

# Knowledge Mapping Techniques in Academics Library: Role of Effective Social Media and Web Tools

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## Abstract

One of the most popular techniques for identifying knowledge in organizations is knowledge mapping. It can help decision makers to better understand the knowledge flow within the organizations. Mapping organizations knowledge, especially in research institutes, has attracted much attention from senior managements in recent years. Libraries, among the most important parts of research institutes, have a significant role in scientific advances. Due to this important role, many knowledge operations take place in collaboration with libraries. All of library transactions including users borrowing and returning logs and also books metadata are recorded in library information systems. Users' transaction logs are rich resources to extract information about knowledge operations in an organization.

In this paper we propose a new methodology for drawing knowledge map, based on library information system logs. Our proposed looks particularly at the importance of knowledge management for 21st century information professionals; tried to explore the relation of real and virtual world environment which is more reliable for the Knowledge mapping by the help of Social Medias and web tools along with the existed sources.

**Keywords:** Knowledge Mapping, Web Tools, Social Media, Virtual Environment, Web 2.0, Knowledge Management

## Introduction

Its type of cultural study of an organization and also a regular practice of organization in search of advanced knowledge, resource, techniques etc. Knowledge mapping is very much important for the organization. Knowledge mapping can be specified by a statement, which is, "Knowledge mapping is a mixture of Science and Art". Science because its tools and techniques are based on the Information communication Technology, and also logical steps which are necessary steps to be followed in

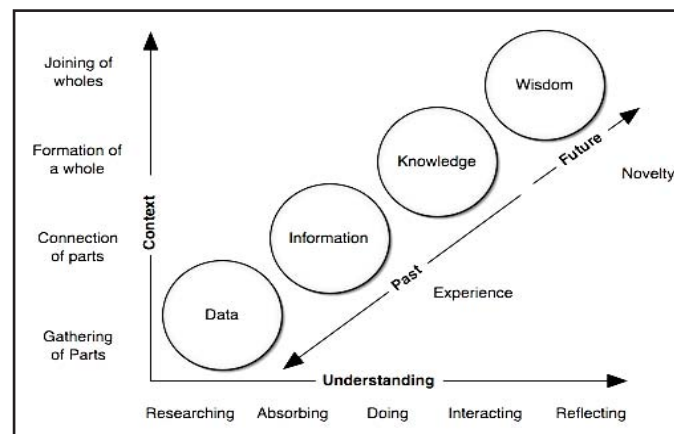
Knowledge mapping, which is nothing but the idea has been taken form the science, its theory, principles and equations, and formulas. Why it is an Art? Because, the activities are involved in Knowledge management, like, observation, picking up right information, and tracking to the user needs, understanding the silent demand of organization and user along with employees is not possible without a silent observer, having all types of knowledge like Tacit, Implicit and Explicit.

## Meaning of the Terms Knowledge

Knowledge is a valuable thing like a treasury. This is a symbol of power and strength. Knowledge is defined by number of scholars of this field. In Information Science it is shown like: Data – Information – Knowledge.

Peter F. Drucker has defined the Knowledge in his book, "The New Realities", as "Knowledge is information that changes something or somebody—either by becoming grounds for actions, or by making an individual (or an institution) capable of different or more effective action."

## Formation of Knowledge



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## Types of Knowledge

The most important process in KM, it plays determinant role for both knowledge reuse and knowledge creation. The factors below summarise the key considerations with the exception of cultural issues, which are further discussed down.

- i) **Explicit Knowledge:** It depends on articulation of needs, awareness of knowledge, access to knowledge, guidance in the knowledge sharing process and completeness of the knowledge sources. IT systems and content management are extremely important in this process.
- ii) **Tacit (embodied) knowledge:** This depends on socialisation, particularly within informal networks. Culture is particularly important in this area. Tacit knowledge can rarely be effectively codified without losing the essence that makes it so valuable to begin with, so the focus should on supporting work relationships. It has a secondary supporting role in this context, primarily as an expert finder and as offering support in the socialisation process.
- iii) **Implicit:** This type of knowledge can't be codify because, it consist the uncommon expression that is very difficult to get its meaning either in same or opposite term.

## Mapping

The meaning of the word 'mapping' stands certain process based activity such as drawing, extracting, manipulating and correlating two or more different domains together for some specific purpose and uses.

Definition according to Business Dictionary.com: "Graphical representation of a procedure, process, structure, or system that depicts arrangement of and relationships among its different components, and traces flows of energy, goods, information, materials, money, personnel, etc. See also mind mapping."

### LIS-Based Organization Knowledge Mapping

Since knowledge in organizations is hidden, we need to establish a methodology for knowledge discovery from facts. There are some key resources in an organization that can supply these facts and show the knowledge flows. Organization's library is one of these key

resources especially in case of research or academic organizations. Since the most important knowledge assets of organizations are their researchers, tracking their information seeking behavior is a good way for understanding the state of organizational knowledge in every field. All of library transactions including users borrowing and returning logs and also books metadata are recorded in library information system. Therefore, by analyzing these logs we can extract valuable information about information seeking behavior of library users.

### Why to Knowledge Mapping, a conceptual framework

What is the need of knowledge mapping it is very important to know before going for the activities of knowledge mapping because it is a mini research which takes a standard time and adequate resources. It is a common practice of resources that it should be function as:

- **Decision making purpose** - It is an important factor for the growth of an organization, because, good policy can give the better result of any work so it is a type of long run benefit input. Which need special expertise skills and tactics to design or create policy. Knowledge mapping plays a major role in collecting the input data, information for decision making process. Because, the information has taken form the techniques of Knowledge mapping have the virtue of unbiased, balance, and future oriented which direct helps in decision making process.
- **Implementation of policies** - A good policy can be fruitful after implementation of it, in a better ways. The implementation it not so difficult but, it needs advance knowledge and experiences to get the response in surplus. By the use of Knowledge mapping, recorded past's knowledge and experiences can be beneficial in this part.
- **For better HRM** - Is human is a resource? Yes or no. If yes! Then how you will use human as recourse. It can't be classifying by classification schemes nor can be fixed to think that this position is vacant so let him to here. Generally, in libraries, even not in this department but everywhere I have seen the unlawful and unhygienic work allotment. What you aspect from those allocation which you have done unworthy way. So how you will save your time and resources of organization and quality up gradation?

The practice of knowledge mapping will fixed your difficulties.

- **To create the stress free working environment** - If an organization is taking steps to with polices based on the happenings of past and situation of present, which possible with organizational studies like employee's performance, time when the profit had gone on up so study of that particular time. These are possible with the Knowledge mapping.
- **Change management** - Knowledge mapping focus on the management part which comes with time change. Change in all types' resources and product and services, market policy competitions and terms of services that are to be change to be in market so these changes should be managed to take steps in future.
- **Streamline operation** - Streamline operation means that operation or work need some extra efforts, efficacy and which can be get not directly, by perception by long day observation, calculation, and obtains of data can give the best idea to execute this types of work without any stress or extra work.
- **Others:** Apart from these points some more points are there which advocate for the need of the practice of Knowledge mapping, so that prime points are: sustainable Growth in resources, to meet the challenges in future, research and development activities, innovation, trap the Information explosion, best services and quality products to be in market on top etc.

### Tools of Knowledge Mapping

- **Organization authority file** – Authority files can be defined or to be understand as a master file of any particular resource. This includes the all types of data and metadata regarding that specific resource. It is
- **After action report** - It can be understand as a state of work in which work is to be done on the behalf of some response and result just to furnish its quality and resources utilization and optimum use of it. This review based on the certain question like, why, how etc. on the behalf this result further work is to done. Wikipedia defines: “An after action review is a structured review or de-brief process for analyzing what happened, why it happened, and how it can

be done better, by the participants and those responsible for the project or event”

- **Conference Seminar reports** - form the conference and seminar report we can compare our problems from the topic discussed, because the conference and seminar are arranged to cope with the new trends and problems. It is good tool for the Knowledge mapping.
- **Wiki - Blogs** - Wiki, Blogs are a type of communication tool to share the information and knowledge on fixed particular issues. It can be use for Knowledge mapping. The basic data of blogs can be beneficial to take different type of data depended on the goal and originations need. Blogs gives the personal orientation and fixed, limited scope of data, and personal data and entertainment of communication and comments that has been given by blogs followers. In the part of Knowledge mapping blogs is one of the essential tools of the data acquisition and procurement.
- **Other contemporary media** - Social networking, Personal webpage, E-resume, Profile page, online news channels etc, can be used for the data collection. Here, the data may not be available in your desired format and desired presented format, but interpretation and compilation of data can give the best result in terms of Knowledge mapping.

### Steps of Knowledge Mapping a Procedural Framework

- **Identification of knowledge need** - first steps is to identify the need and your problem, for which you will go to carry out the study. It is also known as the ‘Problem identification’. This stage is more tuff and critical because everything depends on this stage only. The result of research is directly affected by the activity of this stage.
- **Identification of existing knowledge** - this stage pledge the before going for research or knowledge mapping activity one should identify the primary exiting data related to the problems.
- **Define the sources** - Here, the data collection pats are include in which design of samples, questionnaire, and methods to collect the data also insure the authority scope of your tool by which you are going to take the data.

- **Collection of knowledge** - How you are going to collect the data, and what are the techniques you will apply to obtain the core data.
- **Compilation of knowledge** - These processes includes the activity of compilation and linking of the data in each-other to make it in presentable format. Data have been collected from the traditional and non-traditional methods and media so this stage needs more expertise and skill of handling data and as well as the knowledge of IT also.
- **Creation of new knowledge** - This stage works on to make the result of research, so it is called creation stage of knowledge. Generally, this stage is known as final stage of research.
- **Implementation of knowledge** - Apply your research result to fix the existed problem for that you had carried out the research.
- **Sharing of new knowledge** - This stage is not so much important for he point of view when an organization had worked to fixed the problem of organization itself. But this stage is a linking stage form where further research gate are opens. and others are also get the benefits of research.
- **Facebook** - Facebook, a social networking website most popular having the account of almost over the words people. The purpose of Facebook is to provide an interface to the people so that the can communicate chat and pass their message to each other on there interest and the information education, advertisement, and business are also being shared on Facebook rapidly. By this ways the Facebook is very important sources to connect the people with their friends, colleague, and family member with any condition of distance and time. Here we can use the Facebook for our purpose for the Knowledge mapping. Facebook is very good and fruitful tool for the data mining of our purpose. Form Facebook the psychological, social interaction, behavioral, and personal interest related data can be drawn, form the columns, choices, likes and comments, and shared photos, and links. These are all very beneficial for the Knowledge mapping.
- **Twitter** - Twitter is also social media where people connect and interact on their interested area news, current incidents, and much more, related to policy of government, and activities of government, brands, deals, and etc. Twitter can play the significant role if providing the more professional data of particular or groups. By tracking the twits of an individual or group we can get the conclusion by analyzing the choice, ways to interaction, and behavior, relation, etc. So by this ways Twitter is also a significant tool of knowledge mapping.
- **Linked-in** - Form the linked-in profession oriented data like professional attachment, behavior, knowledge of profession etc. can be taken easily, because the nature of Linked-in is to connect the professionals of particular interest. Linked In gives the information of the professional attachment of a person and how he interact in professional group and what are role he/she played in the group.
- **Professional networks** - Here, the professional groups' means, the community which is taking initiatives of growth, changes, and development and organizing conferences and seminars, discuss on up and down of the field. There are some professional groups like: DELNET, MALIBNET, CALIBNET, and INFLIBNET, Lisforum, Lislinks.com, MLOSC, and blogs like: Library Soup. From these sources an organization can get the over all knowledge about trends, changes and advancements that are taking

## Role of Social Media in Knowledge Mapping

In the process and activity of Knowledge mapping, social media are playing important role today, because they are fast in nature and accessible from anywhere across the world with the faction of publication of information and sharing, copying and easy to send are the prime virtue and quality of these media. Some time print media or traditional media may not bring the new because of some issue regarding the nature of the information and news, may some political issue brings some obstacles on the path of printing the information but it not quite possible in case of social media. The Web 2.0 has given the platform to write and create the web of users also, which is the prime feature of Web 2.0. This feature was not introduced earlier in web 1.0. Web 2.0 has brought the revolution in publishing industry with the supports of big data storing capacity by Google, Microsoft, Open communities, and private non-profit making organizations which are working for the online publication and knowledge generation and exchange.

Some popular Web media or Social Networking Sites that may plays their role in Knowledge mapping are introduced below with there futures also:

place in field, and also the knowledge of a particular on subject field can be taken easily.

- **Social groups** - There are many groups exist in our culture, which works on their fixed motives and fixes area. For example to work for social awareness, funds for orphans, and welfare works for old peoples and environment conservation related work etc. By this type of activity by an individual can give the information of his social attachment.
- **Professional groups** - Professional groups are highly planned and have fixed motives and growth of profession like strategies are including there works in profit in terms of money or goal oriented. A professional network can be a data contributor for Knowledge mapping, data like: professional norms, knowledge on any particular issue and group interaction and self efficiencies etc. related information can be taken from these professional networks.
- **RSS** - Today, getting or passing the information is not so big issue because there are many sources from where you can get updated information about websites and blogs and etc. RSS is explored as Really Simple Syndication or Rich Site Summary, which gives the notification of changes in that particular website's changes and updates. By this information can be acquired for the Knowledge mapping.
- **Alert services** - To get specific and pinpointed information on any particular specific issue from website sources without visiting website everyday same information can be receive in the email box by email alert service which is very common and fast growing. This facility and feature of web is helping in Knowledge mapping up to a remarkable level.

## Conclusion

This paper concludes that Knowledge mapping oriented works or activities which is must be performed by an organization where all types of resources like human, products, and culture are common. Also includes the stages and levels of Knowledge mapping and its process and process, stages involved. In general it may be very common and simple instructions and steps but in real face they can give better support to organization on the path of development and growth as well as quality control and healthy, stress free, and productive environment in organization which is nothing but the cause of the growth of an organization.

It can be concluded that knowledge mapping in this methodology gives valuable information to organization decision makers. It also clarifies the information seeking behavior of knowledge workers and reveals existing deviations between core strategies and knowledge operations. Knowledge mapping can be a helpful way for managers and stakeholders to recognize their organization knowledge assets. In this research, we used a straight forward way for mapping knowledge based on real data. Adding more metadata or connecting external databases like research projects will make the map richer. In this study we assumed subjects as knowledge nodes. However, the research groups or even books might be considered as graph vertices.

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