. [13] defined knowledge as: the knowledge that is indivisible among the persons because it includes what is hidden inside the person himself which mean technical knowledge, cognitive knowledge and behavioral knowledge.

Implicit knowledge is composed of the following:

- Facts, fixed data and mental patterns
- Points of views, forms, images and concepts
- The provisions, expectations, general hypotheses and beliefs
- Strategies of thinking and the methodological approaches. [15]

b) Explicit knowledge

Study No. [14] defined as: the knowledge that can be transferred and reported to others on a formal or programmed way through educational or traditional pedagogical processes.

Knowledge Characteristics:

- It can be expressed.
- It can be shared.
- Guiding the personal and institutional behaviors. [15]
- It can be reached and stored.

Analytical Overview of Knowledge

The researcher is analyzing now concepts and connections of knowledge in terms of its existing case and the conclusion of the researcher concerning the concepts and connections.

The current perspectives of knowledge:

Many specialists of knowledge and information spoke about the connection between data, knowledge, information and wisdom. Most opinions spot the light on the subject of periodic and transition from one term to another according to meaning and the influential degree upon the audience.

Therefore, it was stated that data is a group of meaningless things. It means that we cannot infer from those things on a clear meaning while standing alone. It happens when we mention the meaning of any cultural or scientific effect, for example: we see letters and numbers individually but when connecting these codes, let-

ters and numbers in a particular way we can observe a clear connection leading to a clear meaning. This process is called speaking about information. So that, the definition of information is all things that contributing in changing the audience acknowledge and thinking. Information is a group of acknowledgment that reflects a special meaning.

For the acknowledgment, the audiences define it as a meaning. We refer to it as information which is transferred to experience by the audience. This said experience is developed to be a source of practicing, fluently.

When the recipient connects a group of knowledge considering particular subject or field, it reaches to the wisdom stage for making the proper decision. This meaning of knowledge derived from the lateral meaning of wisdom culminating in putting things in their right positions to ensure the right decision. This cannot be achieved unless with the existence of acquired knowledge in order to reach this stage.

On that basis, the pyramid of experience was suggested. It may also be called the pyramid of knowledge or the pyramid of wisdom as the following figure No. (1):

Figure No. (1): Pyramid of knowledge

As we observe the above stated pyramid of experience, the base is the data which was created by particular relation and lead to particular meaning. This meaning is called information. If we practice this information, it will be experience or acquired knowledge. In the case of collecting and accumulating the said knowledge with others in the same area, the recipient will achieve the level of wisdom and the ability of making a proper decision are the right time.

Notes on The current perspective of knowledge:

According to the former meaning and clarification, here you have some observations on the particular arrangement of meaning as follows:

1. Data cannot be judged by the absence of its meaningful meaning. Any code, number or letter ...etc does not give a meaning in itself as per the said concept which is a sort of information or accumulating knowledge, from the first person who put these letters, code or number in use. For example, the letter (C) is created for specific purpose to do a specific role and it differs from the letter (B). The former letter contributes in solving a lot of problems in the series of alphabet. The same thing applied to creation of the points, which solve the ambiguity of the letter similarity, for example (B- C-W- D- H- X). These letters and number are considered as accumulating knowledge to reach to the concept that we adapt nowadays.
2. Taking into consideration the definition of the information, which is defined as everything that change the knowledge case of the recipient. This definition is very general and does not achieve the supposed measurement of the change, so how we can judge information. “How we are going to judge knowledge according to inaccurate way?” The matter of judgment is differing from one person to another, consequently it great differences will be occurred. From one point of view, it helps to change the recipient perspectives and makes him gaining acknowledgment while from other it helps with nothing. Thus, if we analyze the cause of this variation and contrary which taking place among views, we will find that the recipient is the reason without considering the information itself.
3. The criterions of moving from one term to another among the four terms are different. Therefore, data that relates to a certain case and changed the cognitive state of the recipient is called information. According to another criterion, we find that the information which was practiced and formed an experience is called knowledge. While knowledge that contributed in making good decision is called wisdom.

Along these lines, there are three different criterions:

The first one is: criterion that form a change in the cognitive state.

The second one is: practicing information that forms experience.

The third one is: collecting knowledge that led to making good decisions.

Moving between related terms shall not be based on different criterions, while these criteria are related to the different cognitive case of the recipient among individuals according to their individual differences.

4. Considering classifying of knowledge by the predominant basis of specialists, classifying to Potential (implicit) knowledge and explicit (apparent) knowledge. This classification based on the form of existence or in other words, the knowledge storage place from the explicit content such as: books, tapes, memories and Semiconductor memory...etc. in relation to explicit knowledge, to storing implicitly in minds such as: experience, skills and others from knowledge regarding implicit knowledge.

This classification does not determine the type properly due to logic reason, which means that there is no explicit knowledge without being implicit basically that, was converted to be explicit one and documented in a form of preservation forms of knowledge. Therefore, knowledge content is unified, however if we want to classify it, it will be considered formal classification.

5. When applying administration to knowledge which called (Knowledge management), we deal with two

forms due to the predominant classification of knowledge whether implicit or explicit. There is a management for explicit and implicit knowledge. Considering explicit knowledge, we concluded that the explicit knowledge management is such a perfect match of information management with its processes, storing systems, regulatory systems and classifications. In fact, explicit knowledge is just documented information subject to information in terms of characteristics and content.

There is a difference between explicit knowledge and implicit knowledge that cannot be dealt with in a structured and documented framework, which could not be stored and retrieved without documenting and converting it to explicit one. According to its normal implicit form, it's ruled by a set of procedures that move it from implicit to implicit one or converting from implicit to explicit one according to Nonaka Model. Therefore, we realize the problem and the overlapping of information and knowledge in many ways, the most important one is that the explicit knowledge is just documented information.

6. According to the said terms and expressions, we found out that the number of acquired and accumulating knowledge enable the person to gain wisdom and make proper decision. In fact, this stage should be called according to the common concept "decision stage" this is attributed to the wisdom which is absolutely right and accurate matter considering making the proper decision as per its lateral definition. The accumulating knowledge which helps us to make a decision cannot be 100% correct. Correctness consists of many levels; there is the right and the most correct one. All of them depend on the accumulating knowledge. However, it is out of prudent to choose the right decision while having more suitable one. The ability of accumulating knowledge does not necessary mean to make the right decisions, in some cases we might make wrong ones whether in part or whole. If it is a fate to express the meaning of wisdom as a periodic term for the pyramid of knowledge, the decision stage must be prior the former stage, if there is a correct decision, it will be undergo the wisdom stage. The wrong decision will be classified under the frame of accumulating knowledge to learn from the mistakes, it cannot be excluded as a reason of acquiring knowledge.
7. Final notes should have been in the first. But we made this to mention the partial notes, because this observation is related to the concept, subject and objective of knowledge. Upon the common concept, knowledge is information, which gains experience by practicing and grouping it towards a particular subject leading to achieving knowledge. There is an important question looming on the horizon: "Can we consider the knowledge as an outcome to information practice?" Obviously, the answer is "No." In fact, the knowledge is existing and it may appear in its original reflection as a sort of isolated knowledge. For instance, the knowledge of identifying the element of the Earth or the number of planets ... etc, this kind of knowledge is born from early years. With the process evaluation, this knowledge is discovered as long as modernized time and given amendments. The point is this knowledge was anonymous; however, it was discovered. Also, there is a kind of knowledge which was not existed and coming up later; it was formed by integration of others. This process creates a new sort of knowledge, which is open to development and amendment. For example, the invention of car or plan; both of them enjoy with the integration of physics, chemistry, mathematics and human skills in order to create this new kind of knowledge.

Proposed vision based on the application of the study methodology:

We will offer now a vision based on the previously discussed maters about knowledge, its concept, and relations along with information and data:

1. The concept of knowledge should be reconsidered; in fact, all that exists is an existing knowledge, whether it is alone or integrated with another, it is considered as a new knowledge.
2. Classifying knowledge should be as follows:

a- Genuine knowledge (natural): is a knowledge that exists without human intervention both discovered or still unknown, this knowledge is divided into two types:

- Genuine knowledge (discovered): Genuine natural knowledge that is discovered for example water consists of hydrogen and oxygen.
- Genuine knowledge (unknown): original natural knowledge but has not been discovered such as stars.

b- Productive knowledge (created by human): knowledge that did not exist but human intervention contributed in its presence, and it is compound but the difference between it and its predecessor is that the composition is resulting from human act for example: inventions of cars, planes and so on.

3. Defining Knowledge as a general and comprehensive conception that include information and data,

in all its forms and types. This knowledge can be classified to information, data or experience but in the light of its type, as knowledge not isolated cases.

4. Decisions should be added as an output of the interaction between information, data and experiences, it does not necessarily mean that it is correct but it falls under the wrong and right decisions with their different degrees.
5. Wisdom is not knowledge in itself but is a result of knowledge due to investing knowledge in taking the appropriate decision
6. According to the new conception, the definitions will be as follows:

A- Data: is a meaningful initial knowledge contributes with others in forming a specific meaning that cannot be reached in its absence or in its isolated existence.

B. Information: is knowledge arising from the formation of other information or data or both together according to a specific relationship that aims at achieving specific meaning forming knowledge.

C. Knowledge: is the data, information and experience that are formed around a particular subject so that it can be defined and described in a manner that enables it to be invested scientifically or practically.

7. The researcher suggests the following figure (2) as a form describing the relationships between terms related to knowledge:

Figure (2) knowledge and its connections

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