Review of Knowledge Management Audit

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In organisations, both profit and non-profit organisations, the knowledge and skills that constitute organisational excellence are only attached to one or several individuals. By using knowledge management, the organisation consciously identifies the knowledge it possesses and utilises it. Knowledge management audit is the activity of systematically examining the quality of knowledge management in an organisation. There are three knowledge management audit frameworks: knowledge quality audit, learning quality audit, and knowledge management process quality audit. Using an audit of the quality of knowledge, it is hoped that an overview will be obtained of the various groups of knowledge needed and their levels. While using a learning quality audit, the organisation will get a picture of the readiness of the organisation in providing learning facilities for its members and the readiness of the organisation in utilising the learning outcomes of its members. The benefit of auditing the quality of the knowledge management process is to get a picture of the effectiveness of the knowledge management processes within the organisation.

Key words: *Knowledge management audit, knowledge quality audit, learning quality audit, and knowledge management process quality audit.*

Introduction

Every organisation needs to develop its competitiveness or ability in order to survive, overcome competition, and maintain its survival well. The resources needed to achieve this are not solely from tangible resources such as natural resources, labour, and funds, but also from intangible resources, namely knowledge.

In organisations, both profit and non-profit organisations, the knowledge and skills that constitute organisational excellence are only attached to one or several individuals. So that

when the individual leaves the organisation, the knowledge which is superior and the skills of the organisation will be "lost". For this reason, knowledge management is needed.

To make the most of the knowledge it has and to find out what knowledge it still has to have, the organisation must manage its knowledge through knowledge management. By using knowledge management, organisations consciously identify the knowledge they have and use it to improve performance and produce various innovations.

The benefits of knowledge management for organisations are (Nawawi, 2010):

1. Improve the quality of decision making,
2. Improve customer handling quality,
3. Speed up responses to important business issues,
4. Improve employee skills,
5. Increase productivity
6. Increase profits
7. Improve various best practices
8. Reduce costs
9. Increase company collaboration
10. A better way of working
11. Increase market share
12. Create new business opportunities
13. Perfect new product development
14. Better employee retention system
15. Improve product and service quality

Knowledge Management Audit

Knowledge management audit is the activity of systematically examining the quality of knowledge management in an organisation. Through knowledge management audits, an overview of:
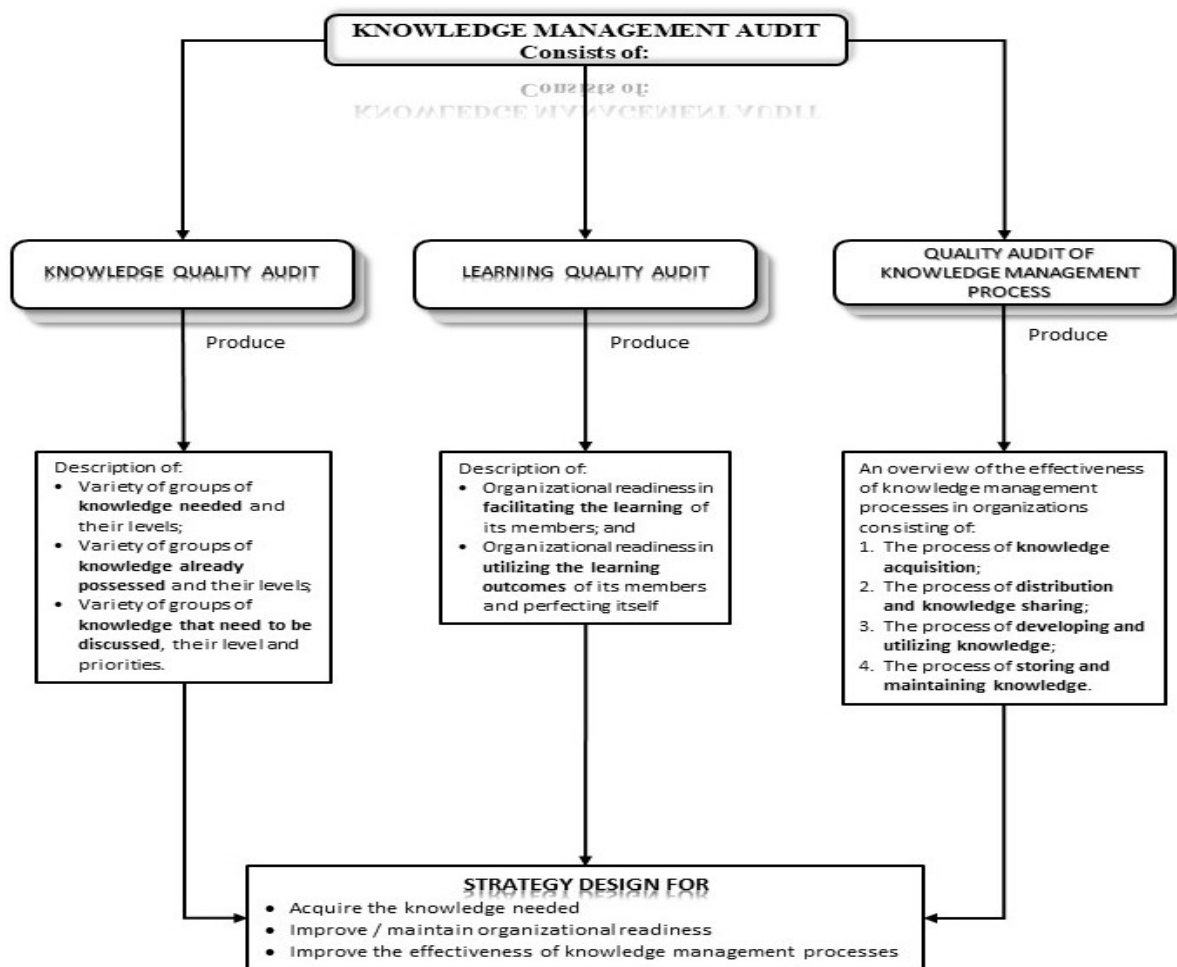
1. Knowledge possessed and needed by the organisation / work unit;
2. Organisational readiness facilitates learning; and
3. The quality of knowledge management processes.

The term audit, has nothing to do with financial audits, the word audit is used flexibly by still utilizsng audit principles such as examination, evaluation, systematic or structured, and objective (Munir, 2008).

The results of the knowledge management audit will be used as material for designing a strategy that is supported to design knowledge, increase or maintain the readiness of the organisation to facilitate learning and increase the effectiveness of the knowledge management process in the organisation. (Nawawi, 2010).

The three knowledge management audit frameworks are shown in Figure 1. The following:

Figure 1. Three knowledge management audit frameworks

Source: Nawawi (2010).

In conducting a management audit, there are three components of audit work, namely: the audit of knowledge quality, the audit of learning quality in the organisation, and the audit of the quality of the knowledge management process. By using the first component, an audit of the quality of knowledge obtained an overview of the range of knowledge groups needed and their levels, the variety of knowledge groups they have and their levels, and the range of knowledge that still needs to be acquired, its level, and priorities.

The second management audit component, which is an audit of the quality of learning in organisations, can be obtained by an overview of the readiness of the organisation in providing learning facilities for its members and the readiness of the organisation in utilising the learning outcomes of its members to change and perfect the organisation, while the third audit component, namely the audit of the quality of the knowledge management process can be obtained by an overview of the effectiveness of the processes of knowledge management in the organisation consisting of: the process of knowledge acquisition, the process of distribution and sharing of knowledge, the process of developing and utilising knowledge, and the process of storing and maintaining knowledge.

Knowledge Quality Audit
a.   Quality of Knowledge

The knowledge quality audit aims to obtain an overview of the variety of knowledge that an organisation has, its quality, or its relative level compared to other organisations, as well as the range of knowledge groups that the organisation still has to have, its quality, level, and priorities. Tools that can be used by organisations to photograph knowledge possessed and needed can use the knowledge map developed by Zack (1999) as in Figure 2 below.

Figure 2. Zack Knowledge Map

Source: Zack (1999).

By using Zack's knowledge map, organisations can obtain an internal picture of **the Audit Objectives** of the knowledge they have today compared to the knowledge needed, as well as the knowledge the organisation has today compared to the knowledge possessed by competitors.

If the organisation only has core knowledge, while competitors have advanced knowledge, then the organisation is in **a lost, backward, or straggler position**. The situation will get

worse if the competitor turns out to have developed knowledge so as to have innovative knowledge. Conversely, if competitors only have core knowledge, while organisations have developed their knowledge into advanced knowledge, the organisation **will become a market leader**. If it turns out that the organisation has developed advanced knowledge into innovative knowledge, then the organisation will be in **the position of an innovator.**

In addition to obtaining an overview of the knowledge groups owned by the organisation, an audit can also show the level of knowledge possessed. If an organisation already has core knowledge, even though what is needed is advanced knowledge, there will be a knowledge gap.

b. *Identification and Determination of Knowledge Objectives*

1). Organisational Level

Every organisation, both as a profit-oriented company and a non-profit organisation must have a goal to be achieved. The bias targets are short-term goals that are only a year old, medium-term goals, and long-term goals that can reach ten years. To achieve this goal, the organisation designs a strategy known as a business strategy. Requirements for the strategies made by the organisation to work properly require knowledge and resources. If knowledge and resources owned are not in accordance with what is needed, there will be a gap.

If we look at the knowledge relations model developed by Zack (1999), then the knowledge and other resources owned by the organisation / company at present are the strengths they have. While knowledge and also other resources that are supposed to be owned but apparently not yet possessed will be a weakness for the organisation / company.

To make it easier to conduct an operational audit of quality knowledge, it is necessary to develop an audit framework. The knowledge quality audit framework starts with identifying the goals and business strategies of the organisation / company. It also needs to identify the key to success in the relevant industry sector and examine the weaknesses and strengths of the company. Identification of marketing, business strategies and keys to success in the industry will be able to answer the knowledge needed by the organisation, while identification of weaknesses and strengths will be able to answer the knowledge that is already owned by the organisation. Comparison between the knowledge needed and the knowledge that the organisation already has will result in the identification of knowledge that is not yet available and planning for knowledge acquisition based on its level and priority order.

Key success factors (KSF) can be used to identify the knowledge that an organisation should have. Key success factors can be interpreted as key factors that must be possessed by all companies engaged in an industry in order to become a calculated player. In strategic management, a company that develops and invests in the key success factors, will be better than other companies in an industry, and even become a market leader. So through the identification of key success factors, a variety of knowledge that companies should possess can be obtained.

Another approach that can be used to identify the knowledge that is owned and needed by organisations is to utilise the organisation value chain. The value chain is a model of the relationship between primary activities and supporting activities in the company to provide value to customers. The value chain model was introduced by Michael Porter in 1980 which is useful for identifying cost sources and sources of differentiation that can be a competitive advantage for companies.

The company's value chain consists of five primary activities and four support activities. Each activity has a performance indicator which is a predetermined measure of success. This performance can be achieved if the company has the knowledge needed. If performance cannot be achieved, it means the company does not yet have the required knowledge. But if performance has been achieved, not necessarily the knowledge possessed by the company is quality knowledge when not compared to competitor's knowledge. To ensure this, it is necessary to compare the company's value chain with other companies' value chains. So that way, the company can identify the knowledge that has been owned and that has not been owned more accurately.

Not all the knowledge needed by companies is available in the external environment, especially companies that are already market leaders, organisations that are in a turbulent environment, or non-profit organisations that deal with social issues that are fast developing and have used a variety of approaches that are well known. If the company or organisation faces this, it is expected that the organisation or company will develop the knowledge possessed to cover the existing knowledge gap.

Knowledge that is currently owned by the company / organisation, needs to be mapped (what knowledge, for what, who owns it, where it is located, etc.) and needs to be stored properly so that it is not lost or forgotten.

Knowledge gaps can be overcome by:

a) The organisation / company acquires knowledge from external parties by means of, for example: recruitment, training, cooperation, and so on.

b) The organisations / companies develop knowledge through research, market surveys, forming knowledge development groups, and so on.

2). Work Unit Level (Individual)

Auditing the quality of knowledge at the work unit level is no different from an audit at the organisational level. The first thing to do is identify the goals of the work unit concerned. Then compile knowledge development programs and measuring tools to evaluate the knowledge that was successfully developed. After obtaining new knowledge, an application is carried out to test the success of the new knowledge. Then an evaluation is carried out using a predetermined measuring instrument.

Learning Quality Audit
a. Learning Quality Audit Objectives

An organisation that has become a learning organisation, will get the advantage in terms of adaptability and flexibility that is needed to win the competition in the current era which is full of changes. Organisation according to Kast and James E. Rosenzweig (2002) is defined as a group of people who are formally bound in the relationship between superiors and subordinates who work together to achieve common goals. Organisations learn through individual members and do not depend on one individual. In addition, no organisation can study on its own without interaction with its external environment. (Munir, 2008).

An audit of the quality of learning in organisations aims to get a picture of the readiness of the organisation in providing learning facilities for its members and the readiness of the organisation in utilising the learning outcomes of its members to change and perfect the organisation.

b. Individual Learning

1). Conceptual and Operational in Individual Learning
Kim (1998) in Nawawi (2010) state that learning is a process of gaining knowledge followed by actualisation of previously owned knowledge. Conceptually, individual learning includes two things:
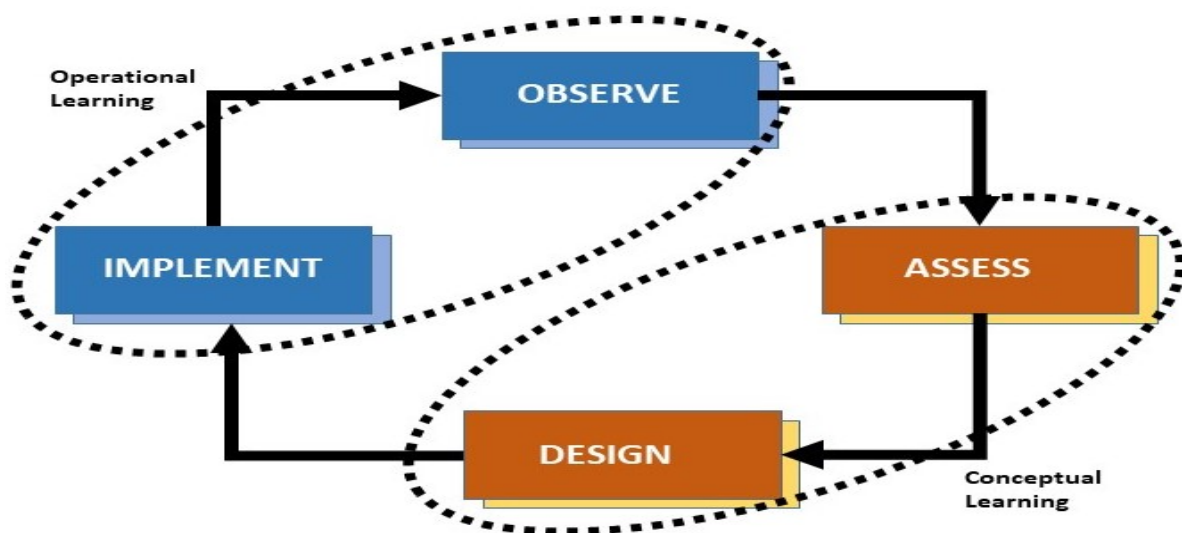
a) the process of gaining knowledge to 'know how' (based on physical ability to take action).
b) The process of gaining knowledge to 'find out why' (producing the ability to articulate an experience)

These two concepts are an important unity of what is learned and how humans understand and apply what has been learned. So that learning can be understood as a process of increasing human capacity to take more effective actions.

Learning is divided into two levels, namely the concept level and operational level. At the concept level, learning is referred to as conceptual learning where new individuals think of concepts. In addition to conceptual learning, individuals still refer to thoughts about why something should be done or why something happened, and so on. The conceptual level of learning usually questions the steps or habits that have been done and then looks for alternative ways. If the other method has been adopted to replace the routine that has been done before (actualisation of the knowledge that has been owned) then that method will be operational learning. While at the operational level, learning has led to technical skills so it is referred to as operational learning where individuals have taken steps to complete a task.

Besides, there are two learning components, according to Kofman (1992) in Nawawi (2010): learning is a cycle consisting of four activities namely: observe - assess - design - implement, which is abbreviated as OADI. Conceptual learning is at the assessment (evaluation) and design (design) stages, while operational learning is at the implement (observe) and observe (observation) stages, as in Figure 3 below.

Figure 3. OADI Cycle as an Individual Learning Process

Source: Nawawi (2010).

Every time we face a concrete experience, the individual will consciously or not actively observe (observe) what he/she is experiencing. Then the individual will conduct an evaluation (assessment) of what he experienced through reflection. Reflection is a mental activity carried out by individuals, where there is an attempt to comprehend the situation it

faces with the experience (knowledge) that it has. Then the individual will design an extract concept (design) which is a response which he considers in accordance with the conclusion of his evaluation. The draft concept is then tested by applying it to other / new experiences (implementation). Learning outcomes will be stored in a mental model and the cycle will repeat itself.

2). Relationship of memory with individual learning

In the individual learning cycle there are important things that have not been included as one component, namely regarding the relationship between learning and memory. According to Postman (1976) in Munir (2008, p. 64), learning is an effort to gain (knowledge and skills), while retaining the process of retaining (knowledge and skills) that have been obtained. Learning and memory are very closely related to each other. What we already have in memory will affect what we learn and vice versa what we learn will affect our memories.

Postman (1976) in Munir (2008, p. 64), also said that memories are divided into two kinds, namely the first is the memory stored in the unconscious, which only appears when someone experiences an experience that is considered relevant to what is stored in the memory. The second memory is a memory that actively influences the learning process and actions taken by someone. The second type of memory plays an important role in understanding learning in individuals.
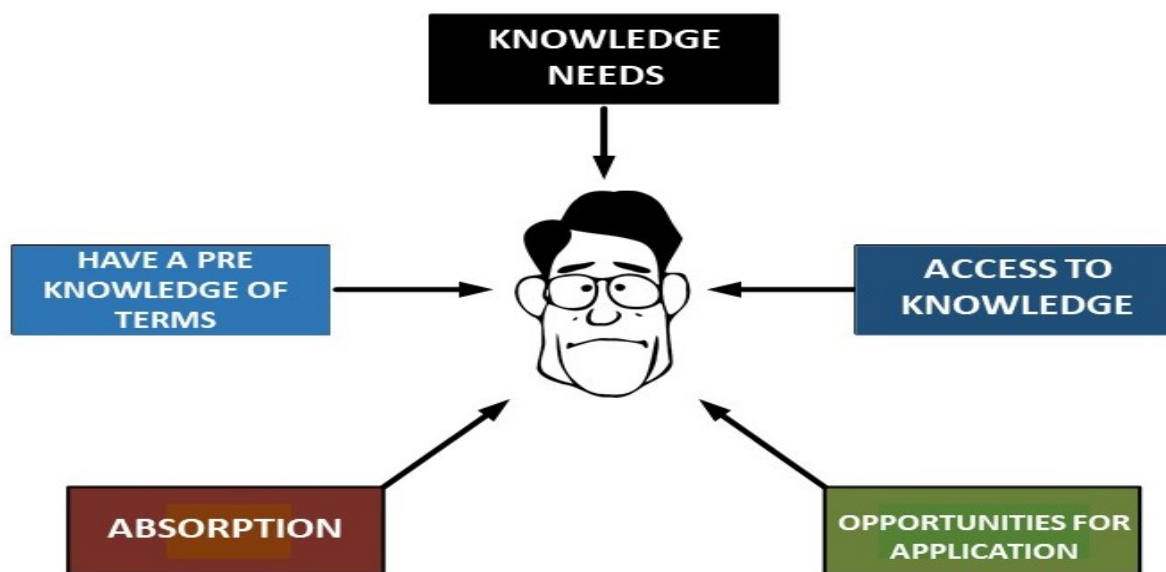
3). Factors that influence individual learning.

Munir (2008), in his book states that there are five factors that affect the quality of individual learning: (1) need for knowledge; (2) access to knowledge; (3) knowledge prerequisites; (4) ability to absorb knowledge; and (5) opportunities to apply learning.

Individual learning begins if the individual feels **the need for knowledge** to solve the problem at hand. Learning will easily occur if the individual finds it easy to find the knowledge needed, therefore **access to knowledge** is very influential on the quality of individual knowledge. There are two types of access to knowledge, namely explicit access, obtained by individuals through books, project report documents, standard operating procedures (SOP), videos, articles, and so on. Whereas the second is assisted access (tacit), namely access to direct learning from others who have the knowledge needed, for example through training, internships, rotation to other work units, and so forth.

At the time of the learning process, learners will more quickly acquire knowledge if they already **have the prerequisite knowledge needed**. Without knowing in advance the prerequisite knowledge needed, individuals will experience difficulty in understanding that

knowledge. Individuals in the learning process are also required to **have high learning ability** or absorption so that the knowledge obtained can be easily captured and understood. Individuals who already have the ability to learn prerequisite knowledge, have broad access to knowledge and have high motivation to learn but do not have the **opportunity to apply the knowledge** that has been obtained; this will affect the quality of individual learning. The more opportunities individuals have in applying the knowledge they acquire and the more complex the problems faced, the better the quality of individual learning. In brief, the factors that influence individual learning are illustrated in Figure 4 below.

Figure 4. Factors that affect individual learning

Source: Nawawi (2010).

c. *Organisational Learning*

Organisational learning is more complex than individual learning. Although the organisation is a group of individuals, it is not automatic that organisational learning is the sum of the individual learning of the members of the organisation. Organisation as Organisation Learning is defined by Hartanto (1996) in Setiarso (2009) as an organisation that is adaptive and responsive to its external environment, as well as strong in its internal integrity. Whereas Argyris and Schon (1978) suggest that organisational learning is a process in which members of an organisation detect various errors, then correct them through various actions and or restructure the organisation. De Geus (1988) in Dodgson (1993) states that organisational learning can show the division of mental models of organisations, markets, and their competitors.

Some things that can cause the complexity of organisational learning include issues regarding access to information and knowledge, work motivation, rewards, job satisfaction, and so on. Whereas Sege (1990) argues that organisational learning requires commitment and must be able to eliminate the three main barriers to learning, namely: fragmatic, competitive, and recative thinking by changing the way of thinking by having comprehensive, communicative knowledge, and accepting differences of opinion so as to have a creative attitude. Cohen and Sproull (1991) state that organisational learning also experiences cycles as in individual learning. The cycle starts from the individual's actions based on the individual's beliefs. The actions of individuals will cause the organisation to act and will produce responses from the environment. Environmental responses will affect the individual's beliefs. Thus the cycle will continue to repeat itself. So, it can be concluded that if the organisational environment response is static and does not change, then the individual's beliefs will also not change, so will his actions and also the actions of the organisation. Organisational learning is shown in Figure 5 below.

Figure 5. Learning in Organisations

Source: Nawawi, 2010

If there are changes or responses or environmental reactions, it is not certain that an individual's belief will immediately change. There are individuals who need a long time to understand the environmental reaction to their actions or the individual does not want to know about the environmental reaction so that it causes the organisation to look static. But there are also individuals who immediately change their beliefs so that their actions also change, which triggers organisational actions and then their environmental reactions. But not all individual learning will directly influence organisational learning. According to Wibowo (2006) and Nawawi (2010) there are three kinds of key functions in building organisational learning, namely: building learning commitments, working to build ideas so that the impact adds value, working to generalise ideas so as to reduce interpersonal, group, and organisational barriers.

Organisations that have high employee turnover rates (30% - 40%) will experience tremendous difficulties in carrying out organisational learning. Although the type and level of employee positions that go in and out correlates with learning difficulties at the organisational level, in general it can be understood that a high level of employee turnover will affect organisational learning. The same thing happens when there are organisations that have experienced leadership changes or merged with other organisations.

Pedler and Bergoyne (1995) and Garvin (2000) in Munir (2008) state that learning organisations are organisations that are able to facilitate learning for all members of their organisations and change actions and perfect themselves based on the learning outcomes of their members. Sange (1990) states that the only source of competitive advantage is the ability of organisations to learn and react more quickly to dynamic markets compared to competitors' reactions. So that in the future there will only be only two kinds of organisations, namely underdeveloped organisations that will gradually become extinct (bankrupt and acquired) and learning organisations that will continue to grow.
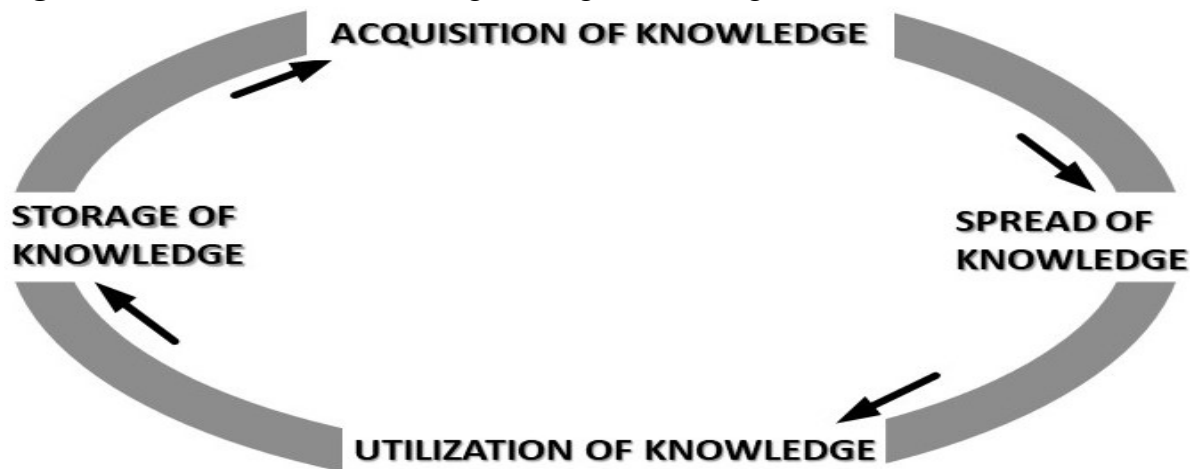
The learning organisation according to Garrat (1990) adapted by Munir (2008) has three characteristics. Learning organisations encourage individuals at all levels to learn regularly and hard in their work; this is the first characteristic. The second characteristic is if the learning organisation has a system to acquire learning and utilise it in things or places that need it. And the third characteristic is the learning organisation values learning and is able to continuously transform itself as a result of the learning.

Audit Quality of Knowledge Management Processes
a. *Objectives of the Quality Management Process Knowledge Audit*

In conducting an audit of the quality of the knowledge management process, there are four main processes that need attention. The four main processes are: (1) the process of knowledge acquisition; (2) the process of distribution and knowledge sharing; (3) the process of developing and utilising knowledge; and (4) the process of maintaining and storing knowledge, as shown in Figure 6 below.

Figure 6. Main Process of Knowledge Management in Organisations

Source: Nawawi, 2010

Through a knowledge management audit activity, it can be seen whether these knowledge management processes already exist and run effectively in the organisation.

b. *The Main Types of Knowledge Management Processes*

1) Knowledge Acquisition Process

Based on the identification of knowledge, there is a knowledge that has been obtained by the organisation at this time and knowledge that does not yet exist but is really needed by the organisation to achieve its strategic goals. The target activity in acquiring knowledge is to acquire the knowledge needed by the organisation.

Acquiring knowledge is an important activity for the organisation. The knowledge that an organisation has and how good that knowledge is, is not enough to provide an edge that guarantees the survival of the organisation in a dynamic environment.

At the organisational level, expanding the boundaries of knowledge (knowledge exploration) by means of the acquisition of other knowledge that is outside the organisation is indeed a necessity. The greater the amount of information and knowledge that can be acquired by the organisation, the greater the opportunity for the organisation to create new knowledge. If an organisation only relies on the knowledge it already has, then gradually the organisation will have expired knowledge. Armed with new knowledge that can be acquired and combined with existing knowledge, new knowledge will be formed which will provide the organisation with provisions to operate more efficiently, more responsively, and be more innovative.

Information and knowledge can be acquired by organisations through various means, for example through training activities, research, collaboration with other organisations, recruiting executives from companies / similar organisations, bringing in consultants, and so forth.

2) Knowledge Distribution and Sharing Process

The goal of the process of sharing knowledge is knowledge that is dominated by one person and spread by as many people as possible within the organisation. Knowledge should not only be mastered by individuals, but also owned by a work unit. Dissemination of knowledge is expected to improve the quality of knowledge possessed by individuals, work units, and ultimately the organisation, due to a combination of existing knowledge with new knowledge that can produce innovations.

A person's knowledge which is still in the form of tacit knowledge, needs to be done as soon as possible to change the knowledge disseminated in the form of explicit knowledge, which can take the form of documents, formulas, operating standards, drawings, charts, and so on.

Barriers to knowledge dissemination occur when the recipient of knowledge is less motivated in accepting new knowledge because the recipient does not feel he is benefiting, is reluctant to follow the process of transmitting knowledge which usually requires time and effort, feels threatened by the entry of new knowledge, or does not trust the source of knowledge. The source of knowledge is the most important thing in spreading knowledge. If in an organisation, the source of knowledge is seen as a party that is not trusted or is seen as an unpleasant party, then all kinds of suggestions, advice, or quality views from the source of knowledge will get a lot of challenges and even rejection. Trust in the source of knowledge plays an important role in the dissemination of knowledge.

The reluctance of the source of knowledge to disseminate knowledge can also be a limiting factor for the spread of knowledge due to the low motivation of the source of knowledge. The source of knowledge feels there is no advantage for him in sharing knowledge, is too lazy to prepare material to be shared because it requires time and effort in preparation, does not trust the ability of the recipient of knowledge, and feels threatened if the dissemination of knowledge occurs.

Apart from recipients and sources of knowledge, the climate of the organisation can also be a barrier to the spread of knowledge. Factors that often become obstacles include: rigid command organisation structure, paternalistic culture, leadership style, and other habits that affect the learning behaviour of all members of the organisation (employees and executives).

One view that greatly inhibits the spread of knowledge is that the source of new knowledge must be from the leader or manager.

3)   Knowledge Development and the Utilisation Process

New knowledge gained by the recipient of knowledge will be more meaningful if the recipient of knowledge is willing to assimilate new knowledge with the knowledge he already has. The process of utilising knowledge aims to assimilate or combine existing knowledge with new knowledge in the form of new perspectives, new ways of working, or new policies. When the work unit is willing to accept new knowledge and use that new knowledge, learning happens at that time. In some companies / organisations, initially the recipient was less effective in utilising the new knowledge, but gradually the performance improved to a satisfactory level.

When the recipient gets satisfactory results from his new knowledge with the transmission of knowledge, the use of new knowledge becomes routine, and mingles with other habits that are not replaced by new knowledge. Over time, new knowledge that has been adapted will lose its "newness" and become routine company practice. So basically the process of transmission of excellence must occur continuously.
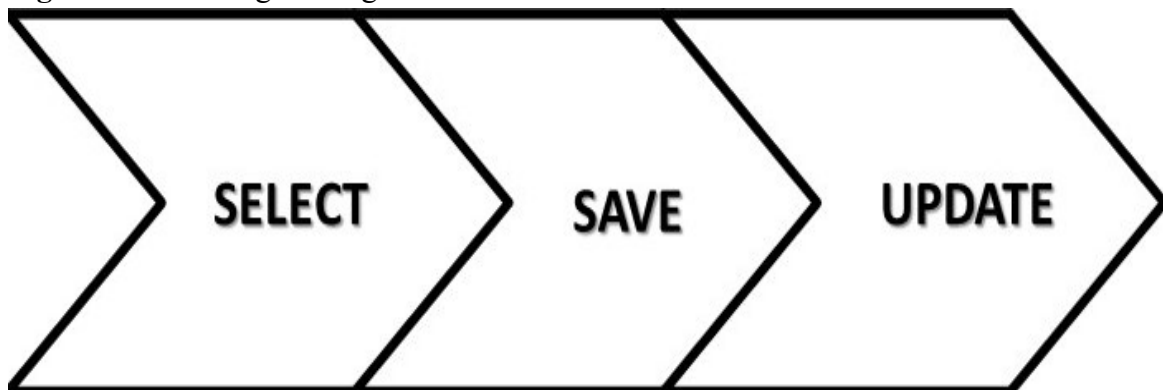
Barriers to the use of new knowledge occur when the recipient of knowledge is not willing to actualise himself with new knowledge (because of motivation) or is unable to actualise himself.

4) Knowledge Maintenance and Storage Process

The process of storing knowledge is an activity aimed at ensuring that the knowledge contained in the organisation is maintained and stored in the form that is most easily accessed by the people in need. This process includes mapping the knowledge owners in the organisation, both individuals and work units.

Knowledge that has been stored as an organisational memory needs to be updated regularly by staff who develop expertise in the same field, as shown in Figure 7 below.

Figure 7. Knowledge Storage Process

Source: Nawawi, 2010

Conclusion

With knowledge management, organisations consciously identify the knowledge they have and use it to improve performance and produce innovations. Whereas a knowledge management audit systematically checks the quality of knowledge management in an organisation so that an overview is obtained of: (1) Knowledge possessed and needed by the organisation / work unit; (2) Organisational readiness facilitates learning; and (3) The quality of knowledge management processes. The components of the knowledge audit include an audit of the quality of knowledge, an audit of the quality of learning in the organisation, and an audit of the process of managing knowledge.

With knowledge management, organisational leaders can be moved to find out where the actual position of the organisation they lead is compared to similar organisations, whether the organisation is leading or lagging behind in the industry / core business.

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