International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2013): 6.14 | Impact Factor (2015): 6.391

Knowledge Management Theoretical Frameworks: A Critique

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Abstract: ***This article is targeted at knowledge management students and scholars and everyone who is interested in understanding the theoretical aspects of knowledge management. It assists organizations in the effective and efficient knowledge management. The paper analyses some existing knowledge theories but not all and brings out a new knowledge management model. It is not enough to just regard knowledge as a justified true brief. Knowledge is not fixed and can change with time though there can still be some knowledge that can remain fixed. Prato's knowledge theory, Piaget and constructivism as well as positivism theories will be examined in this paper. These theories' implications and gaps will be demonstrated***

Keywords: Knowledge; knowledge management (KM); information; wisdom; knowledge theory; knowledge model; theory; model; library records management.

1. Introduction

The way organisations manage their knowledge is aligned to some certain theoretical frameworks. These can be based on Plato, constructivism or positivism. Carnegie (2010:1) argues that the only irreplaceable capital an organisation possesses is the knowledge and ability of its people. Bajaj and Nag (2009:4) assert that "the competitive advantage for a business comes from its knowledge base and its ability to mobilise and integrate knowledge. Knowledge is the only resource that increases with use" (Probst, Raub and Ramhardt (2000:1). Having a theoretical foundation of knowledge will help organisations to effectively manage knowledge. A theory is a proposed explanation whose status is still conjectural and subject to experimentation in contrast to well established propositions that are regarded as reporting matters of actual fact (Dictionary .com). McLeod (2011) opines that "theories must demonstrate predictive power. They must accurately identify the determinates of human behaviour as well as the intervening mechanisms responsible for the changes". It is therefore imperative to question some existing knowledge theories with the idea of filling in the gap.

2. Purpose of the Article

The purpose of the article is to critique knowledge management theoretical frameworks

3. Plato's Theory Knowledge

Influenced by Socrates, Plato was convinced that knowledge is attainable. He was also convinced of two essential characteristics of knowledge. First, knowledge must be certain and infallible (Plato: 2003). This means that that knowledge should be perfect and incapable of making mistakes. This calls for something that is perfect and error free. Second, knowledge must have as its object that which is genuinely real as contrasted with that which is an appearance only. Because that which is fully real must, for Plato, be fixed, permanent, and unchanging, he identified the real with the ideal realm of being as opposed to the physical world of becoming. To Plato knowledge should be a belief that pictures reality accurately yet, the believing subject must have very good reasons for believing as he/she does that is "justified true belief". I can give the issue of gravity. One consequence of this view was Plato would have rejected empiricism, the claim that knowledge is derived from sense experience.

McMahon (2014:1) opines that knowledge according to Plato must be knowledge of eternal values which are not subject to the shifting and changing impressions of senses or of subjective opinion, but are the same for all peoples of all ages. Plato demonstrated that knowledge is not a judgment and is not a perception. McMahon in support of Plato adds that the objects of true knowledge must be stable and abiding, fixed, capable of being grasped in clear and scientific definition, which is of the universal, as Socrates observed. Plato thought that propositions derived from sense experience have, at most, a degree of probability. They are not certain. Furthermore, the objects of sense experience are changeable phenomena of the physical world. According to Plato, knowledge cannot be passed genetically from parent to child. As a result a child's skills depended on the realities that he or she carried inside from past exposures.

When studying the information and knowledge management in organisations, there is need to be aware that knowledge is real and can be true and attainable as propounded by Plato. It is a justified true belief that the Siamese twins were successfully separated by Medical Doctors at Harare Hospital in Zimbabwe. It is a justified true belief that Tayambutswa Sandra Mufudza fell from the 6th floor to the ground level at Trafalgar Court in Harare, Zimbabwe and she survived the fell. However there is a knowledge gap in Plato's knowledge theory which assumes knowledge as a justified, true belief, fixed and permanent which might not be the case as knowledge might change. What was the truth ten years ago might no longer be true today and what used to be true yesterday might no longer be true today. Thus, today's knowledge might be tomorrow's ignorance. It was a justified true belief that if a person was affected with HIV/AIDS in the 1980s, would most likely not exceed ten

years alive but this is no longer the case today due to the use of antiretroviral drugs. To regard knowledge as infallible means that there is no room for incapability or mistakes in knowledge but for one to end up having that knowledge, one would have passed through a process which involves mistakes. Knowing what is false is also a form of knowledge as one is made to avoid what does not work. Knowing that this is a mistake is also a form of knowledge. Regarding knowledge as a justified true brief has the difficulty that people may not know for certain that any knowledge belief, no matter how well validated is true. Who is going to qualify that knowledge as truth? This leaves a lot to be desired.

Regarding knowledge as a justified true belief is not really an affirmation to the aspect that knowledge passes through the stages of data and information, then knowledge and to some extent wisdom which is called DIK or DIKW concept (Mutongi, 2016). It shows that knowledge should be just a justified true belief which does not have to be necessarily passed though data and information. Plato's theory of knowledge also contradicts with the constructivists who argue that knowledge is constructed by the knower through interactions with the world, society and through experiences.

The notion that knowledge cannot be passed genetically from parent to child might not be true in some cases. A parent can pass the genes to his/her child to easily grasp certain concepts which help in knowledge acquisition. For example intelligence which is the capacity to acquire and apply knowledge can be passed genetically from parent to child or children. However if these children are exposed to different conditions, societies and experiences which might include physical trauma, lack of education, diseases, malnutrition, lack of resources and discouragement, this genetically transmitted intelligence might be affected. This then calls for the constructivists' perspective of knowledge to come in. Plato's theory of knowledge also leaves a question, is justified true belief knowledge? It can be argued that justified true belief might not constitute knowledge. Something can be a justified true belief but one might not have the knowledge which is the know- how. Knowledge without belief is indeed possible.

4. Piaget's Knowledge Theory

The Piagetian, psychological proponents of constructivism see the meaning making process as individualistic (Richardson, 1997:4). Schifter and Simon (1992:187) describe the goals of constructivist mathematics instruction as teaching the nature of mathematics inquiry and the nodes of generating knowledge that are characteristic of the discipline. In order to reach higher levels, people must be actively engaged in reconstructing their existing understanding by restructuring their cognitive maps. Firth (1981:6) expounded that "nearly fifty years ago, Jean Piaget asked questions about intelligence and knowledge. Piaget treated questions concerning knowledge as any other biological problem that needed an answer". He decided to observe for himself in a systematic and critical manner how general knowledge comes about. Piaget discovered that it is through the development of intelligence that the individual constructs spatial notions.

The objective constructs that people are accustomed to place within the environment. The implications of Piaget's theory of operational intelligence are not limited to psychological science but apply to science and philosophy in general in so far as they are concerned with theoretical questions of knowledge. More importantly really revolutionary changes in the whole field of education and human relations seem to be a direct consequence of deeper understanding of Piagets's theory. Firth (2001:6) adds that who dares to guess how our primary education would change if teachers really took seriously Piaget's proposition that knowledge is an operation that constructs its objects.

Cruber and Voneche (2002:xxvii) aver that "Piaget offers a theory of the intellect grows, at any point in its development, it may be described as a set of organised structures or schemes as the individual encounters the world". Firth (2001:6) asserts that assimilation is critical concept in Piaget's theory. It is his technical term for the psychological, relation of a stimulus to a reacting organism and expresses an inner correspondence or someone between an environmental phenomenon and the structure within the organism. Piaget holds that behaviour at all levels demonstrates aspects structuring and he identifies structuring with knowledge. Knowing is here taken in a very general sense and does not imply any conscious or reflect knowing. It is synonymous with assimilation to the organism's structure. Such a view simplify proposes that an organism cannot respond to a stimulus unless the stimulus is at least in some rudimentary way meaning or known to the organism. Firth (2001:6) advocates that Biologists frequently use a different terminology and prefer to say that an organism has some specific information about its milieu.

The main point for Piaget is that behavior at all levels demonstrates aspects of construction which derive at least partly from the behaving organism's intrinsic structure and that this structuring aspect is identical with meaningful, knowing behaviour. To know is therefore an activity of the subject and knowledge is a construction in the true sense of the term. Yet this should not be understood as implying that any specific behaviour, human or animal taken in its concrete situation is nothing but knowing behaviour. Knowing activity is only a partial aspect of the whole and there are other aspects which always form part of that whole, as, for instance, motivational aspects, affects, and values. Even behavior that may seem to be entirely intellectual for example problem solving or mathematical computing, must necessarily involve some aspects of interest and cooperation. Without some motivation, the effort requisite for that behaviour would not be made.

Firth (2001:6) goes on to say that the notion that knowledge is not a static quality but a dynamic relation appears again to be rather trivial until one follows it through as does Piaget to its ultimate consequences. One of the results of Piaget's radical constructivism is his resolute refusal to take objectivity in any but a constructivist sense. A thing in the world is not an object of knowledge until the knowing organism interacts with it and constitutes it as an object. Knowledge is then a subjective copy of something that is simply given in the external world. Piaget did not view

children's intellectual development at a quantitative process; that is, kids do not just add more information and knowledge to their existing knowledge as they get older. Instead, Piaget suggested that there is a *qualitative* change in how children think as they gradually process through the four stages (Cherry, 2016). Piaget's four stages are: sensori-motor period (from birth until age 2, pre-operational stage (from 2-6), concrete, operational stage (6-12) and formal operational stage (12 and up).

Piaget's theory brings out the aspect of facilitating an environment in which people undergo a certain amount of cognitive dissonance and devising tasks that hopefully lead to the construction of knowledge for example hands on activities. Thus an organisation should be in a position to provide a conducive environment for the knowledge acquisition, share, use and reuse. This theory is also helpful in the information and knowledge management study in bringing out the aspect of qualitative change in how children think. However Piaget leaves a knowledge gap on how to effectively deal with issues of power, authority and the existing place for one to effectively construct his/her knowledge for example in the authoritative and autocratic environment. If the environment is not conducive, one might not adequately acquire and utilises knowledge.

Piaget's theory brings out the notion that a person would not respond to stimuli unless the stimuli are at least in some rudimentary way meaning or known to the organism. This shows that one has to learn or be aware of something first from the environment before responding to it. However there are some knowledge gaps in this theory as it does not clearly explain the nature of responses that a person makes when exposed to something he/she is not aware of as this varies from people to people. Some people if exposed to something they are not aware of, they develop an automatic eager to know about it. Piaget did not clearly explain this scenario. His theory is geared mainly towards children, not adults therefore living a knowledge gap on knowledge development in adults. It can also be argued that Piaget focused on cognitive development more than knowledge acquisition.

5. Constructivism

Contructivism is an ontological position which asserts that social phenomena and their meanings are continually being accomplished by social actors. It implies that social phenomena and categories are not only produced through social interaction but that they are in a constant state of revision (Bryman and Bell, 2007:23). McCormick and Paechter (2009:6) observe that:

> Over the past two decades, constructivism has become increasingly accepted as a viable theory of knowledge, and for many it is replacing more traditional philosophical positions that claimed the knowing subject as a pure entity, unaffected by biological, psychological and sociological contingencies.

They go on to say that at the core of constructivism is the belief that human beings build up knowledge in a slow process, that begins with simple sensory-motor schema during early childhood and progresses to complex schema. This theory brings the insights off active knowing and does not treat knowledge as an embodiment of truth that reflects the world in itself, independent of the knower.

5.1 Radical Constructivism

Radical constructivism of Ernst von Glaserfeld (1990:162), revolves around the idea that each individual constructs reality for him or herself. Radical Constructivism puts forward two main claims:
"(a) knowledge is not passively received but actively built up by the cognising subject;
(b) the function of cognition is adaptive and serves the organisation of the experiential world, not the discovery of ontological reality".

In other words, all experience is subjective, filtered through the prism of individual biases, experiences, and sense perceptions. The mind simply organises this stuff into something called "reality." Von Glasersfeld (1990) assert that coming to know is a process of dynamic adaptation towards viable interpretations of experience. The knower does not necessarily construct knowledge of a "real" world. Knowledge is therefore a result of a self-organised cognitive process. Radical contructivism is an unconventional approach to the problem of knowledge and knowing. It starts from the assumption that knowledge, no matter how it is defined, is in the heads of persons, and that the thinking subject has no alternative but to construct what he or she knows on the basis of his or her own experience (http://www.oikos.org/radcon.htm).

Radical Constructivism brings out the aspect that that each individual constructs reality for him or herself. They maintain the most acceptable definition of knowledge even today of knowledge existing in the head. This however poses a question in this article whether knowledge only exists in the head? Knowledge can also be existing outside the mind as depicted by Plato's knowledge management theory as something just has to be a justified true belief. Knowledge can be found in organisationd, products, services, libraries, records centres, archives and internet.

5.2 Social constructivism

Social constructivists have a very different view of the process of the construction of knowledge than Piagetians and radical constuctivists. Social Constructivism shares with radical constructivism and Piaget the idea that reality is constructed, but to social constructivists this construction does not exist prior to its social invention. Knowledge is a social product and learning a social process. This then shows that meaning is an agreement shaped by social patterns and the assumptions encapsulated in language. (http://halmedrano.com/527/foundations/types.html). It does not focus primarily on the individual but view the social an instrumental, if not essential in both the construction and appropriation of knowledge (Richardson, 1997:7) According to the social constructists, both the individual and the environment change as a result of the learning process. The environment is thought of as a social milieu that affects the

actions taken by people and the learning that occurs and is affected by those actions (McCormick and Paechter, 2009:9). Knowledge according to the social constructivists, results from a far more complex process that is social, goal-driven, contextual, and culturally-bound.

Piaget's development theory and von Glaserfeld's radical constructivism focus to a large extent on individual, isolated minds that construct knowledge from experiences in the world. However, there is ample evidence that a theory of knowing and learning as an individualistic interprets is inappropriate in accounting for many learning situations. Vygotsky (2009:3) regards individual cognitive development as subject to a dialectical interplay between nature and history, biology and culture and society. Bruner (2006:2) believed that mind is transmitted across history by means of successive mental sharing which pass ideas from those more able or advanced to those who are less so. Vygotsky (2009:4) considers "the growth of the individual to become a functioning member of the society as part of the process of societal change. Social constructionists argue that the world we experience and the people we find ourselves to be are first and foremost the product of social processes (Cromby, 2012).

Social constructivism brings out the importance of social processes and indicates that knowledge is socially constructed. This theory challenges Plato's theory of knowledge as a justified true belief. It also challenges radical constructivism which believes in one constructing his/her meanings. Social constructivism shows that there is no representation of reality that is correct. There are actually a variety of interpretations for different purposes and environment. Knowledge is not thought of as a received, static entity that is separate from the individual and the society. However it has its own gaps as constructivists tend to assume that social interaction between people and states is always sincere and that people and states genuinely attempt to express and understand each others' motives and intentions. But there is a pervasive element of deception in the relations between many people and states.

6. Positivism

Smith (2008:57) observes that "the key idea of positivism is that the social world exists externally and that its properties should be measured through objective methods rather than being inferred subjectively through sensation, reflection or intuition. The French philosopher, Auguste Comte (1853:1) was the first person to encapsulate this view as he said "all good intellects have repeated since Bacon's time. That there can be no real knowledge but that which is based on observed facts". This statement contains two assumptions: first, an ontological assumption, that reality is external and objective, and second, an epistemological assumption that knowledge is only of significance if it is based on observations of this external reality. Positivism brings out the issues of pure science, mathematics, statistics and experiments. It indicates that knowledge is something that is tested and proven. This theory is related to Plato's theory of knowledge as a justified true brief. However it has its limitations on issues that cannot be measured for example measuring the value assigned to information and knowledge management and measuring love.

7. Robot cognitive models

Robot cognitive models calls for robotic way of doing things. Zang (2009:1) realises that a new classification of robot cognitive models is presented in terms of knowledge representation, which clarifies the importance of tacit knowledge in robot cognitive model research. A robot cognitive model based on procedural memory and episodic memory is proposed, and every module in this cognitive model is designed in detail. High-level intelligent behaviors can emerge totally by using experiences without prior knowledge in this cognitive model, and this cognitive model, endows the robot with the ability of learning in real time and adaptation. This has led to the emergence of Artificial Intelligence (AI) which is concerned with intelligent behaviour in artifacts.

Nilsson (2009:1) posits that AI has as one of its long-term goals the development of machines that can do these things as well as humans can, or possible even better. This has brought a question "can machines think and can a computer ever match the human mind? The Financial Gazette (July 19-25, 2012) reports that one is heading out and realises that he/she does not have car keys. After a few minutes of rifling through pockets, checking the seat cushions and scanning the coffee table, one finds the keys. The task that took one a couple seconds to complete is a task that computers, despite decades of advancement and intricate calculations, still cannot perform as efficiently as humans: the visual search. Thus there are some things that cannot be done by technology without the human being. Technologies are designed by human beings and the programmes are written by human beings. Therefore, behind every technology, there is a human brain. This model brings out the role that machines include computers play in knowledge management as they facilitate in the dissemination of information.

8. Recommendation

This article recommends that, there is need to integrate knowledge theories and take cognisance of all knowledge theories.

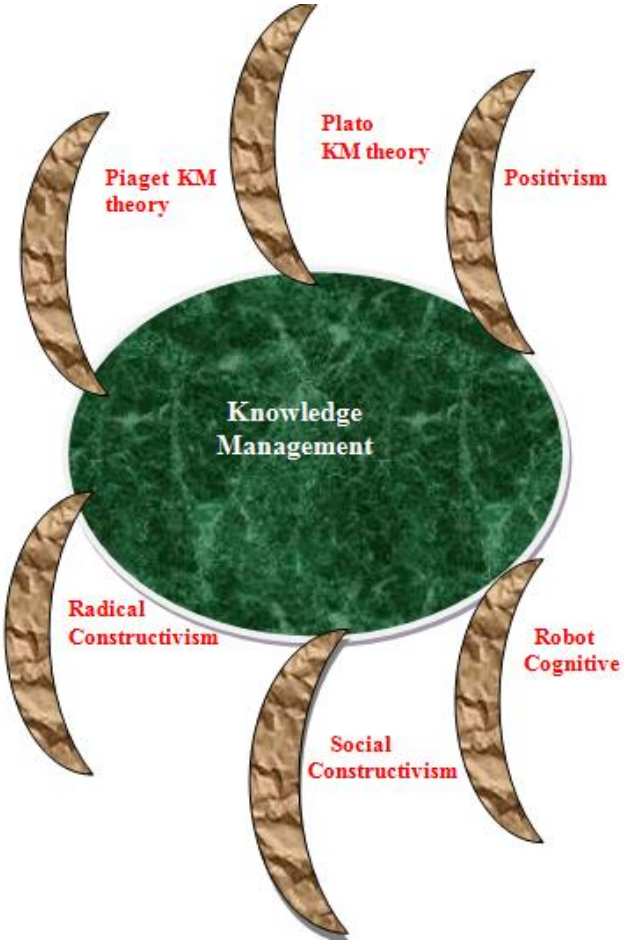

Figure 1: Integrated knowledge management theories

All the theoretical dimension of knowledge management should be incorporated such that we come up with a complete understanding of knowledge management.

9. Conclusion

There are gaps in different knowledge management theories. There is need to understand these knowledge gaps so that we come up with complete knowledge management practices. Knowledge cannot be just left as a justified true belief though in some cases it is. It cannot be only exist in the mind. It is therefore imperative to take a wholistic approach to Knowledge management. We need to understand which dimension we are coming from in terms of knowledge management and also being aware of other dimensions.

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