Multilingual Virtual Knowledge Management & Dissemination Platform for Rural Industries

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Abstract. Mahatma Gandhi Institute for Rural Industrialization (MGIRI) is a National Institute under the Ministry of MSME, Govt. of India It's mission is to accelerate the process of Rural Industrialization in the country along the lines of Gandhian vision of sustainable and self reliant village economy and provide S&T support to rural industry . With the help of trained human-resources several experiments in capacity building and HRD were conducted in MGIRI. The aim of the institute in conducting these experiments was to streamline the pathway for creation of more and more employment for the general mass as well as to give new dimensions to their traditional business. . The experiment is to bring about plausible changes in the rural Micro & Small industry. It was felt necessary that apart from traditional teaching , masses such as MSME clusters , khadi institutions , artisan community and SME entrepreneurs should be provided eLearning support. One of the main benefits is being able to do the learning in suitable own time, at own pace and also in own environment and of course in local language. This paper proposes numerous types of media that deliver text, audio, images, animation, and streaming video, and includes technology applications and processes as well as local intranet/extranet and web-based learning. Smart phones, text messaging , use of social networking sites , blogs & other means of online communication allow community to keep in touch and discuss business issues whilst providing for a sense of community. It is also proposed to set up a strong networked linkage based on Hubs & Spokes models so as to facilitate quick availability of modern science, technology and management inputs for rural industrialization. Outcomes will be part of Learning Management Systems (LMS's). LMS's will be made available to community in English , Hindi & all major Indian Regional Languages so as to reach the mass.

Keywords: Technology Dissemination, Multilingual eLearning, Rural Industries, Computer Based Teaching (CBT), Virtual Knowledge

1. Introduction

1.1. MGIRI & Rural Industrialization

Mahatma Gandhi started the All India Village Industries Association (AIVIA) at Wardha , Maharashtra in 1934. AIVIA had a Board of 18 advisors consisting of distinguished scientists like Dr C V Raman and Dr J C Bose and also many leaders in public life and industry: Rabindranath Tagore, G D Birla, M A Ansari, and Satish Chandra Das Gupta among others. AIVIA succeeded in reviving and nurturing a number of rural industries through science and technology .KVIB created JBCRI, Jamanalal Bajaj Central Research Institute in 1955 – to carry forward the R&D works of AIVIA, From 1st April 1957, the Institute came under the Khadi & Village Industries Commission (KVIC). Mahatma Gandhi Institute of Rural Industrialization at Wardha has been developed by the collaborative efforts of KVIC and IIT Delhi. It was decided to set up this National Institute at the historical premises of AIVIA founded by Mahatma Gandhi.

1.2. Present Scenario and Issues

Skills and knowledge are the driving forces of economic growth and social development for any country. As the proportion of working age group is increasing steadily, India has the advantage of "demographic dividend". Harnessing the demographic dividend through appropriate skill development efforts would provide an opportunity to achieve inclusion and productivity within the country and also a reduction in the global skilled human resources. Large scale technological skill dissemination is thus an imminent imperative. Major challenge of skill development initiatives is also to address the needs of huge population by providing skills in order to make them steady growth in business and help them secure "Decent Work.". This will also inculcate dignity of artisan and create greater awareness towards environmental, safety and health concerns.

According to planning Commission (2009) , planned development of skills must be underpinned by a "policy", which is both comprehensive as well as national in character. A national policy response is, therefore, needed to guide the skill development strategies and coordinated action by all stake holders to avoid a piecemeal approach. It is also important that the policies of skill development be linked to policies in the economic, employment and social development arenas. The middle & upper class Indian population is the main customer of rural based green products . Today the living standard of urban society has changed completely and a huge gap has developed between MNC's and traditional Indian rural industries. The artisans , Micro & Small enterprises are quite far from the exposure of latest technology & skills and resulting them into sick units. Major factors includes knowledge gap about good quality raw material ,language / cost barrier ,availability of latest tools and technology within reach ,latest trends of market & marketing network. Use of traditional knowledge with integration of modern web based tools will definitely fill the knowledge gap. In this mostly connected, always switched-on world, web eLearning makes more sense than ever before. It gives everyone who needs to learn a new skill, become a entrepreneur or share ideas . eLearning extends the reach of the training room and learning centre, and it provides learners with more ways in which to participate in training, and professional development, on terms increasingly defined by learners themselves, than ever before. The forms of e-learning presented in this paper have the following features:

- Stores and/or transmits lessons on DVD, local internal or external memory, or servers on the Internet or intranet.
- Includes content relevant to the learning objective
- Uses media elements such as words and pictures to deliver the content
- Uses instructional methods such as examples, practice, and feedback to promote learning
- Instructor-led (synchronous) as well as designed for self paced individual learning (asynchronous).
- Helps community to build new knowledge and skills linked to knowledge goals or to enhance communal performance.

2. Methodology

What. e-learning   include both content (that is, information) and instructional methods (that is, techniques). *How* e-learning courses are delivered via digital devices such as computers and smart phones. Other formats called virtual classrooms, webinars, or synchronous e-learning are designed for real time instructor-led training. Synchronous e-learning allows people from any location of world to attend an online class taught by an instructor in real time. *Why*. e-learning lessons are intended to help learners reach personal learning objectives or perform their jobs in ways that improve the bottom-line goals of the business. From Bransford's work (1998), a framework for studying the integration of knowledge management and e-learning can be positioned around the intersection of three components: knowledge-enabled, learner-centered, and community-accessed .Knowledge-enabled refers to the KM part of the equation in terms of having the right knowledge available at the right time and place for the learner. Learner-centered refers to the focus being on the learner with the various teaching paradigms being adapted to the learner's style. Community-accessed, the third component, is a combination of both KM and e-learning. This refers to the ability to learn from others through a community of interest. A community of interest brings social networking characteristics to KM (i.e., the "connection," people-to-people approach) and to e-learning (i.e., using technology to reach out to the communities for learning). The intersection of these three components is the core of where knowledge management and e-learning meet. The fields of knowledge management (KM) and e-learning (EL) have gradually converged as the technological solutions to facilitate both processes have become more sophisticated and interactive ("KM and e-learning: a powerful combination," 2003). The value proposition of KM has shifted from local to centralized, decentralized, and finally evolutionary sharing of knowledge (Bonifacio et al., 2008). Similarly, EL has developed from a process focused on distributing information and knowledge to one that deeply engages learners in sophisticated interactions through communities that transcend geographic barriers. The result is an unmistakable growing relationship between KM and EL to address needs through knowledge sharing and learning. Both KM and e-learning professionals strive to change behavior, increase content knowledge, and impact organizational effectiveness.

However, evaluation is focused on the inputs related to processes, products, and systems used to manage knowledge and deliver content. Adding assurance of learning to these two frameworks as described in ther model shifts the focus to a more systemic view of the impact on knowledge transfer, learning, and the impact of the facilitation of these two processes on the organization as a whole. Without a mechanism in place to measure the impact of initiatives on individual learners and the collective impact on the organization, achieving the desired institutional transformation will be challenging.

The necessary infrastructural facilities to cater to current requirements of the above sections have been developed. However, the approach to be followed by MGIRI will be primarily to act as a facilitator and as nodal networking institute. Accordingly, only selective R&D work will be carried out at the MGIRI campus and all efforts will be made to direct the projects to respective interfacial working groups and expert organizations Following table (table 1) shows domains in which MGIRI is capable of providing ICT support .

Sectors	Rural Products	Knowledge partners
Bio – Processing & Herbals	Herbal products , Panchagavya , Organic Food , Agro waste	CSIR , C-DAC , IIT's , IIM's , R & D institutions , Field Experts , Consultants , NGO's , National Innovation Foundation (NIF) , Min. of MSME , Min. of Communications & Information Technology
Rural Chemical Industries	Toilet consumables , Fertilizers & Pesticides , Eco friendly products.	
Khadi & Textiles	Woven , Weaving , Khadi Garments , Woolen Products	
Rural Craft & Engineering	Pottery , Bamboo & Metal Craft , Artisan Tools , Ceramic , Decorative items	
Rural Energy & Infrastructure	Low cost packaging machines , LED , Low cost housing elements	

Table 1: ICT support capability of MGIRI

The Virtual Knowledge Platform (VKP) introduced in Figure-1 conceptualizes the commonalities in the value chains of each of these domains and analyzes the systemic impact of merging these models into a unified value chain that promises to continually assess and improve the impact of learning and knowledge creation activities. By describing the impact and emphasis of knowledge assurance (KA) and analyzing the gaps in the literature on KM and EL in the areas of assessment and evaluation, this VKP model presents an opportunity to bridge the intentions of these areas and demonstrate value creation to a knowledge hunger community.
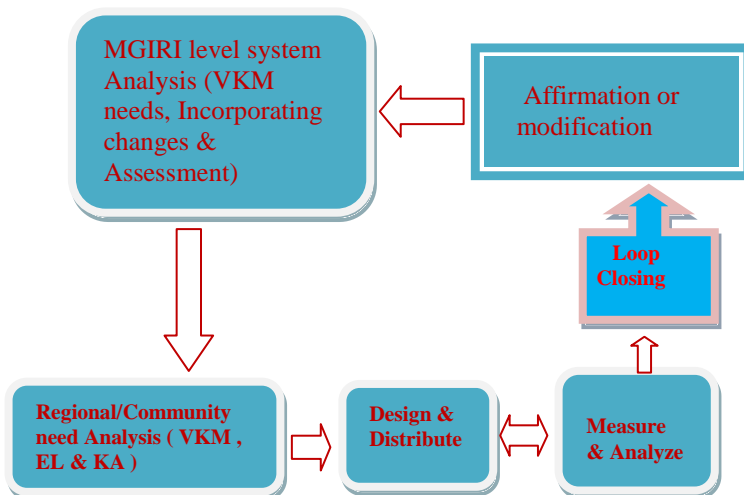

Fig. 1: Conceptualizations of MGIRI Virtual Knowledge Platform

Combining KA with KM and EL creates a compelling, robust, dynamic learning systems model that employs the unique elements of each domain to advance the organization through simultaneously addressing individual-, group-, and institutional-level needs. A shift from inputs to a focus on outputs serves to remove hierarchical barriers (often driven by an input orientation) to problem solving or problem synthesis. Multilevel analysis provides not only a measure of individual performance but also insight into needed changes and adjustments required at all levels to optimize impact. A dynamic Virtual Knowledge Platform approach that combines KM and EL with KA, and is fueled by measurable evidence that monitors and directs change, creates a gestalt that magnifies the power of the discourse on knowledge in rural masses and R &D Institutions. KM, EL, and KA together may achieve the goal.

Three Web Tools which can be used for Knowledge Dissemination & Sharing are-

Blogs Bloggers write, reflect, and clarify thoughts for themselves, and if the writing is made public, for others as well. Farmer, Yue, and Brooks (2008) offer four pedagogic benefits of blogging for learners: (1) Blogging encourages learners to become subject matter experts "through a process of regular scouring, filtering and posting"; (2) blogging fosters ownership in learning; (3) it cultivates communities of practice; and (4) offers opportunity for "diverse perspectives" (p. 124).Wordpress, Blogger & TypePad are three highly popular blogging platforms today.

Wikis Wikis are Web pages, usually tabbed or with links, and are a popular place to disseminate information and share in the creation of new content. Users can read a wiki as content-consumer, use a wiki as a personal content organizer, or join a multiuser wiki and become part of a community of collaborators, content creators, reviewers, and editors.

Social Networking Services The term "social networks" outside of the realm of the Web 2.0 wave, refers to a group of individuals (or organizations) drawn together by some common interest. These services on the Web are then the so-called social networking sites, such as Facebook, Ning, MySpace, LinkedIn, etc. The social networking sites provides users the necessary tools to interact with other members through various Web-based means, as well as to create, find, and connect with common interest subgroups within the larger social networking site membership group. Ning has been extensively used by educators to share information on how to effectively use new technologies in education. Classroom 2.0 (http://www.classroom20.com/) and Ning in Education (http://education. ning.com/) are social networking sites created using the Ning social software tool.

3. Acknowledgements

4. References

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