Knowledge Management in a Research Organization

Manju Shree, Shyamal S Khan, NNJ Hemrom, Selvi S, A K Paul
Research and Development Centre for Iron and Steel, Steel Authority of India Limited, Ranchi, India-834002
Tel: +91-651-2411074
Fax: +91-651-2411074
Email: manju@sail-rdcis.com, skhan@sail-rdcis.com, niralh@sail-rdcis.com, selvi@sail-rdcis.com, akpaul@sail-rdcis.com

ABSTRACT
Knowledge Management (KM) comprises a range of practices used in an organization to identify, create, represent, distribute and enable adoption of insights and experiences. Such insights and experiences comprise knowledge, either embodied in individuals or embedded in organizational processes or practice. Knowledge Management portal is one of the important process of the total KM program of any organization. It helps in creating a platform for knowledge contribution, sharing and discussing for the employees of the organization. Important knowledge gaps can be identified and promoted here. Advantages of web based knowledge management system are that it is easy to maintain as development requirements are limited to the server side. Changes can be done to the system easily and continues improvement can be done to the system.

This paper deals with a case study of Knowledge Management implementation in R&D Centre for Iron & Steel (RDCIS). Here different groups carry out projects and provide technological services in their respective domains. The various outputs of the technical groups include Projects, Papers, Publications, Copyrights, Patents, Technology Awareness Programs etc. This information is mostly maintained in document forms and not available on-line for ready access by all concerned. Intranet based web application called "RDCIS Information Portal" is a gateway to access these information and knowledge base available at RDCIS. The portal is supplemented by on-line applications enabling access to information and knowledge through a single window. It has also provision to capture and share explicit as well as tacit knowledge. Portal has additional facilities like Technical Forums, News, Software Downloads, Formats, Manuals, Circulars, Office Orders, Telephone Directory etc. promoting transparency.

KEYWORDS

INTRODUCTION
Knowledge is information in action [1]. Knowledge is what people in an organization know about their customers, products, processes, mistakes, and successes. Knowledge can be segregated into two types:- One is explicit knowledge and another is tacit knowledge. Tacit knowledge is invisible and it is confined in the mind of the person and so it is difficult to communicate. Knowledge Management is a process that transfers knowledge from individuals and teams, who generate them, to the brain of the organization for the benefit of the entire organization in a systematic way. Any employee can bring about intangible/tangible savings in related work areas by using an existing knowledge asset. The central theme of Knowledge Management is to leverage and reuse knowledge resources that already exist in the organization so that people will seek out best practices rather than reinvent the wheel. Knowledge Management is also related to the storage, retrieval and distribution of tangible Knowledge Assets such as copyrights, patents, papers. Number of patents and copyrights are filed every year by RDCIS, SAIL. That information has also been kept in the portal so that any one can easily access this information. The knowledge management
system gathers, organizes and disseminate information. The individual expertise is summed up and knowledge is available in totality. The knowledge management system creates an interactive environment where the research team shares their expertise and knowledge.

According to Ernst & Young consulting agency research, Knowledge Management Software usage enables up to 30% savings on customer support and increases up to 50% decision-making quality, staff agility, and company reaction speed to changes of market needs. New products development cycle decreases by 20% in average [2].

PLATFORM
LAMP[3], [4] (Linux, Apache, MySQL and PHP) technology has been used to develop the application with Oracle and MySQL databases on Linux operating systems.

ACCESS MECHANISM
The site can be accessed from any node on RDCIS LAN. The system is user-id protected. Each user-id has been assigned one or more of the following roles. The roles are assigned by the system administrator.

Normal User: A normal user is entitled to access all the information available on the portal. A normal user can contribute knowledge piece in any domain and the same will be available on the site for others to study when the same knowledge piece is approved by the coordinator of the concerned knowledge domain. Forum is another important feature in the portal where anybody can participate in any technical discussion under different technical domains.

Departmental Coordinator: Entitled to enter information related to News, Circulars Projects, Photo Gallery, Annual Reports, Lab information etc.

Project Spokesperson: The concerned spokesperson will enter knowledge piece/learning points or any other details for the projects. The project spokesperson list for authentication in this area will be created for all the projects by super coordinator of projects.

MODULES OF INFORMATION PORTAL:
RDCIS Information Portal has number of sections. In fact knowledge management is a part of it[5],[6]. Patents, Copyrights, Paper, Presentation, Projects, TAP, Annual Reports, Technotrends, Forum, PF statement, Pay slip, Birthday, Goodbye, Photo gallery, Feedback, Lab facilities and Software downloads.

Knowledge Management: Any user can submit a knowledge piece in any domain. The same will be scrutinized by the coordinator of the domain. The coordinator may approve or reject the same after discussion with contributor or experts. If a knowledge piece is rejected by a coordinator, then the coordinator has to give the reason of rejection. Contributor may modify the knowledge piece and again send it for approval. There are provisions for attachments like text files as well as video files.

Forum: A platform which any user can use it to participate in technical discussions

Copyright: Full proposal, abstract and other relevant information can be uploaded.

Patents: Full proposal, abstract and other relevant information can be uploaded.

Paper: Full paper and other relevant information can be uploaded

Presentation: Provision for uploading text files and video files apart from abstract and other relevant information about the presentation

Projects: Detailed information of projects can be uploaded through this module. One can upload the learning points gained from the project which may be useful for planning of projects in future.

Manuals: RDCIS ISO Procedures as well as SAIL Personnel Manuals are available for access by employees

Awards: Awards, rewards or any honor etc. earned by the employees can be shared
Operating Committee: Presentations of Operating committee can be uploaded and shared.

Seminars: Experience and learning points of different seminars can be shared through this module.

Visits: Lectures given by different dignitaries can be uploaded through this module.

Lab Facilities: Lab facilities available in different labs of the organization can be uploaded.

My Space: It shows Individual’s data on finance, training etc. One can see his/her own PF statement. In addition to this, Pay Slip of any month can be viewed. A user cannot see Salary Slip and PF statement of others.

Photo Gallery: Album of different functions like seminar, conference and visit etc. can be uploaded.

Birthday: It is accessed from the database. One can see the birthday of employees in a month or during a period.

Goodbye: It is available from the database which helps us to know who are superannuating in a month or during a period. It helps us to know what expertise we are going to lose in the coming days.

Feedback: Users may submit feedback /suggestions through this module.

TAP: Details of sessions, program details and lecture notes as well as video can be uploaded.

Technotrends: Details of Technotrends can be uploaded.

Annual Reports: Annual reports of RDCIS and other areas can be uploaded.


Software Download: Freely available softwares can be uploaded through this module for download.

Features:

i. Selection of information which can be uploaded
ii. Data access from different database systems
iii. On-the-fly content addition by the users
iv. Provision for text and video files upload
v. Role based access.

Benefits

Careful application of knowledge, like other assets, can result in better decisions, particularly, at the working level.

i. Helps in easy access the relevant information.
ii. Improves employee productivity
iii. Facilitates knowledge sharing
iv. Helps in achievement of better decision by spending less time on information gathering
v. Retention of organization’s intellectual capital

Conclusion

A knowledge management system has been introduced in RDCIS, the corporate R&D centre of SAIL. This has cut down the research cost by obtaining current information through the knowledge management system.

Future scope

Although an exhaustive system has been implemented at RDCIS, still there is scope for enhancing the capabilities of the system. The system is presently available in the intranet of RDCIS. In future it is being extended to Corporate net.

References