Technological Progress Role in Management of Knowledge

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Abstract

This paper focuses on the modern and traditional methods of acquiring and storing knowledge. It also covers the major limitations that are common with both traditional and modern methods of knowledge acquisition and storage. The role of technology in the modern generation is also discussed in this paper with in-depth comparison of the most common modern methods of knowledge acquisition and storage.

It explains how various technological advancements have influenced the way people seek and store knowledge. However, it should be noted that there are some loopholes with the modern methods of knowledge acquisition as highlighted in this paper. It explains how these loopholes are caused and how they can be corrected to make this process better for all researchers in the current generation.

In addition, this paper also seeks to explain the traditional methods of acquiring knowledge, how they were effective, the possible challenges faced by these traditional methods and some examples of famous personalities in the world who used such methods to acquire knowledge. Towards the end, the reader will also be able to understand the role of experts in correcting and improving the common methods of knowledge acquisition to make this process better and successful for all.

Keywords: - Technological Advancement, Knowledge Management, Knowledge Acquisition and Storage.

1. Acquiring Knowledge Through Research

As we all know, research has been the major source of knowledge for most human beings in the modern generation. According to Williams and Edge (1996) it is through research that one can foresee the future in comparison to the past. Thanks to technical advancements in the modern generation, research has become easier to carry out. The popularity of some sources such as the internet cannot be ignored. The invention of internet has been received warmly by most human beings because of its role in providing quick results regarding a particular topic (Ulmer, 2002). This is indeed very positive compared to the conventional methods of research where people depended on outdated methods such as exhumation of fossils, archaeology and others to come up with the appropriate results regarding the provided topic. Such processes were met with various hindrances and this brought the need for coming up with the modern methods of carrying out research with the major aim of enhancing one's knowledge regarding the provide

The internet can be termed as the best invention that has ever been witnessed in the modern world. Many people depend on cyberspace to perform various tasks starting from studies, online banking, communications and others (Davis & Olson, 1985). The world is fast embracing change and such inventions come in handy to implement these alterations to make human lives easier and better. When it comes to using the internet as a source of knowledge, there are many benefits that are associated with this option.

After the internet was discovered, most institutions shifted their base to this new invention. This led to rapid increase in the number of websites that contain various details about a particular subject. Acquisition of knowledge over the internet has become easier and because of the availability of various web pages. The researcher has the option of comparing various websites regarding the research work to come up with a positive conclusion. The internet as a source of knowledge also makes it easy to reduce the costs of carrying out research. For one to get a clue about a given subject, it is important to look for the information from vast sources. When this process is done on the ground, it becomes expensive and time consuming (Ken, 2003). The researcher has to part with huge sums of cash to fund some factors such as transport, manpower, accommodation and other daily budgets. This is where the role of internet comes to the limelight. Technical advances in the current society have also made it easy

to come up with better options of relaying information. This is meant to make sure that internet usage becomes even better to facilitate quick acquisition of knowledge. According to Hart and Freeman (2006), digital inventions such as videos and photographs make it easy for the research students to have greater ideas of what they are looking for. It will be useless to look for knowledge about something that you do not have an idea of how it looks like and its characteristics. However, online videos and images create the chance for the research students to have a clue of what they are looking for therefore increasing their levels of knowledge.

Hyper linking is also another common advantage of using the internet as a source of knowledge. Not all internet users are sure of what they are looking for at the initial stages. It becomes possible to approach cyberspace with limited knowledge but gain positive response from various websites. Hyper linking process is used to give suggestions to other pages where the research student can find relevant information about the provided subject matter (Orlikowski & Robey, 1991). This paves where for further knowledge regarding the process thus making it fun compared to the conventional methods of looking for information.

The process of acquiring knowledge needs interactive forums to shed more light about the subject. At this juncture, the role of internet is realized. The introduction of the social media has made it easy for people to interact with the major aim of sharing and receiving information about the provided subject matter. There are quite a good number of social networking sites where the bloggers are able to find useful information and improve their perception about a particular topic. Most people prefer the internet because it defies all odds to make learning convenient and fun (King, 1993). Sharing of ideas becomes easier without necessarily going to classes and learning institutions to get the same. But just like other inventions, there are some common setbacks that are associated with internet as a source of knowledge.

Reliability is one factor that most consumers of online content are never sure of. The internet has gained so much exposure that it becomes hard to verify the trustworthy information from the unreliable one. The freedom that is entitled to every blogger has eventually led to abuse of online content through the introduction of undependable information (Preston, 2007). Some people use the internet not to educate, but to get attention. For such people, it becomes easier for them to publish anything regarding a particular topic. In this respect the credibility of the content will be in question and this will create uncertainty regarding the different sources that might give contradicting information about the provided topic which is the main cause of the research.

The internet is a crucial research tool where the web browsers are able to enhance their knowledge. But on the other side, its advantages have also led to its drawbacks. One characteristic of cyberspace is speed. When information is provided speedily, it does not pave way for the researcher to find out more about the theme.

This is very different from libraries where books are stored according to their themes. The student has to go through various books to come up with positive conclusions about the topic of research. During this process, the research student learns more about other things regarding the topic. This provides room for extra knowledge in the course of searching for the right information about the provided topic. But when the internet is used, the chances of getting quick and accurate information are very high. This turns out to be positive but from a professional point of view, it can be argued that the less time spent for research means that the student learns few things compared to the students researching in libraries.

With every new day, a new website is formed over the internet. But similarly, more websites are disabled by their managers due to various reasons. This affects people who are seeking for knowledge online, especially students. When such sites are closed unexpectedly, it becomes hard to cite them in the research paper. This hinders the reliability of knowledge that has been acquired in that particular website. The unexplained circumstances that led to the closure of that website might lead to lack of confidence for the online consumers.

2. Objectives:

This paper focuses on the modern and traditional methods of acquiring and storing knowledge. Authors also focused on how the various technological advancements have influenced the way people seek and store knowledge.

3. Experiments

Even before the introduction of the modern ways of finding information, experiment has been a common alternative for people who need to know something about a particular theme. As a matter of fact, experiment can be termed as the oldest method of carrying out research and gaining the much needed knowledge concerning the provided topic. This method has proved to be successful in both modern and ancient ages. Experiment is the core reason why some inventions such as machines operate today. A simple and well-popular example of the role of experiment is the case of Isaac Newton, the renowned scientist. According to most sources, he remains to be one of the greatest scientists ever. And yet, most of his work was derived from the knowledge he attained through experience. For Newton, experiment was the key to knowledge and his legacy proves this fact. He was famed for this discovery of the law of gravity and this could not be possible without carrying out research with the major intention of gaining more knowledge about this topic. This proves the fact knowledge can be found easily by experiment (Broby, 2002).

For students, experiment is very crucial especially for some subjects such as Biology and Chemistry where the presentation of facts is crucial. Some studies such as history might not need facts though at times it is very crucial. When experiment is used as a source of knowledge, it makes it easy for the researchers to come

up with the final results. The results can either support or oppose the topic. When carrying out the assessments, the researchers learn more and this increases their perception about that particular theme which is being investigated. Back to the learning institutions, some subjects such as Biology might not be easy to understand without the presence of practical lessons where the students get to know more and even come up with their own findings.

Experiment is a crucial practice for most departments in the modern world and a good example is the health sector. Health officials spend their time investigating the causes, signs and prevention options of a new disease. Without experiment, it becomes harder to gain the much-needed knowledge about that particular infection or a related health issue. It is through thorough investigation that the health experts find it easy to establish the possible remedies of combating a particular health disorder in a patient. This is done through the discovery of drugs and other forms of medications for this purpose.

Some studies such as engineering involve more practical lessons than paperwork. This also proves that for one to get knowledge, experiment is crucial. It provides better understanding and implementation of the written work. People do experiments every day and a good example is brushing the teeth. It is not easy to believe that brushing the teeth regularly can reduce the chances of the formation of cavities along the gums. But still, people carry out this practice on a daily basis since other people do it and eventually, it works. For this reason, the person performing this practice learns a few things about it and its importance. This explains how experiment is crucial when it comes to seeking for knowledge.

Experiment also paves way for an independent perception about the subject matter. The person carrying out this practice does not have to rely on what others are saying. By practicing it individually or in a group, it becomes easier to come to a positive conclusion regarding the process. This improves the levels of knowledge derived from the just-concluded process. The researcher has the option of accepting the findings or rejecting them, therefore creating room for further investigations into the subject matter.

At every stage of this process, something new is discovered. An observation is made regarding the theme and the procedures that have been taken to complete these steps. As most experts say, research is endless. There is no point in life where people will have all the solutions and information about the world and its people. The more investigation is carried out on a specific topic, it creates newer findings. This results to the acquisition of vast knowledge about the presented theme.

Not all experiments are perfect. There is always room for new challenges. When one carries out a test about a particular topic, the chances of opposition are ever high. This comes from other parties who are also investigating the same topic. Once a project is complete but does not convince the consumers, it becomes necessary to start afresh in a bid to settle the doubts that have been presented about the findings. On the course of this process, knowledge is gained. New things are discovered and there is always the possibility of coming up with newer findings. This process enhances ones' knowledge.

With the recent difficulties associated with the economy, there is need to save cash. This is the reasons why some people might overrule the importance of experiments to gain knowledge. The invention of modern sources of information such as the internet makes things worse. Very few people are willing to spend a lot of cash to buy the right equipment to carry out the experiment yet the materials can be readily found online. This is a common setback of modern day experiments. People are ever looking for the easiest way of finding the results and this is where the internet proves its dominance. It becomes easier to get information and knowledge online without spending a cent for the materials to be used.

4. Methods of Storing Knowledge

Thanks to the introduction of new technology, it has become easier for one store knowledge in an advanced manner. There are many reasons why people store knowledge and one of them includes easy accessibility. This prevents the need to carry out fresh research about the same topic since the information can be retrieved when needed (Broby, 2002). Knowledge is also stored for referencing purposes. As generations continue to emerge, there are many people who require that particular information for various reasons. This option acts as an archive for those who would wish to learn more about the researched content and other factors that have been entailed in the data.

4.1 Data back-up

This option mainly targets PC users. It is true to say that the invention of the computer is probably the greatest thing that has ever been witnessed in the modern world. The global community depends on computers to carry out various tasks. As IT experts say, the modern world is computerized. Every department has something to do with processors. The major aim of back-up system is to retrieve files that have been lost accidentally by the processor (Hart & Chapa, 2003). This might be caused by various reasons such as deletion or invasion of computer virus that leads to corruption of files. The other reason why this system is used is to provide earlier files that were saved in the machine. This is based on the configurations of the user. The back-up system has risen to fame because of its crucial role in ensuring safety for the knowledge stored in a computer (Corso, Martini, Paolucci, & Pellegrini, 2004). After researching, the findings can be stored in the PCs for future reference, verification or even sharing (Preston, 2007). But in the event of unfortunate deletion or corruption, the back-up system comes in handy to restore the information.

There are some types of backup systems where the users have to back-up up daily to prevent loss of files. Some systems are not automated and they require regular reminders to make them effective. With the forgetful

nature of human beings, this might prove to be costly in case of loss of files due to some factors such as deletion, corruption or even crashing of the processer unit. This brings the need to be extra careful when storing data in such systems (Iacovou, Benbasat, & Dexter, 1995). In some cases, the amount of data might affect the back-up speed. This tends to affect people who have large files that have been stored in the system and need urgent restoration.

Information and knowledge should be safeguarded in all means. There are obvious benefits of storing knowledge in the right manner. When faced with such challenges brought by the back-up option, there are some worthwhile remedies that can solve this condition and make this system more useful.

There are some programs such as the Recovery Manager that are used to provide automatic revival for the knowledge that has been stored in the processor. Such programs are very useful especially when the users are not around. In case of file loss, this software automatically recovers everything and also provides the history of the recovery process. The Flashback software can be also positive for this cause. It makes this process more effective by providing accurate recovery of files from a specified date according to the settings implemented by the users of that particular hard disk (Hart & Freeman, 2006).

4.2 Passwords

According to Ken (2003) the use of passwords is very common with most advanced electronic gadgets such as phones and computers. This system is characterized by the use of secret codes that remain confidential to the user only and other certified individuals.

Since passwords are comprised of special cords and characters that remain confidential to the users, the chances of information leakage are almost zero. It becomes quite hard to guess the codes to gain access to the knowledge that has been stored in the system. Passwords are very crucial for confidential information that has been stored in the electronic unit. After gaining knowledge about a particular topic, the information can be stored in computers and other relevant electronic machines. However, some information can be confidential thus bringing the need of safeguarding it to avoid leakage to other parties. It does not mean all types of knowledge should be exposed to other parties. Due to the sensitivity of the matter, it becomes important to offer protection for the files and this is where the role of private codes, also known as passwords, is realized.

According to experts, the best method to store these secret codes is by cramming them. There are some habits such as shoulder surfing where a second party peeps into the log in details of the account holder when logging in. If this is the case, it becomes easier for the second party to guess the codes based on the previous observations. This guarantees access to the stored knowledge in the system. This case is very crucial especially for students wishing to carry out research for

various projects. When the information leaks, the uniqueness of the findings is interfered with by the second party. When the access code is weak, the chances of hacking are higher. It becomes easier to guess the shorter codes than the long ones. This security option does not also guarantee identity check for verification. When a person inserts a particular code correctly, this act does not mean that he or she is the sole owner of that particular account. Since not all systems carry out identity verification, it becomes easier to again unlawful access to the information stored in the system.

As much as there might be some common limitations of using passwords, these codes and characters still remain to be a fundamental aspect of security measures. The best way to prevent easy guessing of these codes is by introducing the longer ones. The days of using some series such as 1234 or even ABCD are long gone. It is necessary to come up with a personal code that appears long hence making it hard to guess for unauthorized parties (Orloff, n.d.). Since these codes should be confidential, they should be treated as such. It is not safe to write them down on a piece of paper because the chances of illegal access are very high. The best way to store them is by keeping them in mind. This can be done by using codes that can be remembered easily be the users.

4.3 Managing human sources of knowledge

The invention of computer and internet are probably the best thing that has ever happened in the modern world. This is attributed to their many benefits. But it is worth noting that these inventions were discovered by human beings and this proves the fact that human beings can be rated as the surest source of knowledge. People have various ideas about different things in life including wisdom, specialization, mysteries, research and others. All these are types of information that should be safeguarded in a proper way (Fiol & Lyles, 1985). But the big question remains to be; how do we preserve information from human to human? The answer can be found in training. Education is the surest way of passing knowledge from the trainees to the trainers.

Learning institutions are founded with the major intention of enriching the students with high levels of knowledge regarding the chosen course. The tutors act as the bridge that links knowledge to the second party, who is the leaner (Ulmer, 2002). The same case applies for employers who wish to create specialization for their workers. Some modern options such as Human Capital Development are used to add extra knowledge to the workers to make them even better. This turns out to be profitable for both the employees and employers. It paves way for specialization and this increases the levels of profits for that particular business. The best way of storing information from human beings is by empowering others on the same specialization (Howells, 1996). This is where the role of intensive training comes in handy. Upon the arrival of a new employee in a company, interview is done to verify the level of knowledge and skills. When found to be helpful for the prosperity of that particular firm, that

particular employee is given the privilege to fill the vacant seat. The knowledge brought by the new arrival can be shared with other workers to improve the output of that institution. This is a suitable method of relaying information from one party to another.

Once again, the introduction of modern technology has made it easy to offer quick and effective training for the interested persons regarding a particular specialization. Since knowledge can be found over the internet, it is also possible to get training from the same platform. Nowadays, many schools have shifted their attention to the Web in order to get more students. This also aims at targeting students from far areas who cannot join their counterparts in class. For this reason, it has become easier for scholars to enroll for online classes. This is a suitable option of transferring knowledge from one party to anther in an advanced method.

For employers, it has become necessary to encourage the employees to attend various seminars and conferences regarding a particular specialization. Such forums are normally interactive and graced by crucial guest speakers who have achieved commendable success in a particular field. This brings about exposure and the chance to learn a few tips about that specific specialization. When this has been achieved, it can be referred to as double benefit for the companies' administration and the subordinates.

4.4 The role of experts in data analysis, discovery and storage

With the rising sources of knowledge in the world, experts have crucial role in enhancing this process to make it easier and safer. Some methods such as passwords have a crucial role in upholding security for knowledge stored in processors. But on the other side, some setbacks such as crashing and illegal access need to be addressed accordingly. This is done by experts who have an imperative role of coming up with enhanced systems to correct the previous setbacks that are common with the existing options of securing knowledge (Broby, 2002). The same needs to be done for the internet to create public awareness of the reliable websites where one can easily find credible information about a particular topic.

5. The Digital Divide

This section explain the technology gap or what so called digital divide between developed and developing nations and its role in the economic and social development within developing nations and between the developed and developing nations. In other word, why they are some nations enjoying better standard of living although they are having only the human resources such as (Japan and South Korea) and other nations have all the resources are lacking behind. The answer to this observation is centered at the difference in human mentality and the technical progress. In this respect, Mohammed and Adnan (2012) reviewed the studies undertaken by ALDC (2011), Aubort et al (2007), ITU (2011), UNESCO (2008),

UNIDO and WBCSD (2002) and the world Bank (2011) the study found out that the importance of technology as a driver for social, economic, and educational advancement has been well documented in recent years. As the technology has become integrated into the daily activities of most of the people throughout the world's most industrialized nations, hitherto, millions of people still have never heard a dial tone in developing countries. In the developing nations where the basic needs such as (food, clean water, and adequate health care are in short supply). It should be recalled that the benefits that technological advancement can offer have not been fully comprehended. It should be noted that the developing nations may feel threatened by the equitable social and economic development of their society's consequent to problems of poverty, unsustainable patterns of consumption and production, and profligate utilization of their natural resources. It should be recalled that knowledge and its application in technology have always been key components of development for all the countries. In this respect, the generation and application of technology and technological interchange, sharing and networking have become increasingly vital for economic and social development. Meanwhile, societies in the developing nations are still deeply lack the capacity to fully participate in the building of a knowledge community. Besides, the digital divide (access to the services provided by ICT between the nations and communities) accentuates disparities in development, excluding entire nations from the potential benefits of new opportunities. Thus an authentic global network is not yet a reality for many. The study Mohammed and Adnan (2012) also stated that the speed of modern technological progress poses new sets of challenges. The information and communication revolution offers new and effective means of exchanging science knowledge and advancing education and research, which promote the economic and social development of all people.

Mohammed and Adnan (2012) explained that the analysis also shows that in most cases the technology has positive effects on education, infrastructure, healthcare, social and economic development, as well as positive growth and developmental rates.

Moreover the study concluded that the adoption of technology by developing nations has shown that older technologies are being replaced, and in some circumstances bypassed entirely, by new technologies such as cellular phones. It should be mentioned that in less than three decades, mobile phones have connected more individuals than fixed line telephony had throughout the preceding century. The computers and the Internet are having a direct impact on the lives of people worldwide.

Finally, it should be noted that they are several obstacles that must be overcome before the benefits of technology will truly be realized by developing nations. Majorities of developing nations lack the infrastructure and infostructure those are essential to support consistent data technology. By way of developing countries continue to focus on their technological capability and access by enhancing their research and development (R&D) in the

technology sector, at this point the progress in the digital age looks bright.

6. Conclusion

Acquisition of knowledge in the modern world has become easier, thanks to the invention of advanced technologies such as information and commutations technology or what so called ICT. By the advancement in ICT applications through interment the new economy (knowledge-based economy) had emerged as the main source of wealth creation around the globe. In this regard, the service sector became the engine of growth instead of industrial sector. Nonetheless, there are many factors that should be considered to improve the knowledge discovery process. Reliability is one of the most important factors that need urgent consideration especially when it comes to gaining online content. Nevertheless, the sources of knowledge in the modern world are unlimited and the greatest of all being human beings, as the human capital is significant factor in developing the technology and applying its applications to create new ideas and innovation process. It should be recalled that ICT and human capital are very important determinants of knowledge economy to function.

The introduction of modern technology has made it easy to offer rapid and effective training for the interested persons regarding a particular specialization. Since knowledge can be found over the internet, it is also possible to get training from the same platform. Currently, many schools have shifted their attention to the Web in order to get more students. This also aims at targeting students from far areas who cannot join their counterparts in class. For this reason, it has become easier for scholars to enroll for online classes. This is a suitable option of transferring knowledge from one party to anther in an advanced method and to bridge the digital divide within one nation and between the nations. In this respect, the digital divide is the difference in accessing to the information and knowledge within the nation and between the nations brought by the new technology and its applications

Through the growing sources of knowledge in the world, professionals have vital role in enhancing this process to make it easier and safer. Some methods such as passwords have a crucial role in upholding security for knowledge stored in processors. But on the other side, some setbacks such as crashing and illegal access need to be addressed accordingly. This is done by experts who have an imperative role of coming up with enhanced systems to correct the previous setbacks that are common with the existing options of securing knowledge. The undesirable side of technological advancement is the cybercrimes created by this technology and its social and economic implications to the countries and communities around the globe. In this regard, the countries around the globe introduced new law what is called cyber law to deal with the cybercrimes issues.

Finally, Human capital developments are used to add extra knowledge to the workers to make them even better. This turns out to be profitable for both the employees and employers. It paves the way for specialization and this increases the levels of profits for that particular business. The best way of storing information from human beings is by empowering others on the same specialization. The big challenge is that lifelong learning is highly needed to keep upgrading the human capital skills overtime. The human capital or the so called knowledge workers are two groups, general knowledge workers who developed their skills to use the technology to facilitate activates, while the special knowledge workers who are using their knowledge and skills to invent and innovate new technology or process to develop new products (goods and services).

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