INTEGRATION OF PROPOSED KNOWLEDGE MANAGEMENT FRAMEWORK WITH E-GOVERNANCE GRID FOR SUSTAINABLE E-GOVERNANCE IN RURAL INDIA

Dr. Alpana Upadhyay

Associate Professor & Head

Department of MCA, Sunshine Group of Institutions

Rajkot, Gujarat, India

Dr. C. K. Kumbharana

Professor & Head

Department of Computer Science, Saurashtra University

Rajkot, Gujarat, India

Abstract— Since beginning of civilization, the criterion of success has been the control of natural resources like land, gold, oil. In today's world "Knowledge" has become a new capital, an intangible resource. Information and Communication Technology (ICT) is changing institutional framework, redefining our ways of doing things, creating new values for next generations across the world. The new findings were significant in completing the picture of e-Governance in rural India and confirming the importance of the identified critical factors in the adoption process with Knowledge Management. This helped to achieve the ultimate goal of this chapter and build a comprehensive Knowledge Management framework for sustainable e-Government adoption that is based on understanding the context in rural India and its specific needs and requirements.

Keywords—e-Governance; knowledge management; sustainable; rural India

I. Introduction

"India to become a Knowledge Society", and also facilitate "social inclusion" of marginalized rural poor to access knowledge and information.[1] Since beginning of civilization, the criterion of success has been the control of natural resources like land, gold, oil. In today's world "Knowledge" has become a new capital, an intangible resource. Information and Communication Technology (ICT) is changing institutional framework, redefining our ways of doing things, creating new values for next generations across the world. In order to build knowledge based activity as major economic and social resource people's movement must be in motion for marching towards knowledge society by taking into account the elements as societal transformation, wealth generation and knowledge protection, stepping up the human resource, capability development by education, emphasis on infrastructure like electric power, connectivity, strategies for employment generation, wealth generation, knowledge protection etc.

Dr. Abdul Kalam envisions founding of the Village Knowledge Centers in 2.3 Lack Panchayats to support and empower the villagers with knowledge and to be active as a nodal center for the knowledge connectivity for villagers and it also identifies a "Village Information Officer" to become "the extended ears and eyes of the rural people towards the world of knowledge". The advantages of e-Governance are lying in tele-Education, tele-Medicine, e-Judiciary, e-Commerce projects should be reaped by these

knowledge centers. [2] For example, People who are from agriculture sector needs to be facilitated by skill enabling for conducting value added tasks in the enterprises of rural sectors so that relocation to urban areas can be reduced. In place of persons from rural areas moving to urban towns in searching of jobs in service and manufacturing sectors, they would be facilitated to have creation of employment in rural areas. This can be done by providing physical, electronic and knowledge connectivity to a bunch of villages, in a way leading to their prosperity and economic connectivity.

II. Knowledge Management framework for sustainable e-governance

Although the nature of computers is all pervasive, they are still far away from having a truly affable access device for the villagers. We would need a human intermediary in such cases, who can act as the village information officer. That fallow would be an extended ears and eyes of the rural people towards the world of knowledge. Our country has approximately 2.3 lakh Village Panchayats. Researcher visualizes the establishment of "Village Knowledge Centers" in these Panchayats. These Village Knowledge Centers would work to empower villagers with knowledge and would act as a nodal centre for knowledge connectivity. The village knowledge centre, from which villagers can access information through the village information officer would also be used for digital storage and dissemination, collection of village specific information pertaining to any pertinent information to villagers. It would provide direct quality employment to almost one million villagers who would be involved in encouraging higher level of prosperity generation in rural sectors.

A. Development of Comprehensive Knowledge Management Framework

Researcher has done analysis aimed to understand and confirm the significance of the critical factors of e-Government adoption in rural sectors of India, at various levels. The researcher examined two sectors of rural India for instance namely 'Education' and 'Agriculture'. The in-depth analysis has greatly helped to deepen this understanding and develop new themes and factors. The new findings were significant in completing the picture of e-Governance in rural India and confirming the importance of the identified critical factors in the adoption process with Knowledge Management [3][4]. This helped to achieve the ultimate goal of this chapter and build a comprehensive Knowledge Management framework for sustainable e-Government adoption that is based on understanding the context in rural India and its specific needs and requirements.

In order to ensure that the framework is applicable and useful in guiding the process of decision-making of e-Governance in rural India, the researcher has taken a further step and has validated the developed framework. The framework validation process and implementation process have been described in-depth. Any framework describes concepts, aspects, such as processes or systems as well as their relations of a certain domain or problem to create a better understanding or to support specific purposes. In many domains frameworks are used to understand the relation between components and to structure and guide through a problem domain.[5]

The researcher understands the framework as a step towards building a theory for knowledge management understanding, for example cultural and contextual influence factors which has not been achieved yet. This knowledge management framework aims at describing and relating main components influencing KM design and acceptance. It provides a common terminology and

frame of reference in general manner, involved in knowledge management. The framework is illuminated and proposed [5].

III. Integrating proposed framework with e-governance grid

The purpose of developing the knowledge management framework is to help policy makers in their decision making process. In this study, the developed framework forms the basis for policy makers to review their initiatives and balance priorities in their strategic planning. This is of significance in a developing country context where, most e-Governance initiatives are still considered to be immature and many problems were seeded at the strategy phase, leading to inappropriate decisions and actions. The framework is developed in such a way so to assist decision makers at the national level as well as the organizational level, by highlighting the most critical contextual factors and explaining how they interact and evolve in the process of formulating e-Governance sustainable. The researcher identified three distinct steps explaining how to use the proposed framework. The researcher believes that by following these steps, the organization decision makers can obtain the best results and guidance for the sustainable e-Governance processes.

1. Review the current status of the existing e-Governance projects and build on past experiences to understand the obstacles and factors influencing the adoption process. A categorization of the most critical factors concludes this step to rank challenges.

2. Adapt the framework with new factors, or remove some factors when they are no longer critical in order to cope with the dynamic changes in the surrounding environment.

3. Prioritize future plans and initiatives in order to gain suitable balance between development of technology, organization and environment aspects.

IV. Integrated Action for Development of Rural India

A. Integrated Action for Development of Rural India

To fulfill the needs of one billion people, our country has a mission against us of converting India into a developed nation. This can be achieved through developed rural India. We have identified five areas where rural sectors of India has core competencies for integrated action, (1) Education (2) Agriculture and food processing (3) Public Health (4) Development of Entrepreneurship (5) Women Empowerment. These five areas are closely interconnected and when efficiently dealt with, economic, would lead to food, energy and national security. Implementation of this framework in the time bound manner and in the integrated way and also in a cost effective manner and to offer the necessary services to the citizens justifiably with ease, it is necessary that we use the technologies existing now a days, and work out on the comprehensive system of e-Governance for all Government to Citizens transactions (G2C), Government to Government (G2G). Fig. 1 shows the necessary integrated actions for developed rural areas.
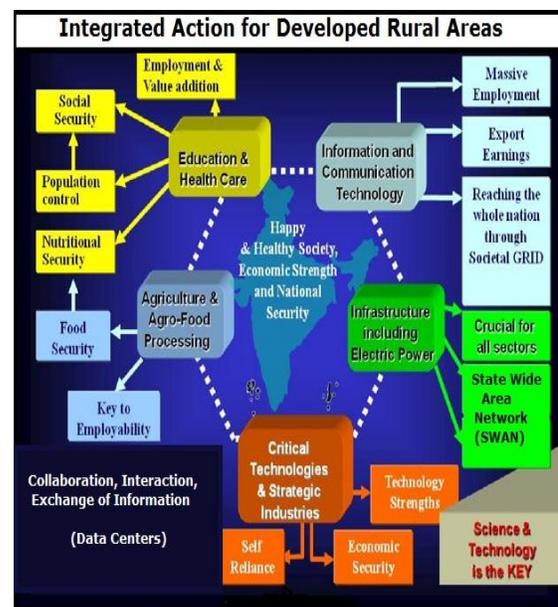

Fig. 1 : Integrated action for developed rural areas

V. USING PROPOSED KNOWLEDGE MANAGEMENT FRAMEWORK IN CONTEXT OF SUSTAINABLE E-GOVERNANCE

Good governance has been recognized as a very important goal by many of the countries across the world. They have in use of specific initiatives for open government. Detailed guidelines are defined for redefining and supporting the freedom of information. Internet uprising is proven to become a very powerful tool to have good governance practices and initiatives. An important aspect of the internet impending is the possibility of offering services anywhere and anytime. Along with this, there is a mindful effort to place the citizen as centre of hub of the governance. Citizens are treated as clients and customers. [7]

e-Governance must be citizen friendly. Primary function of the government is considered as a delivery of services to citizens. Above all, India as the democratic nation of the billion people, e-Governance must enable flawless access to the information and also a seamless flow of information crosswise the state government and central government in the federal setup. The government needs to provide multiple facilities as a part of governance and services to the people.

These services are also necessary to be continuously upgraded with the help of technology for the fulfillment of the hopes of the people. Budgets and spends of a huge amount of funds of the government to fulfill this objective during the plan of five years, would be expending a million crore for the development of nation, which are going to be spent for the advantage and benefit of all the needy people and other disadvantaged people. On the other hand, when it comes up to reach the benefits to the common man, the services which reaches to the citizens, has much low value than the expected level of contentment. This may happen in all the services namely healthcare, education, sanitation, water supply, power supply, road development, drainage and garbage disposal, tele-communication, requesting loans from the banks for small scale industries, agriculture and many other areas of the importance of our society. Even the citizens have to struggle to get the payment timely for certain services and sometimes wrong means have to be adopted for making payments. Thus, modern and new definition of e-Governance can be envisaged as "A transparent smart e-governance with seamless access, secure and authentic flow of information crossing the inter-departmental barrier and providing a fair and unbiased service to the citizen". [6]

Today's ICT-Information and Communication Technology has made the demise of distance and time because computers are tremendously fast and technology is further improving all the things that can be worked out within the time.
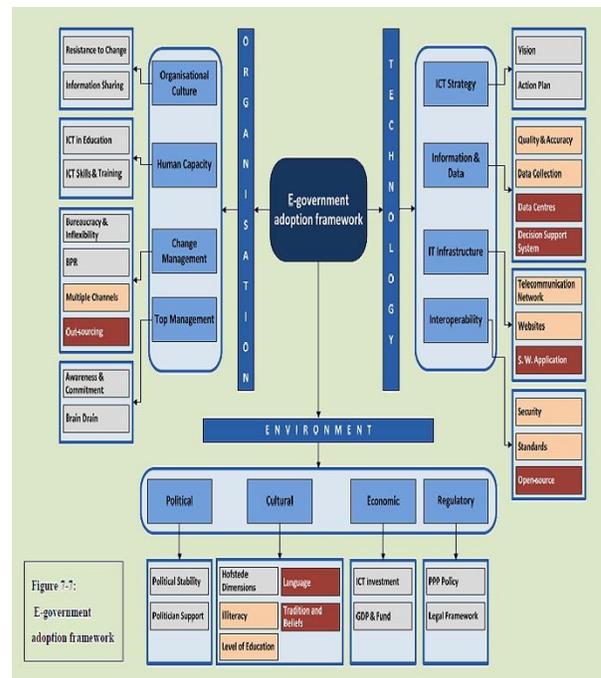

Fig. 2 : The integration of proposed Knowledge Management Framework with existing e-Governance Grid

The available network is extremely faster so there is no need to be concerned about how far the distance is. In the democratized information system, there is a new paradigm that is, "The information can be accessed Anywhere and Anytime". The goal of revolution is to maximize domestic production, productivity of the land and productivity of the rural people by maximizing the performance of each sector namely, Education, Agriculture, Public Health, Women Empowerment, Entrepreneurship and services which are synergized by this new system of intra sectoral and inter sectoral knowledge connectivity to serve a millions of people.

Fig. 2 demonstrates the integration of proposed Knowledge Management Framework with existing grid of e-Governance.

VI. Outline of Adoption of Proposed Framework

This paper has achieved its aim of explaining how the proposed Knowledge Management Framework can be integrated with e-Governance for the empowerment of rural people. This paper has also discussed that how the proposed framework can help to decision making using knowledge management. The layered architecture for the successful adoption of the framework may be discussed in detail. The proposed Knowledge Management Framework may help in a numerous ways to empower susceptible rural communities. It may assist in empowering women, providing them with suitable information on various hygiene, health and issues of re productiveness. As it has been mentioned above, the training programs offered through the VKC can enable women to learn more about computers and the Internet, and even provide them with meaningful job opportunities as well as opportunities to lead them in the areas of getting educated for self employment. In this way the women of rural areas can be the role models to female children in their villages and can give inspiration to them. Rural people can be empowered

enough in order to afford their children with better educational opportunities. Adoption of the framework can help rural people to be knowledgeable and confident about their environment and about the world outside the villages. It can also provide opportunity for the acquaintances to engage in entrepreneurship, by offering them payment services such as loan application preparation, letter writing and document printing services.

It can propose more services those are relevant to the farmers for getting weather reports and information of current market price, crop design, boost agricultural growth, support in decision making, to help in reducing the uncertainty and unmeasured unpredictability in agronomic conditions, to use the natural resources proficiently, in reducing waste, sustainable increases in productivity, use of fertilizer, pest control etc.

The villagers can value the newspaper produced by the VRC in local language and be dependent on these traditional forms of giving out news to learn about government sponsored schemes and other news. Students can have their examination results online and to learn more about subjects like science and computers. This can be used to connect India's villages, provide them with appropriate information, develop the rural economy and provide job opportunities to the villages in the rural areas of India.

In this way adoption of proposed Knowledge Management Framework is likely to thrive and make rural India into the engines of growth and likely to provide rural development in context of sustainable e-Governance.

REFERENCES

[1] Dr. N. Vijayaditya, Director General, NIC, Dept. of IT, Gov. of India, Conflux 2005 available on www.conflux.csdms.in

[2] A Upadhyay, H Gohel,"World Wide Web, its Evolution and Future: A Historical Analysis at Cursory Glance",World Wide Web 2 (04)

[3] Dr. Kalam, "My Presidential Speech", Text of address to the nation on the evening of 56th republic day, http://www.abdulkalam.com/kalam/jsp/display_content.jsp

[4] Dr. Alpana Upadhyay, Dr. C. K. Kumbharana, "Analysis of Functional Parameters to Implement Knowledge Management for Sustainable e-Governance in Agriculture Sector of Saurashtra Region of Gujarat State", Advances in Intelligent Systems and Computing, Springer, 2016

[5] H Gohel, V Gondalia,"Executive Information Advancement of Knowledge Based Decision Support System for Organization of United Kingdom",International journal of advanced and innovative research, 41-50,2013

[6] Dr. Alpana Upadhyay, Dr. C. K. Kumbharana, "Analysis of Functional Parameters to Implement Knowledge Management for Sustainable e-Governance in Education Sector of Saurashtra Region of Gujarat State", International Conference on Computer Science Networks and Information Technology, Jan 2016

[7] Dr. Alpana Upadhyay, Dr. C. K. Kumbharana, "Surfacing comprehensive Knowledge Management Framework for strengthening sustainable e-Governance with respect to various sectors of Rural India", Productivity Journal Volume No. 53 (Oct.-Dec. 2012), ISSUE NO. 03, ISSN 0032-9924

[8] Dalkir K. 2005, "Knowledge Management in theory and practice", Elsevier Inc. Oxford

[9] H Gohel, DA Upadhyay,"Study of Cyber Security with Advance Concept of Digital Signature",International Journal of Advanced Research in Computer Science 6 (5), 73-76, 2015

[10] H Gohel,"Looking back at evolution of the internet",CSI Communications - Knowledge Digest for IT Community 38 (6), 23-26,2014

[11] H GOHEL, A UPADHYAY,"Reinforcement of Knowledge Grid Multi-Agent Model for e-Governance Inventiveness in India",Academic Journal 53 (3), 232, 2012

[12] H Gohel, A Upadhyay, P Sharma, "Analysis of Social Media Attacks and Classify Advances to Preserve", International Research Journal of Engineering and Technology (IRJET),2015

[13] Dr. N. Vijayaditya, Director General, NIC, Dept. of IT, Gov. of India, Conflux 2005 available on www.conflux.csdms.in

[14] P Sharma, H Gohel,"Study of Quantum Computing with Significance of Machine Learning"CSI Communications - Knowledge Digest for IT Community, 2015