ISSN 2348 – 9928
IJAICT Volume 3, Issue 3, March 2016 Doi:01.0401/ijaict.2014.05.08 Published on 05 (3) 2016

STUDY OF KNOWLEDGE MANAGEMENT PRACTICES THROUGH OPEN SOURCE SOFTWARE

Ms. Bhagyalaxmi Surve
Sinhgad Institute of Management
Pune, India.

Abstract— ***Extremely individual knowledge management (KM) applications that depend on the users' needs are good applicant for OSS projects. As KM applications change and evolve together with an organization, frequent modifications are required in order to maintain an application up-to-date. Such services may either be unavailable from a vendor or carry excessive costs. Organizations implementing OSS will save money and able to implement the exact kind of system they need to go about their business. The purpose of this paper is to educate the staff on the benefits of using open source software for knowledge management, and points to be considered while deciding to go for commercial software or open source software for knowledge management.***

Keywords— Knowledge Management, Open Source Software, Commercial Software, Open Source Knowledge Management Software.

I. INTRODUCTION

The organizations have to compete with time and cost pressures, various uncertainties. Knowledge Management is critical in reshaping the business policies and procedures in tune with the issues mentioned above. A key component of any organization is knowledge. The biggest challenge faced by Indian organizations to encourage employees to add, use and share the existing knowledge collection [1]. Each organization will differ in functioning and for that they will need different type of applications/software to cope up with this challenge [2]. Many firms find it easier to build what they want out of Open source software (OSS) instead of living with unsatisfactory set of features provided by commercial suppliers.

II. OPEN SOURCE SOFTWARE

When a software program is open source, it means the program's source code is freely available to the public [3]. Unlike commercial software, open source programs can be modified and distributed by anyone and are often developed as a group of people rather than by a single organization.

Since the source code of an open source program can be modified by anyone, it makes sense that the software is also free to download and use. Since the programs are not backed by a commercial company, there is typically no technical support included with the software [4]. Instead, users may need to rely on Web forums and user discussions to report bugs or get answers to their questions. Fortunately, the most popular open source programs have a wealth of helpful resources available on the Web.

Some of the most well-known open source projects include the Linux operating system, the Mozilla Firefox Web browser, and the OpenOffice.org productivity suite [5]. Each of these projects has been developed by a community of developers and has gained levels of popularity.

The open-source software must comply with the following criteria:

- ***Free Redistribution***

The license shall not restrict any party from selling or giving away the software as a component of a collective software containing programs from several different sources. The license shall not require a royalty or other fee for such sale [6].

- ***Source Code***

The program must include source code, and must allow distribution in source code as well as compiled form.

- ***Derived Works***

The license must allow modifications and derived works, and must allow them to be distributed under the same terms as the license of the original software.

- ***No Discrimination against Persons or Groups***

The license must not distinguish against any person or group of persons.

- ***No Discrimination against Fields of Endeavor***

The license must not restrict anyone from making use of the program in a specific field of endeavor. For example, it may not restrict the program from being used in a business, or from being used for genetic research.

- ***Distribution of License***

The rights attached to the program must apply to all to whom the program is redistributed without the need for execution of an additional license by those parties.

- ***License Must Not Be Specific to a Product***

The rights attached to the program must not depend on the program's being part of a particular software distribution. If the program is extracted from that distribution and used or distributed within the terms of the program's license, all parties to whom the program is redistributed should have the same rights as those that are granted in conjunction with the original software distribution.

- ***License Must Not Restrict Other Software***

The license must not place restrictions on other software that is distributed along with the licensed software. For example, the license must not insist that all other programs distributed on the same medium must be open-source software.

- ***License Must Be Technology-Neutral***

No provision of the license may be predicated on any individual technology or style of interface.

III. KNOWLEDGE MANAGEMENT

Knowledge management (KM) comprises a range of strategies and 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 organizations as processes or practices.

Knowledge management efforts typically focus on organizational objectives such as improved performance, competitive advantage, innovation, the sharing of lessons learned, integration and continuous improvement of the organization.

The knowledge management discipline concerns about

- Making available increased knowledge content in the development and in terms of products and services
- Achieving shorter new product development cycles
- Facilitating and managing innovation and organizational learning
- Leveraging the expertise of people across the organization
- Increasing network connectivity between internal and external individuals
- Managing business environments and allowing employees to obtain relevant insights and ideas appropriate to their work

Solving intractable or wicked problems

Managing intellectual capital and intellectual assets in the workforce (such as the expertise and know-how possessed by key individuals) Study of the state of KM within the UK construction sector, discovered the three reasons to have a KM strategy

- The need to encourage continuous improvement (92.5 per cent);
- To share valuable tacit knowledge (88.7 per cent); and
- To disseminate best practices (86.8 per cent).

IV. KNOWLEDGE MANAGEMENT SOFTWARE

Knowledge management software serves as a point of storage for information that have been compiled, organized, used, and shared with other users, for content management (KBPublisher), document management (OpenKM), to efficiently access a knowledge base (Bloomtools), a knowledge base software is needed. There are many software of this kind available. Many can even be downloaded and used without having to worry about any charges or fees.

Before choosing one, the features should be carefully examined and compared to other programs. An excellent choice is usually one that has good support, rich features, affordable price (free is even better), and many users. Various knowledge management software provides free trial, subscription, and for free charge. Knowledge management software and services comparison can be done by deployment method (such as Web-based, Cloud Computing or Client-Server), operating system (including Mac, Windows, Linux, iOS, Android) pricing (including Free, Freemium, and Subscription), platform (including Google Apps, Salesforce, Intuit, NetSuite, SAP) and supported location.

V. OPEN SOURCE KNOWLEDGE MANAGEMENT SOFTWARE

As KM applications change and evolve together with an organization, frequent modifications are required in order to maintain an application up-to-date. Such services may either be

unavailable from a vendor or carry excessive costs. Knowledge management organizations implementing OSS will save money and able to implement the exact kind of system they need to go about their business.

Some open source knowledge management software

- ✓ Owl Intranet Knowledgbase
- ✓ Owl is a multi user document repository (knowledge base) system released as a Free Open Source Version at the end of year (2012)written in PHP for publishing files/documents onto the web for a corporation, small business, group of people, or just for yourself.

- ***Kwok Information Server***

Kwok Information Server is an open source IT management system. Kwok Information Server, utilizing open source software such as Java, Tomcat and PostgreSQL, provides a centralized system for managing/tracking hardware inventory, software licenses, issues, service contracts, and vendor contacts. Additional modules include knowledge base, portal, ✓ RSS, blogs.

- ***KBPublisher***

KBPublisher is an open-source project to build a knowledge base, or FAQ content management system that can be used on any website. Features it offers are Unlimited Categories, Glossary Terms, Powerful WYSIWYG, Instant Response, Searching, Add attachments, Five different admin roles, Protect categories, Commenting / Rating / Send to friend, Users can ask questions, Related Articles, RSS.

- ***OTRS Help Desk***

OTRS is the leading help desk software solution that makes the communication with your clients more transparent and easier. From incidents to service requests, with the web-based Open Source help desk software, OTRS, no communication is lost and customer requests are routed automatically to the right service team, ensuring they are answered more quickly. Free of license costs and with an open and flexible architecture OTRS makes it possible for service organizations to build a customized and powerful service management solution resulting in high quality service at minimal operational cost.

- ***TWiki***

TWiki is a flexible, powerful, and easy to use enterprise wiki, enterprise collaboration platform, and web application platform. It is a Structured Wiki, typically used to run a project development space, a document management system, a knowledge base, or any other groupware tool, on an intranet, extranet or the Internet. Users without programming skills can create web applications. Developers can extend the functionality of TWiki with Plugins.

TWiki fosters information flow within an organization, lets distributed teams work together seamlessly and productively, and eliminates the one-webmaster syndrome of outdated intranet content. TWiki has been downloaded over 500,000 times and is used daily by millions of people in over 100 countries. Some larger deployments have several 100,000 pages and over 10,000 users. TWiki is developed by an active open source community on twiki.org.

VI. POINTS TO CONSIDER WHILE DECIDING WHETHER TO GO FOR COMMERCIAL SOFTWARE OR OPEN SOURCE SOFTWARE FOR KNOWLEDGE MANAGEMENT

- ✓ User customizability,
  Operating system (including Mac, Windows, Linux, iOS, Android)
- ✓ Pricing (including Free, Subscription),
- ✓ Platform (including Google Apps, Salesforce, Intuit, NetSuite, SAP)
- ✓ Deployment method (such as Web-based, Cloud Computing or Client-Server),
- ✓ Network support,
- ✓ Knowledge sharing capability,
- ✓ Document Management,
- ✓ Potential to capture the intellectual capital of the organization,
- ✓ Document Repository, Data repository (type, size and content)
- ✓ Collaborative environment
- ✓ Licensing (cost and type),
- ✓ Upgrade concerns (cost and availability),
- ✓ Security Level,
- ✓ Technical support.

VII. CONCLUSION

Open-Source Software alone cannot ensure access and sharing of knowledge and information. Associating open source software with knowledge management software provides a mechanism to share the knowledge, experience, best practice cases, know-how, research, documentation, source code, institutional repositories and support.

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