Developing a Theoretical Model of Knowledge Management processes (KMP): Taxonomies Review

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Abstract

This paper reviewed the definition of Knowledge Management processes (KMP) in academic literature, the main research topic is: there is no comprehensive KMP model that has been explored and applied in details, This has been attained throughout carrying out a deep analysis of accessible studies insist to propose a comprehensive model for KM proceeses which has appeared at all obtainable studies from all available resources. The comprehensive model for KM processes consisting of master classification of the sub-phases of KM processes are (a) verification process: there are five sub phases that have to be in use. Those activities include identification, acquiring, capturing , generation, and creation of knowledge; (b) knowledge allocating: there are five sub-phases which include organizing, codification, sharing, storage and integration of knowledge; (3) knowledge distribution: there are three sub-phases: diffusion, transfer and dissemination of knowledge; (d) knowledge executive: there are three sub-phases of these process which include the implementation, application and utilization of knowledge It was recommended in this paper that Organizations may have different motives in inspiring the use of KM processes to enhance performance of their products

Keywords: Knowledge Management Processes, Knowledge Verification, Knowledge Distribution Knowledge Allocation, Knowledge Execution.

1. Introduction to Knowledge Management (KM)

It has reflected that the coverage of key KM papers has expanded into a broad spectrum of disciplines through building an intellectual structure by examining a total of 10,974 KM publications (Lee and Chen, 2012). Per se, Reddy (2012) determines four disciplines of knowledge management: organizational information processing that had its starting point in computer technology, business intelligence that focuses on information services, organizational cognition which specialize on an organizational innovation, learning and sense making, and finally, organizational development, which concentrates on business strategy and human resource management. In fact, it has approved that the sources of knowledge management thinking had many overlaps. In addition, Zhang, Li, Shi, and Liu (2009) appoint that there is a lack of management and its applications refers to its weak properties, such as the absence of systematic theory and applied research from the perspective of the creation of knowledge from data, these problems led to the interdisciplinary development behind the practical demands of business applications.

KM is a tried and tested management science that has been implemented by numerous organizations across the globe; some of those organizations have more success than others (Plessis, 2005). In addition, Wang and Ariguzo (2004) explain that no knowledge can exist without doing it, the competence of KM depends not only on the abundance of information, but on the effectiveness of the user and aided tools like computer interaction. In essence, KM is a one of the best managerial techniques that must be applied to support the functions of the organizations in accordance with its characteristics of extracting of knowledge from data. This asset may not be used effectively without KM processes which led the researcher to search for more explanations about data, and about its following stages after processing.

1.1 Concept of Knowledge

Knowledge in contexts includes both the experience and understanding of the people in an organization and the data and information artifact, For example, documents and reports obtainable within the organization and in the world. It is highly noticed that the successful knowledge administration in general requires a suitable arrangement of organizational, social, and managerial programs besides the deployment of appropriate technology (Reddy, 2012).

Alhawari, Talet, and Al-Jarrah, (2011) defined knowledge as the interpretation of information which improves understanding of purpose and helps in solving problem evolved by time that includes the new activities to achieve the purpose. Also (Lee, Lee, and Kang, 2005) defined knowledge as a state of mind and the state of knowing and understanding. KM involves enhancing individual's learning and understanding through the provision of information. It is an object to be stored and manipulated. Key KM issue is building and managing

knowledge stocks. Finally, process knowledge is a process of applying expertise. KM focused on knowledge which flows in the creation that shares and distributes knowledge.

Zhang et al (2009) establish foundations of intelligent KM using large data bases. It enables to generate special knowledge called 'intelligent knowledge base' on the hidden patterns created by data mining. It systematically analyzes the process of intelligent knowledge management, a new proposition from original data which includes rough knowledge, intelligent knowledge, and actionable knowledge. That greatly enriches the content of data mining and knowledge management which opens new avenues for exciting interdisciplinary research in the area. Thus, all of the above focus mostly on the knowledge concept. There are a lot of classifications related to that concept according to the progress of use, rough, intelligent, and actionable. According to the progress of cognition, the status of mind, entity and process are included.

Based on the above literature review, the researcher presents the following taxonomy which explains the concept of knowledge. See table 1:

Table 1: Taxonomy of the Concept of Knowledge

Main-Dimension Concept of (Knowledge)		Sub-dimension Definition of Knowledge	References
Scope	Concept		
Library and information centers	Knowledge in context	Both the experience and understanding of people in the organization and the information artifacts; for example, documents and reports obtainable within the organization and in the world outer.	Reddy, (2012)
Business community.	Knowledge	Interpretation of information improves understanding of purpose and is used for solving problems	Alhawari et al ,(2011)
Data mining	Rough knowledge .	The hidden pattern or "knowledge" discovered from the information that has been analyzed by the known data mining algorithms or tools	Zhang et al ,(2009)
	Specific knowledge .	It contains the certain state and rules of an object expressed by humans	
	Empirical knowledge,	It directly comes from human experience gained from empirical testing.	
	Common sense knowledge	If it is well known and does not need to be proved.	
	Instinct knowledge	It is innate as given functions of humans.	
	Situational knowledge	It is context	
Marketing	State of mind	The state of knowing and understanding	Lee et al ,(2005)
	Object	Can be stored and manipulated	
	Process	The process of formation, sharing, and distributing knowledge	

Based on the above taxonomy, the researcher defines knowledge as the understanding of data, information, people, tools, experiences and overall, environment. In a specific field, special organizing and certain time

horizons are in efforts for making decisions or solving problems. What makes it right for entry to utilize from the different characteristics is involved readiness to restore and manipulate.

The Major Types of Knowledge:
The original classification to the definitions of tacit and explicit knowledge allows researchers to compare and better analyze the definitions when dealing with tacit and explicit knowledge (Alhawari et al , 2011).

Tacit Knowledge is defined as personal, non-codified, context-specific and hard to formalize, difficult to articulate and communicate through individuals, teams, organizations and communities (ontological dimension). It is also expensive to transfer and/or to make accessible (Lopes and Nunes, 2005). In essence, Alhawari et al (2011) argue that the tacit knowledge is difficult to define, explain and confirm. It is also troubled to build, formalize and communicate and cannot be easily shared and codified. Tacit knowledge is personal, context specific, and hard to formalize and communicate (Vandaie, 2008). In addition, that it is automatic and needs minimum or no instant or thinking. It helps organizations to decide how they make decisions which influence the collective behavior of their members (Smith, 2001).

On the other hand, explicit knowledge is generalized, codified, objective and transmissible through formal and systematic methods. It can also be held by an individual or collective form; for example, research and development processes, written patents, rules and procedures, graphics, management decisions and among others can be considered as an explicit knowledge. The larger its degree of codification, the greater the velocity and minor the cost in its transference (Lopes and Nunes, 2005). Alhawari et al (2011) defines explicit knowledge as the clarification, explanation and validity to build, formalize and communicate. It is easy to be shared and codified. In another clarification of explicit knowledge, it is defined as transmittable in formal and systematic languages (Vandaie, 2008). Also, explicit knowledge defined as a technical or academic data or information that is described in formal language. Examples of explicit knowledge are instruction manual and numerical expressions patent (Smith, 2001).

It could be concluded from the above definitions that there is a relationship between the definitions of tacit and explicit knowledge (Alhawari et al, 2011). This relationship is harmonized through using both tacit and explicit knowledge to solve problems that will not be solved with each one separately.

Based on the above literature review, the researcher presents the following taxonomy that explains the major types of knowledge. See table 2:

Table 2: Taxonomy of Major Types of Knowledge Characteristics

Main-Dimension Knowledge characteristics		sub-Dimension Discussion of characteristics	References
Scope	Type		
Business community.	Tacit knowledge	Difficult to define, explain and confirm; troubled to build, formalize and communicate; cannot be easily shared and codified	Alhawari et al, (2011)
	Explicit knowledge	Easy to clarify, explain and validate; easy to build, formalizes and communicate and it is easy to be shared and codified	
ERP Projects	Tacit knowledge	Personal, context specific, and hard to formalize and communicate	Vandaie, (2008)
	Explicit knowledge	Transmittable in formal, systematic languages	
Knowledge Economy	Tacit knowledge	Personal, non-codified, context-specific and hard to formalize; difficult to articulate and communicate through individuals, teams, organizations and communities	(Lopes and Nunes, 2005)
	Explicit knowledge	Generalized, codified, objective and transmissible through formal and systematic methods	
Knowledge Work environment	Tacit knowledge	It is automatic and needs minimum or no moment or thinking; it helps organizations to decide how they make decisions and influence the collective behavior of their members	Smith, (2001)
	Explicit knowledge	A technical or academic data or information that is described in a formal language include instruction manual, numerical expressions patent.	

Based on the above taxonomy, tacit knowledge can be described as the personal and context specific knowledge that is hard to define, explain, confirm, formalize, articulate or communicate. It cannot be easily shared and codified through individuals, teams, organizations and communities. It helps organizations to determine how they make decisions which influence the collective behavior of their members. Similarly, explicit knowledge described as the objective knowledge that it is a technical or academic data or information which is to formalize, codify and communicate capability, easy to clarify, explain, validate, to be shared, generalized and to include an instruction manual and numerical expressions patent manuals and mathematical expressions copyright and patents.

Concept of Knowledge Management

Knowledge management is the name given to the set of systematic and disciplined actions that an organization can take to obtain the greatest value from the knowledge available (Reddy, 2012). Also, KM is an emerging field of specialization in a number of professions including information science. The different professions are contributing to and influencing the developments in KM in their own ways (Kebede, 2010). Knowledge management is the name of a concept in which an organization consciously and broadly gathers, organizes, shares, and analyzes its knowledge in expressions of resources, documents, and people's skills. Thus, gathering, organizing and sharing help as the root model for transfer of knowledge and helps an organization to be a 'learning organization' (Subrahmanyam, 2008).

A modified knowledge management definition appears as a system which is a relative concept concerned with Information Technology (IT) ability to process information for knowledge effort. IT, at later phases, is more useful to knowledge work than IT at former phases. The relative concept implies that IT is more directly involved in knowledge work in advanced phases, and that IT is able to maintain the more advanced knowledge work at higher phases (Gottschalk, 2006). Also, it can be thought that KM is a planned design of processes, tools, construction with the intention to raise, renew, share or develop the use of knowledge represented in any of three elements. These are structural, human, and social (Halawi et al, 2005).

Finally,Skyrme (2002) defined (KM) as the explicit and systematic management of vital knowledge and its associated processes of creating, gathering, organizing, diffusing, using and utilizing in tracking down of organizational objectives.

Related to the reviewed literature, KM can be defined as an emerging field with the planned design of processes, tools and structures that contain a set of systematic and disciplined actions forming a root model for knowledge organization, which consciously and broadly gathers, organizes, shares, and analyzes its knowledge. All of this is in intention to raise, renew, share or improve the use of knowledge represented in any of the three elements of the organization: structural, human, and social aspects. Also, it can be clarified as a complementary management that leads the organization to utilize from verification, acquisition, distribution and application of information, tools and the overall, environment which is found in specific fields, special organizing and certain time horizons. Based on the above literature review, the researcher presents the following taxonomy that explains the evolution of knowledge management concept. See table 3.

Perspectives of Knowledge Management:

The competitive advantage arises from the organization's capabilities in internalizing and integrating the adopted processes with the existing knowledge paradigms. It is harmonizing the new system and the organizational culture towards getting the most out of the implementation effort. The more capable an organization is in handling these issues, the more likely the implementation will result in a competitive advantage for an organization (Vandaie, 2008). Hence, building a knowledge-centric organization has several key elements as critical success factors. The basic building blocks are creating awareness of knowledge management, performing knowledge management benchmarks to see what other similar organizations have done, developing knowledge taxonomy, which serves as a vocabulary and structure in which to construct the knowledge management system, and last, developing a knowledge management strategy for problem solving (Liebowitz and Megbolugbe, 2003). Individual factors, external inspiring organizational factors and task complexity are the significant factors, which influence the perceived usefulness of knowledge management systems. In turn, it significantly influences the intention to adopt knowledge management systems and the diffusion process (Xu and Quaddus, 2012). Mostly, KM is a purposeful and systematic management of knowledge and the associated processes and tools with the aim of realizing fully the potential of knowledge in making effective decisions, solving problems, facilitating innovations and creativity and achieving a competitive advantage at all levels, i.e. personal, group, organization and country (Kebede, 2010).

Table 3: Taxonomy of Knowledge Management Concept

Main-dimension (Knowledge management) concept	Sub-dimension (Explanation of knowledge management concept)	References
Library and information centers	A Set of systematic and disciplined actions: effective knowledge management typically requires an appropriate combination of organizational, social, and managerial initiatives which in many cases include deployment of appropriate technology.	Reddy, (2012)
Information Science	Emerging field of specialization in a number of professions, including information science.	Kebede, (2010)
Learning organization	Root model for transfer of knowledge organization consciously and broadly to gather, organize, share, and analyze its knowledge in terms of resources, credentials, and people's skills.	Subrahmanyam, (2008)
Information technology	System and learning organization driver is a relative concept concerned with Information Technology (IT) and the ability to process information for knowledge work. IT is more directly involved in knowledge work at higher stages, and that IT is able to support more advanced knowledge work at higher stages.	Gottschalk, (2006)
Organizational Perspective	A planned design of processes, tools and structures. The intention to increase, renew, share or pick up the use of knowledge represented in any of the three elements: structural, human, and social.	Halawi et al, (2005)
Small and medium enterprises	Associated processes of creating, gathering, organizing, diffusion, using and exploiting in pursuit of organizational objectives.	Skyrme,(2002)

Major KM Process Models

There is a lot of studies in the literature review determine different KM Processes stages in different areas of science, in this research the studies have been reviewed as follows:

The impact of the use of knowledge management processes in its various dimensions are knowledge creation, knowledge acquisition, organization of knowledge, knowledge sharing, and knowledge implementation, As for information technology, it includes hardware, software, security and usability which tested and emphasized to improve performance, employee satisfaction, and improve the level of knowledge employment (Allahawiah et al , 2013). Furthermore, Fattahiyan, Hoveida, Siadat, and Tallebi (2012) say another classification and impact of knowledge processes: organizational structure, knowledge acquisition, knowledge application and knowledge protection and that the processes were signified to organizational performance. However, technology, organizational culture and knowledge conversion did not have a significant impact.

 Lai and Lin (2012) establish the nature and content of KM mechanisms, defining them as the following three dynamic processes: knowledge creation and acquisition, knowledge diffusion and integration and knowledge storage. These three dynamic processes are used to explore KM mechanisms in the machine tools industry.

Hence, Derrick , Cynthia and Lengnick (2011) develop the processes hierarchically by first making a clear distinction between knowledge management activities that cluster to form processes for managing what is known and knowledge management activities that cluster to form processes for managing how knowing takes place.a Further distinction is made between processes for managing information and processes. What is more, Ooi (2009) mentions that KM activities are knowledge acquisition, knowledge dissemination and responsiveness to knowledge, In addition, Lee et al (2005), point out that the processes of KM are knowledge creation, knowledge accumulation, knowledge sharing, knowledge utilization, and knowledge internalization. Subrahmanyam (2008) illustrates the KM processes are an integration research model with TQM as knowledge identification, knowledge acquisition, knowledge transfer, knowledge integration, knowledge implementation, archival/retain,

and transfer/dissemination, and assures that loss of critical knowledge has been recognized as one of the central problems in any organization.

KM capabilities, related to Nevo and Chan, 2007, is the creation which incorporates an incentive mechanism, storage or retrieval that includes content management functionality, central knowledge repository enables easy and fast access to knowledge, sophisticated search and retrieval mechanisms, transfer through multimedia report generation and presentation functionality, enables collaboration and knowledge sharing, application through customizable interface incorporates a push strategy for the knowledge. Management provides usage metrics and tracking which includes a mechanism to assure the quality and integrity of the knowledge. Liebowitz and Megbolugbe (2003) outline that the knowledge management cycle includes the following steps: knowledge identification and capture, knowledge sharing, knowledge application, and knowledge creation. Once the critical knowledge is identified and captured, it is typically shared with others. Those individuals, then, apply this knowledge and internalize it to their situation, which in turn creates new knowledge. This new knowledge is then captured, shared, and applied. Then, the cycle continues. Marshall, Yiwen Zhang, Shen, Fox, and Casse (2003) classify KM approaches as a 4 phases of approach: knowledge generation, knowledge representation, knowledge codification, and knowledge application.

Based on the above literature review, the researcher presents the following taxonomy that explains different knowledge management processes. See table 4:

Table 4: Taxonomy of Knowledge Management Processes

Main Dimension/ KM Process	Sub Dimension/ parts of KM Process						Reference
	1	2	3	4	5	6	
knowledge management functions	Knowledge creation	knowledge Acquiring	Knowledge Organizing	Knowledge sharing	Knowledge implementation		(Allahawiah, et al., 2013)
Knowledge process capabilities	Knowledge acquisition	Knowledge conversion	Knowledge application	Knowledge protection			(Fattahiyan, et al., 2012)
Machine Tools Industry	Knowledge creation and acquisition .	Knowledge diffusion and integration	Knowledge storage				(Lai and Lin, 2012)
KM Processes for What is known	Information storage	Information Use	Know-How Organizing	Know-how Application			(Derrick ,et al, 2011)
KM Processes for How knowing takes place	Information Gathering	Information Transfer	Know-how Assimilation	Know-How Learning			
Food sector	Knowledge creation/acquisition	Knowledge storage and retrieval	Knowledge transfer and sharing	Knowledge application			Massa and Testa, (2009)
Integration TQM and KM	Knowledge Acquisition	knowledge application	knowledge dissemination				Ooi.(2009)
Integration TQM and KM	Identification /	Knowledge Acquisition	Integration	knowledge application	Archival	knowledge dissemination	Subrahmanyam,(2008)
knowledge management capabilities	Creation	Storage/ retrieval	Transfer	Application	Management		Nevo and Chan, 2007
KOSDAQ market	knowledge creation	Knowledge accumulation	knowledge sharing	Knowledge Utilization	knowledge internalization		(Lee, et al., 2005)
knowledge management cycle	knowledge identification	knowledge sharing	knowledge application	knowledge creation			Liebowitz and Megbolugbe, 2003
KM approach	Generation	Representation	Codification	Application.			Marshall, et al, (2003)

It is concluded from the reviewing of some of KM processes in the above literature that there is no union classification for those processes in different disciplines. Each field approximately considers the same processes. Moreover, there is a lack in introducing KM processes in similar sequence from the level of data and information verification to the stage of the executive of the processed knowledge. Therefore, the researcher seeks for more

understanding of KM processes through the best classification of processes with efforts to organize sequenced steps for each process.

2. Research Model
Introduction:
The discussion in the previous sections highlighted the areas derived for the main research topic: there is no comprehensive KM process model that has been explored and applied in details: This has been attained throughout carrying out a deep analysis of accessible studies. The researcher suggests in the next sections an original taxonomy for the KM processes, in attempts to use the result to further investigation in the area under study.

The aim of this research is to build up a model that sheds light on KM flow, The starting point was focused on a well-nigh comprehensive classification of KM processes and different synonyms for every process, which proposed from the researcher as following: knowledge verification, allocating, distribution, and execution, based on the taxonomy that is derived from the literature review in table 4 The planned taxonomy contributes in the direction of an enhanced thoughtful of the KM flow.

Proposed Knowledge Management model
The activities of economic organizations dealt with different points of view about KM processes. One focused on the fact is that the existing knowledge is in the human resource. Another viewpoint dealt with them as economic entity processes that can be found and accumulated. Thereby, management should focus on guiding the organization towards knowledge management which devotes institutionalization of knowledge. It must also focus on implementation to ensure that the effectiveness of cognitive knowledge management processes in all units of the organization is complementary. In the light of this, it is found that various researchers differed on the number of knowledge processes and their orders. Thus, the researcher has proposed and developed a theoretical and consistent model of KM processes. Based on a detailed analysis of various models presented in KM processes literature in the previous section, the main emphasize was focused on a well-nigh comprehensive classification of KM processes. Literature in this section has different synonyms for every process that was found. That includes knowledge verification, allocating, distribution and execution, which have been chosen for the current research model as follows:

2.1 Stages of Knowledge Verification Processes
The first stage of KM processes begins with the verification process; it is a Set of activities that are necessitating a comparison of two or more items, or the use of extra tests to ensure the precision, exactness, or reality of the information. See figure 1. To achieve a verification process, there are five sub-phases that have to be in use in clarification as shown in table 5. Those activities include identification, acquiring, capturing, generation, and creation. See figure 1. The researcher derives a more robust KM processes that describes a more valid process of knowledge based on the taxonomy of KM processes as in table 4

Table 5 Taxonomy of Knowledge Verification (KV) Process

Main dimension\ KV process	Sub dimension\ Parts of KV processes	References
Knowledge verification	Knowledge identification	Subrahmanyam (2008), Deng and Yu (2006) Liebowitz and Megbolugbe, 2003
	Knowledge acquiring	Allahawiah et al (2013) Marshall et al (2003) Fattahiyan et al (2012) Lai and Lin (2012), Massa and Testa, (2009 Ooi (2009) Subrahmanyam (2008)
	Knowledge capturing	Deng and Yu (2006) Derrick et al (2011)
	Knowledge generation	Marshall et al (2003) Lee et al (2005)
	Knowledge creation	Allahawiah et al (2013) Lai and Lin (2012) Massa and Testa, (2009) Nevo and Chan (2007) Lee et al (2005) Marshall et al (2003) Liebowitz and Megbolugbe, 2003

Litretur review Likewise, Nevo and Chan (2007) enrich the knowledge literature by some methods in the verification process; incorporate an incentive mechanism that can be employed to encourage contributions to the knowledge creation capabilities. In addition, Massa and Testa (2009) includes other methods, such as experimenting, trial-and-error, excusing employees for a certain amount of time to let them work out their ideas, hiring know-how, valuing employees' attitudes and opinions and encouraging employees to up-grade their skills. Also, the use of design tools, such as the Computer-Aided Design (CAD) and the Computer-Aided Software Engineering (CASE) environments will support the acquiring and development of knowledge (Cooper, 2003). Furthermore, knowledge verification process includes the elicitation, collection, analysis, modeling and

validation of knowledge for knowledge engineering and knowledge management projects (Subrahmanyam, 2008).

The researcher suggests five sub-phases for knowledge verification process. Those can be as:

1. Knowledge identification is the degree of ability to streamline a recognition which serves to distinguish between what is not knowledge and what is valid knowledge at the core of organizations in its two types tacit and explicit, both coded or not. Previous studies of Subrahmanyam (2008); Deng and Yu (2006); Liebowitz and Megbolugbe(2003)appointed to that process, particularly Subrahmanyam, (2008) consider identification or harvesting of knowledge is the birth through an interview-based approach for extracting tacit and implicit knowledge from experts.

2. Knowledge acquiring is obtaining knowledge from resources which are external to an organization and can be hired or purchased. Previous studies of Allahawiah et al (2013); Marshall et al (2003) talk about knowledge acquiring in which Allahawiah et al (2013) assert that the impact of information technology existence include hardware, software, security, and usability on knowledge acquiring as a dimension of knowledge management processes is high. Also, acquiring can be defined as a convincing value of creation strategy (Chua and Goh, 2009) or the process of generating knowledge internally or gaining it from external sources (Massa and Testa, 2009). Fattahiyan et al (2012) Lai and Lin (2012), Ooi (2009) Subrahmanyam (2008) all ensure that.

3. Knowledge capturing is captivation of new knowledge through using a selection of tools to extract facets of an individual's practical knowledge, such that vision, experiences, social networks and lessons learned can be shared to moderate organizational knowledge loss. Previous studies of Deng and Yu (2006), Derrick et al (2011) point out that process, Deng and Yu (2006) determine its position in KM processes approach as the successor of identifying process and predecessor of storing process.

4. Knowledge generation is procreation or innovation process includes the change of current state by participation of teamwork, supporting work-grouped or by using models such as the socialization, externalization, combination, internalization (SECI) Nonaka model. Indeed, generation process is the key to growth (Martin and Schulze, 2005). It has an impact on the activities which lead to more learning and more improvement in any process (Tarı and Castejon, 2007). Moreover, it is conscious and intentional which includes acquisition, fusion and knowledge networking (Davenport and Prusak, 2006).

5. Knowledge creation is the ability to embody the knowledge in the product that the organization supply, quality management practices create knowledge. This leads to organizational performance, taking a knowledge-based view of the firm provides a deeper understanding of why some organizations are more successful at deploying quality management practices than others (Linderman,et al, 2004).

Based on the above mentioned definition of Knowledge verification, the researcher suggest the following sub stages :
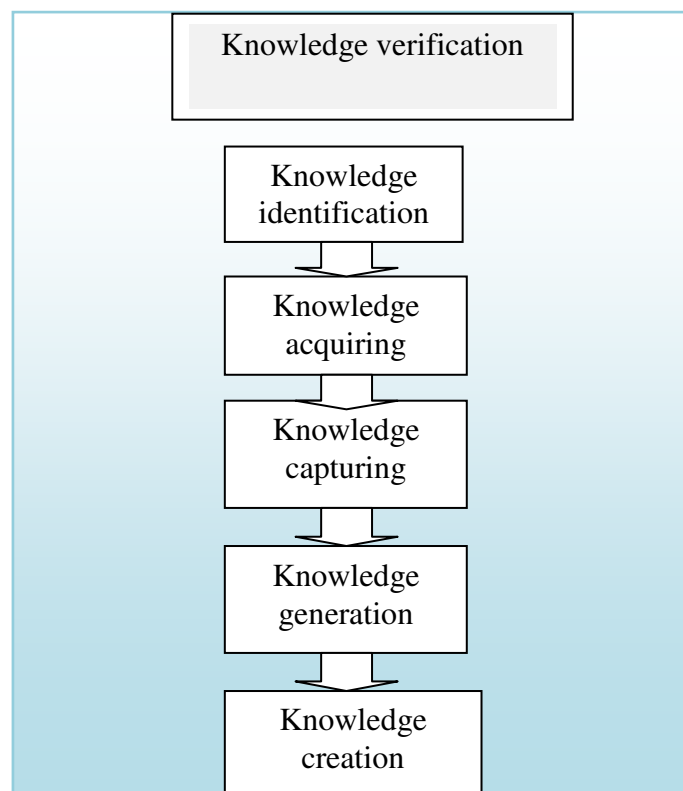

Fig 1 Knowledge Management Verification Process.

2.2 Stages of Knowledge Allocation Processes:

The second stage of KM processes is knowledge allocation which is a set of actions that is required in order to achieve efficient assignment of this knowledge through the use of artificial intelligence in IT systems, internet, extranet, internal benchmarking. To achieve process of knowledge allocating, there are five sub-phases: organizing, codification, sharing, storage and integration of knowledge. See table 6.

The researcher derives a more robust KM process that describes a more valid process of knowledge based on the taxonomy of KM processes as in table 6.

Table 6: Taxonomy of Knowledge Allocation(KA)

Main dimension\ KA main process	Sub dimension\ Parts of KAprocesses	References
Knowledge Allocating	Knowledge organizing	Allahawiah et al (2013) Derrick et al (2011)
	Knowledge codification	Fattahiyan et al (2012) Marshall et al (2003)
	Knowledge sharing	Allahawiah et al (2013) Massa & Testa, (2009) Lee et al (2005) Marshall et al (2003) Liebowitz and Megbolugbe, 2003
	Knowledge storage	Lai and Lin (2012) Derrick et al (2011) Massa & Testa, (2009) Deng and Yu (2006)
	Knowledge integration	Lai and Lin (2012) Subrahmanyam (2008) Marshall et al (2003)

Brifely,Yanga and Wan (2004) submit techniques for allocation the knowledge and experience as Any kind of training sessions, such as case study, workshops, brainstorming sessions, seminars, role plays, video presentations and organized training sessions; reading some written materials, logbooks, newsletters, conversation and dialogues, 'skills competitions', electronic devices, such as intranet and e-mails. Other traditional mechanisms submitted such as hard copy are not suitable for knowledge sharing, storing, and sorting in knowledge-based firms (Lin, Wua, and Yen, 2012). The allocation activities mainly focused on the operational knowledge, specifically customer-related knowledge, rather than strategic knowledge. Aspects of operational knowledge are customer-related knowledge, product knowledge, guests' complaints, problem solving, and situation dealing (Yanga and Wan, 2004).

The researcher suggests five sub-phases for knowledge allocating process. These are as follows:

1. Knowledge organizing is series of activities that include the classification of concepts, such as building custom hierarchies, associating attributes (properties), indexing and classification performed in libraries, databases, archives, and mapping. These activities are done by librarians, archivists, subject specialists as well as by computer algorithms. Allahawiah et al (2013) define this process as the ability of the organization to reach every point in the work, every administrative level through use, share and exchanging ideas and experiences, skills, technology and training programs through formal and informal communication systems to get a flexible distribution point. So that sorting at this level is a positive sign because coping with knowledge is a basic characteristic of successful organizations.

2. Knowledge codification is the process of restructuring knowledge in a patterned way as transforming tacit knowledge into explicit knowledge, and finds a suitable equation for this process,but the importance in this definition contradicts with previous studies of Fattahiyan, et al in that codification is not directly related to organizational performance

3. Knowledge sharing is the participation of explicit knowledge through articulation, awareness, access, guidance and completeness of knowledge, and tacit knowledge which occur through different types of socialization. This includes informal networks which are the provision of space where people can engage in unstructured or unmonitored discussions. Previous studies of Allahawiah et al (2013); Massa and Testa, (2009); Lee et al (2005) Marshall et al (2003); Liebowitz and Megbolugbe (2003) appoint to this process and the importance of theirs studies in KM.

4. Knowledge storage is extracts data occupied by numerous knowledge processes and organizes it in a way that endows with meaningful knowledge to the business, which can be an entrance for future reference through different techniques, such as data warehouses, knowledge warehouses, data marts, data repository, content and document management systems. Consequently, the retrieval processes of knowledge structuring and storing will make it more formalized and accessible (Massa and Testa, 2009). Lai and Lin (2012) Derrick et al (2011) Deng and Yu (2006).

5. Knowledge Integration is the mission of determining how new and prior knowledge assists while incorporating new information into a knowledge base by synthesizing multiple knowledge models into a common model. This task is invasive because significant knowledge bases must be developed incrementally. Kinds of knowledge are added separately to a growing body of knowledge. This duty is complex because new and prior knowledge may interrelate in very understating and surprising ways, in a sense that and unexpected relations may require changes to the knowledge base.

Based on the above mentioned definitions of Knowledge Allocation, the researcher suggest the following five sub stages :
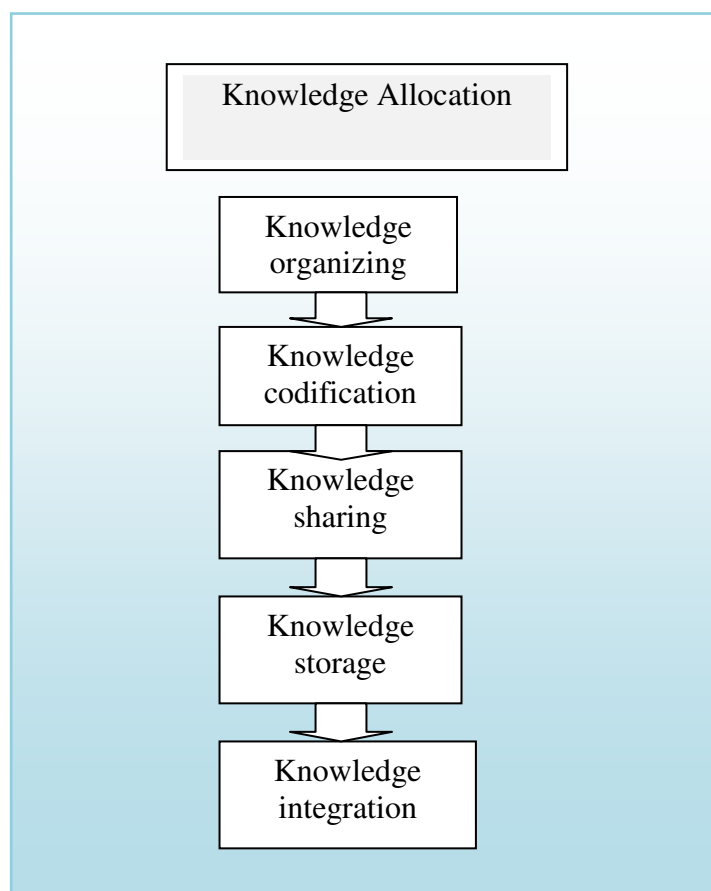

Fig. 2. Knowledge Management Allocation Process

2.3 Stages of Knowledge Distribution Processes:

The third stage of KM processes is knowledge distribution. It is the process of putting the role of bridges enacted by people, who become frontier knowledge workers and facilitate the exchange of knowledge between the sites, which make knowledge available for use or consumption by the internal and external customer or business user. This can be done through using direct means, or using indirect means with intermediaries. To achieve the process of knowledge distribution, there are three sub-phases: knowledge diffusion, knowledge transfer and knowledge dissemination. See table 7. The researcher derives a more robust KM process that describes a more valid process of knowledge based on the taxonomy of KM processes as in table 4.

Table 7 Taxonomy of Knowledge Distribution Process(KD)

Main dimension\ KD main process	Sub dimension\ Parts of KD processes	References
Knowledge distribution	Knowledge diffusion	Lai and Lin (2012)
	Knowledge transfer	Derrick et al (2011) Massa & Testa, (2009) Nevo and Chan (2007)
	Knowledge dissemination	Ooi (2009) Subrahmanyam (2008)

It is conceded by Massa and Test (2009) that the distribution process is a KM process which refers to transferring, disseminating and distributing knowledge in order to make it available to those who need it. Nevo and Chan (2007) enrich the knowledge literature by giving some examples about the distribution process. It is an incorporate an incentive mechanism that can be employed to encourage contributions to the knowledge distribution capabilities. Multimedia which includes report generation and presentation functionality enables collaboration and knowledge sharing.

Likewise, Massa and Testa (2009) includes other methods readily disseminating market information inside the organization, disseminating knowledge on-the-job, using technology, such as teleconferencing, videoconferencing and groupware to facilitate communication, facilitating a consultation culture, facilitating private chats (informal events) organizing after work get-togethers, creating work groups, intranet and other information technology, product and sales meetings, job rotation, electronic networks, using specific techniques such as quality circles, mentoring and coaching and written case notes. Indeed, knowledge distributing exists along different lines of interaction among organizational members, teams, and external consultants which echo the need for improved knowledge sharing along different organizational dimensions and in different levels of engagement (Vandaie, 2008).

Quaddusa and Xub (2005) identify four major variables affecting KM distribution as organizational culture, top management support, benefits to individuals, and dream of KM, which have been categorized as 11 primary factors. These are external inspiring factor, task complexity factor, individual factor, organizational factor, management support factor, KMS characteristics, perceived usefulness, perceived user-friendly, perceived voluntariness, subject norm, and diffusion of KM system. The factor of diffusion of KM system has six more sub-factors. Those are initiation, adoption, pilot implementation, organic growth, organizational implementation, and sustained use. The challenge of tacit knowledge distributing is partly due to the fact that the process knowledge is by and large routinized, so that employees may be subconscious about the separate steps which are going through the process and have difficulty expressing it explicitly (Vandaie, 2008). Subrahmanyam (2008) infers that knowledge distribution can be broken down into distinct stages, idea creation, sharing, evaluation, dissemination, and adoption. These stages often overlap, are combined, or are skipped; they also have important feedbacks. For each stage, it has examined how training, incentives, structures and technology. The researcher suggests three sub-phases of knowledge distribution process as the following:

1. Knowledge diffusion is an uncontrolled dissemination process of establishing a fundamental social network structure and a particular design of interaction policy driving knowledge transmission. This process takes place when a manager sends his knowledge to which he is directly connected. Resulting in social learning, the inspection how knowledge spreads in a network in which knowledge worker interact is by sound of mouth . previous study of Lai and Lin (2012)appoint to such process.
2. Knowledge transferring is the process which every unit, group, department, or division is affected by successful communication of useful information within a particular context from the experience of another. previous studies of Derrick et al (2011); Massa and Testa, (2009); Nevo and Chan (2007) appoint to such process.
3. Knowledge dissemination is an effective process to communicate knowledge to potential users by aiming, tailoring and packaging the knowledge for a particular target by different tools which include knowledge, brokers and networks. previous studies of Ooi (2009); Subrahmanyam (2008) appoint to such process.

Based on the above mentioned definitions of Knowledge distribution, the researcher suggest the following three sub stages :
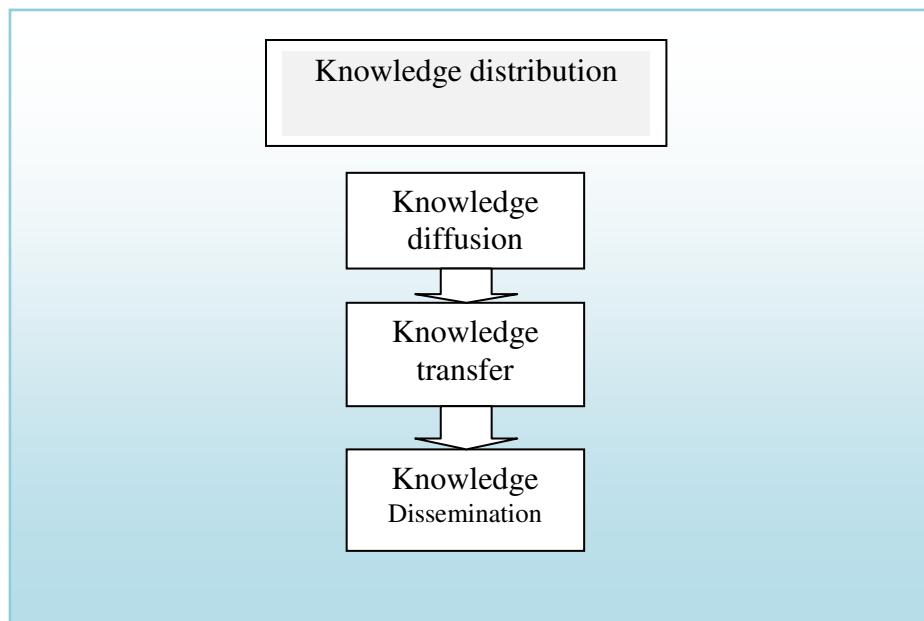
Fig. 3 **Knowledge Management Distribution Process**.

2.4 Stages of Knowledge Execution Processes (KE)
The fourth stage of KM processes is knowledge execution which has the ability to put knowledge or actions into effect by a knowledge worker or group of knowledge workers whom appointed and given the responsibility to manage the affairs of an organization and the authority to make decisions within specified boundaries. To achieve the process of knowledge executive, there are three sub-phases of this process: the implementation, application and utilization of knowledge. See table 8.

The researcher derives more robust KM processes that describe a more valid process of knowledge based on the taxonomy of KM processes in table 4 of literature review:

Table 9Taxonomy of Knowledge Execution Process (KE)

Main dimension\ KE main process	Sub dimension\ Parts of KE processes	References
Knowledge execution	Knowledge implementation	Allahawiah et al (2013) Lai and Lin (2012)
	Knowledge application	Fattahiyan et al (2012) Derrick et al (2011) Ooi (2009) Subrahmanyam (2008) Nevo and Chan (2007) Liebowitz and Megbolugbe, 2003
	Knowledge utilization	Lee et al (2005)

Massa and Testa (2009) assures that the benefit of this process of incorporating knowledge into an organization's products, services and practices is to derive value from it. In addition, Nevo and Chan (2007) enrich the knowledge literature by some methods in the executive process. Those include incorporates a push strategy for the knowledge management which provide usage metrics and tracking mechanism to assure the quality and integrity of the knowledge. Also, Massa and Testa, (2009) appoint to other methods, such as responding to knowledge about customers, responding to technology about competitors, responding to knowledge about the technology customizable interface.

The researcher suggests three sub-phases of knowledge executive process as follows:

1. Knowledge implementation is achieving and fulfilling knowledge as it is, carrying out and practicing the standards of attained knowledge that must follow any preliminary thinking in order, for something to deploy. Allahawiah et al (2013) appoint and explain that standards support the implementation of knowledge management by the top management which helps the use of modern information systems to facilitate administrative procedures, increases efficiency of their employees, improves output, and saves time and money.

2. Knowledge application is the capacity of being usable by benefiting from implemented knowledge through mixing it with other components in the organization Fattahiyan et al (2012); Derrick et al ; (2011); Ooi (2009); Subrahmanyam (2008); Nevo and Chan (2007); Liebowitz and Megbolugbe (2003) confirm this. Fattahiyan et al (2012), from their part, find that the application process was significantly benefiting the organizational performance. It knows how the application can contribute to a high performance in units with value creating practices. Accumulated information, talent and intuitive know-how have a low proportion of tacitness and are difficult to learn (Derrick et al, 2011).

3. Knowledge utilization: it achieves a profitable carry out by which knowledge performance is measured and business success determined. It is the measure of the actual revenue earned by applying knowledge against the potential revenue the organization could have earned. Lee et al (2005) ensures that only knowledge, which has been previously, represented, communicated and generated can be utilized from in practice, either at an organizational level through concrete products or services or on an individual level when applying acquired knowledge.

Based on the above-mentioned definitions of Knowledge Execution, the researcher suggest the following three sub stages:
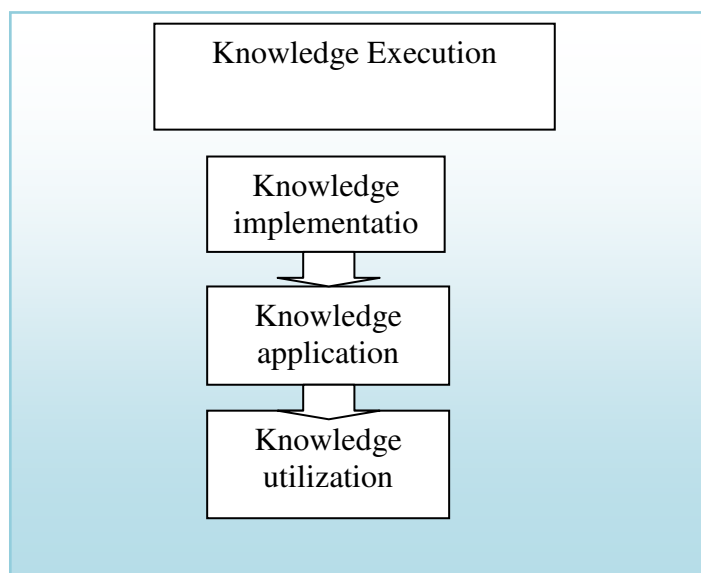

Fig.4   Knowledge Management Execution Process

3. Conclusion: Knowledge Management Processes Model:

Based on the research problem in , there is no comprehensive KM process model that has been explored and applied in details .There has been an insist to propose a comprehensive model for KM proceeses which has appeared at all obtainable studies from all available resources. The comprehensive model for KM processes consisting of master classification of the sub-phases of KM processes are (a) verification process: there are five sub phases that have to be in use. Those activities include identification, acquiring, capturing , generation, and creation of knowledge; (b) knowledge allocating: there are five sub-phases which include organizing, codification, sharing, storage and integration of knowledge; (3) knowledge distribution: there are three sub-phases: diffusion, transfer and dissemination of knowledge; (d) knowledge executive: there are three sub-phases of these process which include the implementation, application and utilization of knowledge See figure 5.
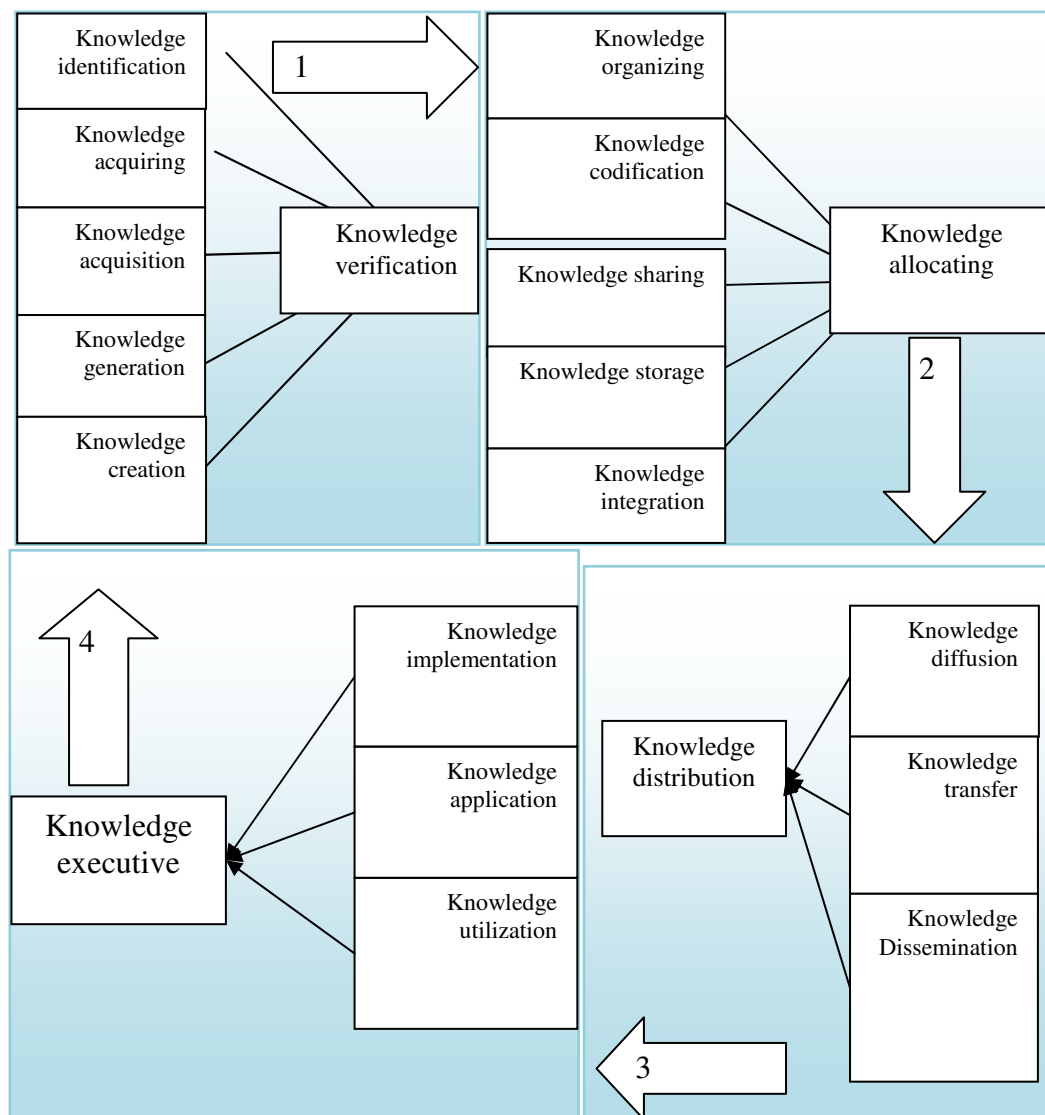
Fig 5. Knowledge Management Processes and Sub Phases

This finding was not addressed in any previous literature. The model presents an excellent starting point for researchers and policy makers to gain a quick and comprehensive understanding of Knowledge Management Processes.

4. Recommendations for Future Research

Organizations may have different motives in inspiring the use of KM processes to enhance performance of their products. Whatever the case, when doing so, they must consider that the expected results will not be the same in all environments. Obtaining a detailed model for KMP processes is critical to perform when the organization operates in a knowledgeable management environment. Future studies can build up on this study and proceed to focus on practical study with a large group and large sample to have more generalized results, and use interviews and observations, which will provide a clearer and more comprehensive picture of KMP.

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