KNOWLEDGE MANAGEMENT

Coursework 1

NOVEMBER 23, 2016

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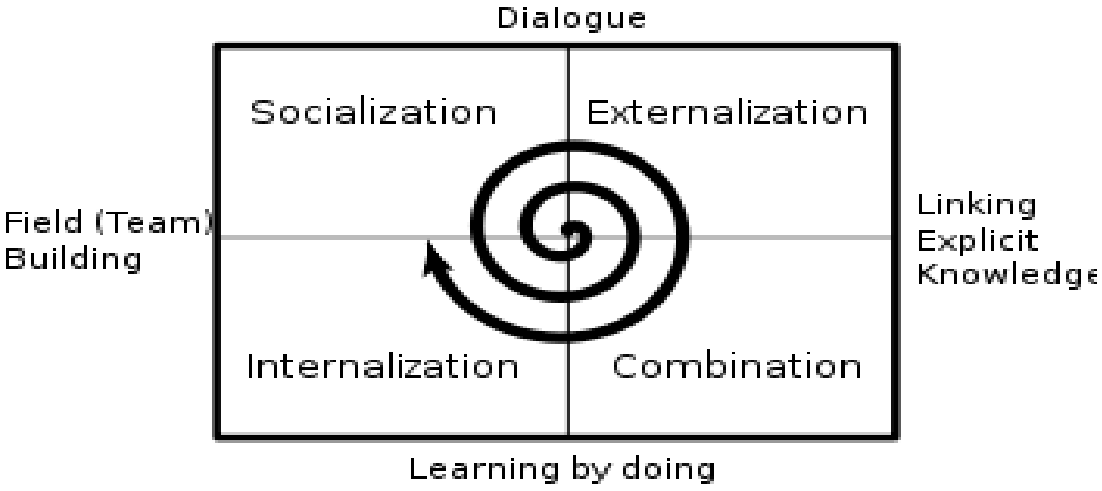
Outline

What is knowledge? The concept of knowledge is better understood by the study of the theory of knowledge called epistemology. The origins of epistemology come from the greek words ἐπιστήμη epistēmē, meaning "knowledge", and λόγος, logos, meaning "logical discourse".[1]
Knowledge is centered around the truth , belief and justification which is : How much is based upon fact, how much of it is believable and the evidence to support the claim. It exists in different types which makes it important to distinguish the different forms it can manifest in. Since knowledge can be subjective, knowledge management is key in capturing information that would be put to further use.

Explicit vs Tacit Knowledge

"Knowledge management (KM) is the process of creating, sharing, using and managing the knowledge and information of an organization." [2]

Knowledge can be classified into the know-how and know what. To further specify these, the know what or explicit knowledge is what can be easily stored, categorized and utilized effectively. The greatest challenge with this type of knowledge is making it accessible and easy to use according to one's needs. Tacit knowledge or the know how refers to the practical and experience based knowledge that requires a more hands on approach to capture what is needed. The challenge with this type of knowledge is since experience is personalized, the transmission of such information might differ from person to person. [3]



[4] Figure showing the different dimensions

Through this paper I aim to showcase the connection between knowledge management and the use of knowledge management with regards to the agriculture, forestry and fishery industry. The main focus of this paper is focus on how knowledge management and information systems, the types of tools that some organizations use to collect and utilize the data and how these affect the progress of these organization. Also a subtheme of this paper will show how technology plays a part in the implementation of these knowledge management tools and creates a network for the community to share and transfer knowledge effectively and efficiently. The main sources for this paper are from the ministries and goverments of the MENA regions to gain a broader understanding of knowledge management.

Why we need knowledge management

Knowledge management is seen to be a multifaceted field such as planning and development, computer science, psychology, management science, organizational science etc. [4] Its scope lies in almost every field since every organization looks to build and grow in the long run.

1. Knowledge management facilitates the main role of sharing and exchange of meaningful information. It provides one with the tools to turn information into useful information. Well organized data can be efficiently used when it is categorized into usable sources of information.
2. Effective knowledge management models allows explicit knowledge to be captured easily.
3. Knowledge management encourages the top-down structure with the flow of knowledge where managers lead by example and keep teams working smoothly towards organizational goals. It helps with the collaboration and coordination of the working team.
4. Helps boost innovativeness and creativity to come up with better solutions by using an effective knowledge management system.
5. Learning from past experiences helps to better anticipate the past experiences and making better informed decisions recorded in knowledge management systems.
6. Reduces redundancy by reusing existing knowledge that has been stored.

Agriculture, Forestry and Fishery industry in the UAE

The agricultural and forestry industry in the United Arab Emirates has progressed by a leap from the 1990's to 2000's. 30 years ago it was one of the least developed countries in the world. Today it has achieved an increase in the amount of land devoted to agriculture and forestry as a result of the government to promote agricultural development.[5]Agricultural farms and forests are spread out about 4.5 per cent of the UAE and more than 200 of the Islands of the UAE have been used to partially plant. The United Arab Emirates is a well-known producer of dates, tobacco and fruits and vegetables. With the largescale desalination seawater plants, farmers are now able to produce more variety of crops. Despite the dry and arid climate, the United Arab Emirates has managed to create a well-rounded agricultural environment and reduced its food dependency on imported goods. It also exports its vegetable and fruit products to Japan, Indonesia, Malaysia and many other countries. The government has also taken initiatives to plant more shrubs and date palms, more importantly on the UAE's Islands as the rapid growth rate of the population has pushed the demand for more self-sufficiency.

Regarding the fishing industry, fish remains one of the more popular products both in the United Arab Emirates and exported to other regions of the world. In 2012, the fishing industry in the United Arab Emirates was worth 1 billion a year annually, the yearly consumption being 70-100 tons at a rate of 33 kilograms per capita annually. Some challenges faced by the fishing industry and fishermen is that some variety of fish have more demand require intense fishing which resulted in depletion of such species and stocks cannot keep up with the demand. Fish industry and fish in the UAE is a traditional craft, which is actively supported by the government. The government is always in search of ways to enhance fisheries and agriculture.[6]

The need for knowledge management policies in the region

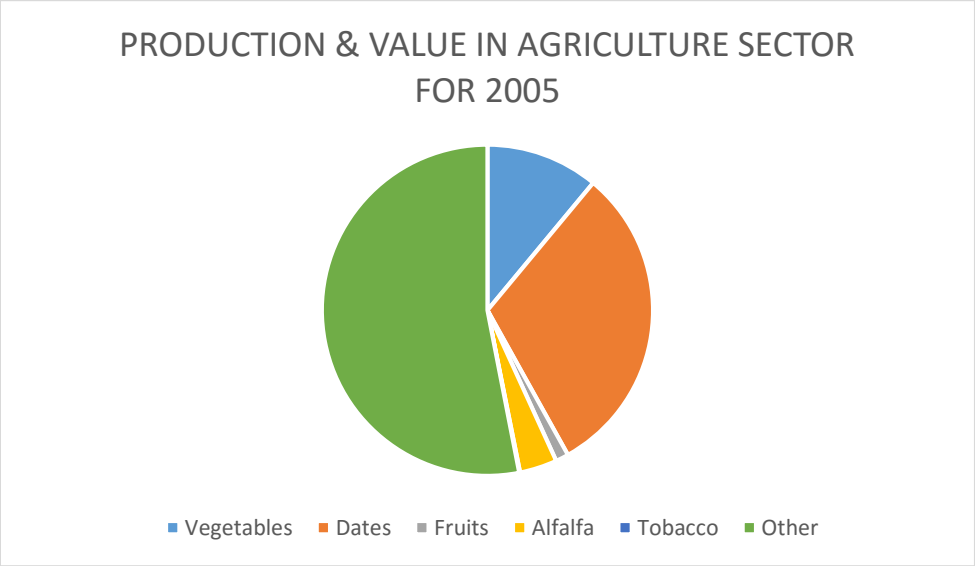


Figure showing the production value of agriculture [7]

The biggest problem faced by the agriculture, forestry and fishing industry are mostly to do with demand driven pressures on the resources for the population. The lack of information management and ICT enabled services makes it harder for production to be boosted. Knowledge management is certainly an underrated issue when it comes to this sector of the industries. There is a deficiency in data just as there is a deficiency in water in the region. The data being used is either

a) Vague and partial
b) Outdated just like the technology being used
c) Not detail oriented
d) Does not have the resources to come up with new usable data
e) The policies being used are not keeping up with the current technology
f) Poor management of the data

Having a knowledge management policy might solve some or more of these issues. Knowledge management policies also have multiple benefits. Without a policy, knowledge management cannot break through the barriers and constraints that it has imposed. One of the main challenges that government organizations face with their knowledge management programs and policies in

Dubai is how vague it is and no clarity of the concept to most of their employees.

Some Existing Policies and strategies

For example, the United Arab Emirates Sustainable Fisheries Programme was launched by H.E Dr. Thani Ahmed Al-Zeyoudi, Minister of Climate Change and Environment (MOCCAE) and H.E Razan Khalifa Al Mubarak, the Secretary General of Environment Agency to highlight the exhausted state of the fisheries resources in the Emirates. In regards to knowledge management, the programme shows how oceanic surveys and marine environment surveys are going to be used to record vital data to help regulate fish stocks and over fishing.

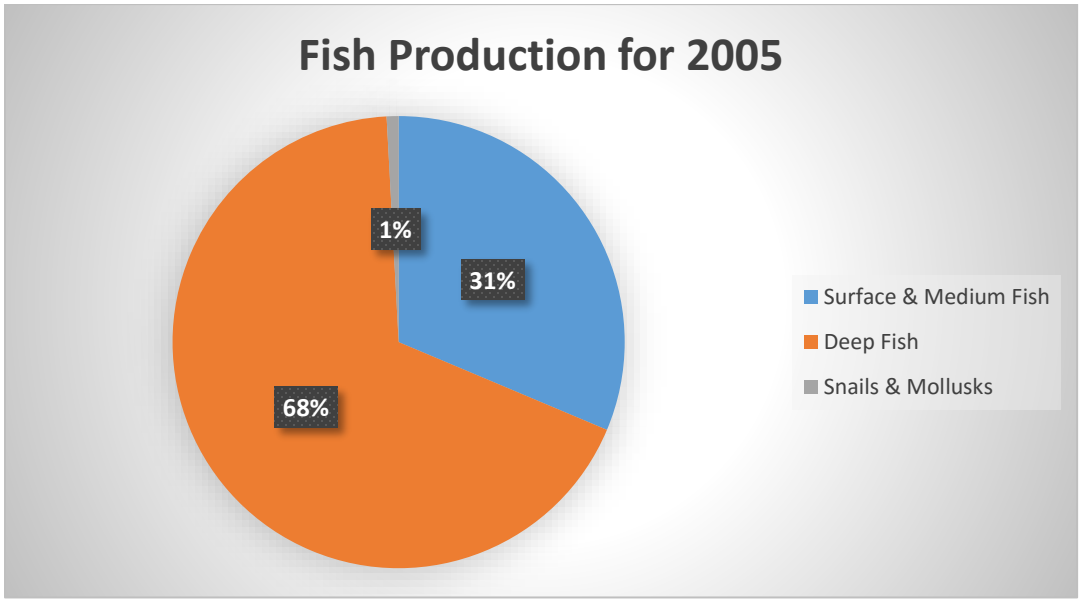


Figure showing the production of the fisheries sector [7]

Similarly, another strategy which is the Abu Dhabi Maritime Strategy 2030[8] has been implemented to promote the fishery sector by playing a vital role in facilitating discussions, coordination and cooperation between stakeholder companies, to improve decision making, policy and planning. This maritime strategy contains many knowledge management related concerns. This includes:

- Developing a spatial planning framework for marine and shore development. By coming up with a framework, it would make it easier to come up with a support network.

- Establish an Abu Dhabi Ocean Observing System, as a base for collecting, sharing and integrating marine data and information. This acts as a big plus in the context of knowledge management as information stored can be used to refer to when sharing vital information.
- Ensuring efficient and effective use of knowledge management through the development and use of a Maritime Information Portal. This information portal also makes the data easily accessible and widespread which falls in line with the interests of knowledge management.

Case studies of knowledge management

Since knowledge management will require some continuous effort it would be more beneficial to understand how knowledge management works within an organization. Given below are some examples and case studies of how an organization worked with and without knowledge management in the sector.

I. Environment Agency –Abu Dhabi :

Environment Agency Abu Dhabi (EAD) is an agency organized by the government established in 1996. It is in charge of promoting a sustainable and ecological environment for forestry and agriculture and assists the government with establishing environmental laws. Their goals place heavy importance on the "demand for extensive data".[9] Their primary vision and aim is on Data transfer and sharing and all the data assessed under them is planned to be available to be utilized effectively and efficiently.

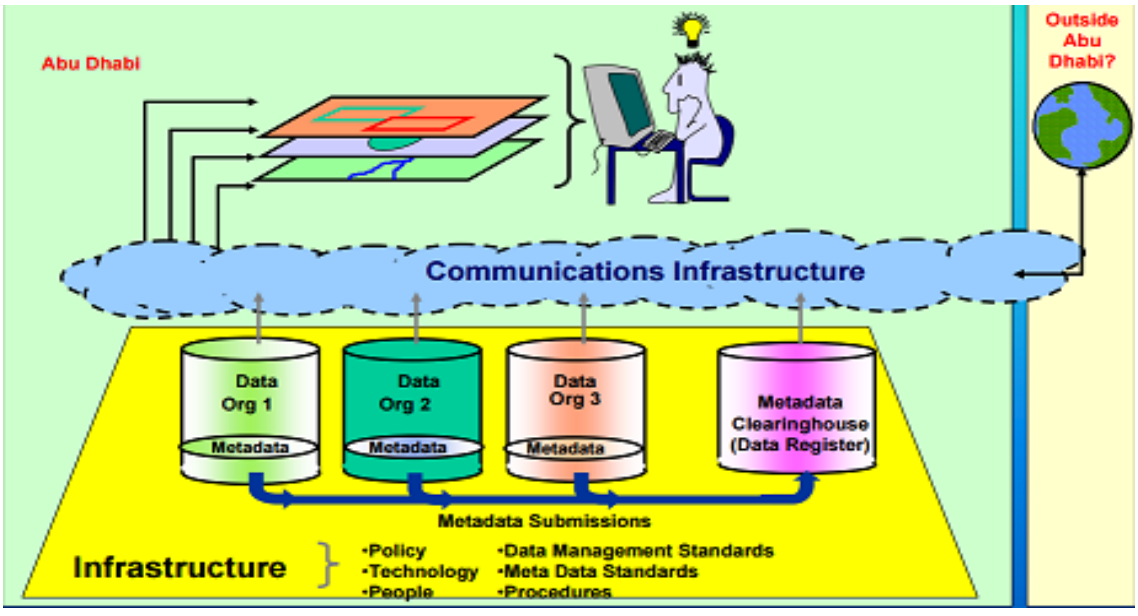


Figure showing the aim of EAD [9]

To implement their aim, an environmental database was established. EDB is an information and data system that is used to produce data that is of high quality, of high standard and documented and lastly highly accessible and shared to spread knowledge. This helps their employees have a better understand of how the database worked and helped to build and analyze their documents easily. EDB is primarily an apparatus for making better informed decisions. It is an effective instrument for sharing and transferring data with third party organizations and partners.

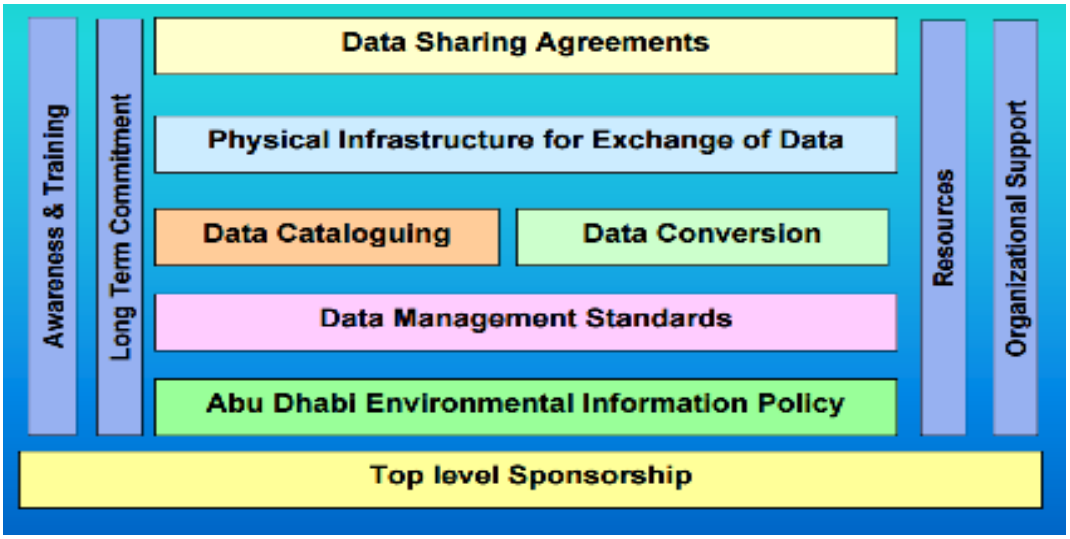


Figure showing EAD requirements using an EDB [9]

Using the EDB, EAD was:

- Able to assess user needs.
- Establish general standards of data
- Have a better database design
- Create an efficient data dictionary
- Implement the appropriate procedures for their projects
- Develop more applications based on GIS
- Train their users which in turn helps in spreading knowledge.

II. Iraq Rural and Agricultural Knowledge Exchange Network :

Iraq Rural and Agricultural Knowledge Exchange Network (IRAKEN)[10] is a hub for agricultural research and knowledge awareness and exchange to be specific the Agriculture Research and Development (ARD) for third party groups and stakeholders in Iraq. The geographical resources are similar to that of the UAE's that being the lack of water and cultivatable land to grow its crops. This results in a deficiency of crop production. The main objectives of IRAKEN is to establish an information system that will support the development of agriculture and ensure that there is food security. In line with knowledge management, the second objective of IRAKEN is to be used and implemented as an information and knowledge repository or as a means of exchanging information at a national standard and act as a gateway for ARD. This exchange of information and knowledge is to be of use for the national programs and organizations that help farmers increase agricultural production and benefit local agricultural businesses.

To meet the region's lack of critical agricultural data, IRAKEN's main vision was to :

- Support policy and facilitate a better decision-making process for planning. Being well informed about the situation leads to better results.
- Support a base for maintaining agricultural development and production. By centralizing the data into one repository, individuals will be able to access the data from one credible source.
- Ensure constant research and development and proper analysis of its outputs.
- Support its non-functional services and features.
- Provide a storage system for the Ministry (MOA) for documents that need to be readily accessed and shared among users that need them.

The end goal from using this system is to improve the capacity and share information, analyze and convert it into useful information and secondly to reduce the redundancy of data and efforts and increase coordination between the other the agricultural organizations and individuals involved with the agricultural development and offers assistance to farmers with any problems they

might have. IRAKEN seems to increase the togetherness that comes with the community and create a policy friendly environment for policy makers.

III. Ministry of Agriculture and Land Reclamation – Agriculture Research Center:

Egypt is an escalated client of current innovations to enhance horticultural efficiency in perspective of the characteristic asset base shortage and population increase. Keeping this in mind, the ministry of agriculture established some practical divisions and research abilities which formed the Agricultural Research Center. Since its implementation, newer crops have been introduced, agricultural practices have been improved and food processing techniques have been refined. Their main goals are to maximize profit per unit of land and water. Their functions include:

- Testing applied and technical research to generate smart solutions and technologies that would help in increasing productivity and reduce costs.
- Transmit new technologies to individuals and agro-businesses and communities through their services and monitor their use by the end client
- Development of human resources as a continuous process.

This center has up until date, implemented four plans that run 5 years, the fifth year plan starting from 2002-2007 in July 2007.[11]

According to one of its first laws, the ARC is needed to expand it's infrastructure, employ more personnel and staff and upgrade its physical capacity to increase its sustainability. New libraries have been built to improve it's performance in an ongoing process which is based on some themes such as :

- Development and Research of sustainable resources and technology and its capabilities.
- Upgrading its networks and technologies to keep up with the demands and exchange of data and knowledge
- Using and utilizing the results of technologies and science available internationally to obtain optimum results

- Building up and increasing its database being accessed by mass producers, traders and third parties such as stakeholders.
- Developing, testing and implementing a complex system in agriculture for crop management and to study the effects of the system.
- Developing tools to help in expert systems, improving the production of its plant animal products and conduct experiments to analyze its effects on the economy.
- Conducts workshops and promotes knowledge sharing through the spread of awareness through these workshops. Develops information systems that includes documentations, statistics and such of the region. Also prepares the report for the dissemination strategy for the information system.

Conclusions

To conclude, these case studies show that knowledge management had been implemented to reduce data reduncancy and have a process to share and exchange data and information. Most organizations will have the same aims but different ways to implement them. Content management systems seem to have more effect because people are able to get the right information with relevance to their needs and wants. An example of this seems to be like the EDB implemented with EAD. This creates opportunities for innovation and creativity as information that is credible would be accessible easily. Technology is an enabler of knowledge management. The trends show that most knowledge management tools have a big impact on how resources and shared with one another both, in an organization and out. This can easily lead to the eventual impact that ICT seems to have on knowledge management. With the internet and networks that technology creates it is evident that ICT also plays an important role in helping with the exchange of ideas and knowledge within a company and also with other organizations. With respect to the UAE and it's organizations and relationship with knowledge management, it requires more time and investment to grow. Suggestions include not just implementing a new technological solution but also training the employees by means of workshops and training meets.

So what can be conferred from this paper is that a good knowledge management policy can be as effective as the person putting it to use. To prevent knowledge loss and retain information and expertise, knowledge management policies can be put in place so that there is easy access to the material required. There are issues with security concerns and who can access what or if the data being shared with falls into the wrong hands for misuse but the advantages far outnumber the disadvantages as discussed in the paper. There is still scope for knowledge management in the future yet. By identifying the organizations requirements and targeting the right groups of people awareness can be raised and problems can be resolved by coming together and sharing a common purpose that is knowledge sharing and content.

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