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Symbiosis between Knowledge Society and E-Governance

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ABSTRACT

E-governance brings urban and rural areas together and breaks the barrier of distance to lead an efficient administration. Surprisingly, e-governance has not made enough impact on the people as e-commerce and e-learning have done. In the digital world, libraries are emerging as means of creation and dissemination of knowledge. It is enough for e-commerce and e-learning to be reactive whereas e-governance to be proactive. While e-commerce and e-learning involve information management, e-governance involves knowledge management (KM). KM is the management of information, skill, experience, innovation, and intelligence. E-governance based on knowledge management system (KMS) is built on KM cycle of knowledge capturing, knowledge sharing, knowledge enhancing, and knowledge preserving. A few popular models of e-governance use a concept of "knowledge centers" to share knowledge. The digital library requires searching, sorting and KM strategies for maintaining/updating the resources. This paper describes challenges in KM, technological growth and studies development of KMS-based e-governance, which is path-based. It also discusses symbiosis between knowledge society and e-governance.

Keywords: Knowledge management, e-governance, knowledge society, e-commerce

1. INTRODUCTION

Information and communication technologies (ICTs) are increasingly playing important roles in the day-to-day lives of people, revolutionising their work and leisure, and changing rules of doing businesses. Developments in ICT have paved the way to e-governance, the most talked word around the world. KM is increasingly imperative as it is regarded as the key determinant of a firm, industry or country for survival and growth in knowledge era. Varieties of disciplines have contributed to knowledge and KM. Research focuses on one or more specific fields, but to understand which levels of knowledge processes KM should concentrate on, should be more fundamental than advocacy of KM.

In the public context, governance is about how to steer or guide society so as to best serve public interests and achieve the common good. E-governance means the application of advanced ICT to improve governance.

The evolving standards for creating, structuring, and disseminating digital content has allowed libraries to make shift from proprietary methods of information access and management that characterised the early days of electronic information. As libraries gained experience with new methods of delivering content and the new genre of digital collections, these standards were embraced and integrated into library operations.

Distributed computing and the emergence of standards were critical steps toward achieving a more unified information environment and interoperability among distributed collections and content providers. These standards have offered libraries new opportunities for handling content (e.g. to add functionality, deliver content differently for different audiences, or to sustain

digital collections over time) and for enhancing their classic role in information access and preservation[1].

2. KNOWLEDGE SOCIETY

A knowledge society is a formal association of people with similar interests, who try to make effective use of their combined knowledge about their area of interest, and in the process contribute to this knowledge. In this sense, knowledge is the psychological and useful result of perception, learning and reasoning. Following facets encompasses the knowledge society[2].

2.1 Data

Data is information, knowledge and conceptions related to data, people or things obtained by observation, investigation, interpretation, visualisation, and mental creation. It is intangible and includes numbers, words, symbols, ideas, concepts, and oral verbalisation. It also includes information with a specific physical representation[3].

2.2 Information

Information is a term with many meanings depending on context, but is as a rule closely related to such concepts as meaning, knowledge, instruction, communication, representation, and mental stimulus.

2.3 Knowledge

Oxford English Dictionary defines knowledge as (i) facts, information, and skills acquired by a person through experience or education; the theoretical or practical understanding of a subject, (ii) what is known in a particular field or in total; facts and information or (iii) awareness or familiarity gained by experience of a fact or situation. Philosophical debates in general start with Plato's formulation of knowledge as "justified true belief". There is however no single agreed definition of knowledge presently, nor any prospect of one, and there remain numerous competing theories.

2.4 Society

Society is made up of people, groups, networks, institutions, organisations and systems. These aspects of society may include local, national and international patterns of relationships. People belong to informal and formal groups, and within and between these groups there are patterns of interactions.

2.5 Knowledge and Information

Knowledge is often seen as a rich form of information. This differentiation however is not terribly helpful. A more useful definition of knowledge is that it is about know-how and know-why.

2.6 Knowledge Management

There are many definitions of KM. A common definition is, 'the collection of processes that govern the creation, dissemination, and leveraging of knowledge to fulfill organisational objectives'. "Knowledge Management is a business philosophy. It is an emerging set of principles, processes, organisational structures, and technology applications that help people share and leverage their knowledge to meet their business objectives".

This puts focus and responsibility on the individual—the knowledge worker—and on the holistic nature of KM. Also, critically it is about meeting business objectives. KM is not an end in itself. It is also fundamentally about sharing knowledge and putting that knowledge to use[4,5].

3. KNOWLEDGE ACQUISITION

Knowledge acquisition involves complex cognitive processes: perception, learning, communication, association, and reasoning. The term knowledge is also used to mean the confident understanding of a subject, potentially with the ability to use it for a specific purpose.

"We suppose ourselves to possess unqualified scientific knowledge of a thing, as opposed to knowing it in the accidental way in which the sophist knows, when we think that we know the cause on which the fact depends, as the cause of that fact and of no other, and, further, that the fact could not be other than it is. Now that scientific knowing is something of this sort is evident-witness both those who falsely claim it and those who actually possess it, since the former merely imagine themselves to be, while the latter are also actually, in the condition described. Consequently the proper object of unqualified scientific knowledge is something which cannot be other than it is"[6].

4. TYPES OF KNOWLEDGE

There are three kinds of knowledge. One is explicit knowledge, which can be expressed in words and numbers and shared in the form of data, scientific formulae, product specifications, manuals, universal principles, and so forth. This kind of knowledge can be readily transmitted across individuals formally and systematically. This has been the dominant form of knowledge in the west.

Second is tacit knowledge, which is highly personal and hard to formalise, making it difficult to communicate or share with others. Subjective insights, intuitions and hunches fall into this category of knowledge. Furthermore, tacit knowledge is deeply rooted in an individual's action and experience, as well as in the ideals, values or emotions he or she embraces.

Third is situated knowledge, which is specific to a particular situation. Imagine two very similar breeds of mushroom, which grow on either side of a mountain, one nutritious, one poisonous. Relying on knowledge from one side of an ecological boundary, after crossing to the other, may lead to starving rather than eating perfectly healthy food near at hand, or to poisoning oneself by mistake.

Some methods of generating knowledge, such as trial and error, or learning from experience, tend to create highly situational knowledge. One of the main benefits of the scientific method is that the theories it generates are much less situational than knowledge gained by other methods. Situational knowledge is often embedded in language, culture, or traditions.Knowledge generated through experience is called "a posteriori" knowledge, meaning afterwards. The pure existence of a term like "a posteriori" means this also has a counterpart. That is "a priori" knowledge, meaning before. The knowledge superceded by experience means that there are certain "assumptions" that one takes for granted[6].

4.1 Knowledge for What and for Whom?

If it is true that we live in a knowledge society that demands multimodal competencies most of which are mediatised, then it follows that the role of public libraries and librarians is challenged once again. Public libraries, in their physical as well as virtual versions, are spaces that people enter at liberty and often in their spare time. In shaping new visions for public libraries in the knowledge society, perhaps this image is their most fundamental value. For, it offers public libraries a unique chance of catching on to the multi-sited nature of learning in a knowledge society.

For example, for European children and young people informal sites of media and ICT learning are more diverse and more advanced than are the formal school settings[7]. These findings imply that part of the present library public—and most of the future public—already possess a strong, informal repertoire of multimodal learning, if not collective competences. Public libraries can build on those trends by redefining the physical libraries as informal knowledge centres and by developing their professional competences in close collaboration with other knowledge partners both in the private and public sectors. To develop that kind of knowledge involves presence in the physical library, and it involves collective learning. While digital libraries certainly must and will further and finetune individual services in future, perhaps the most decisive library challenge in the years to come is to develop the physical libraries which harbour the possibilities of collective presence and hence collective learning. Ultimately, the vision must be how to develop a synergy between virtual and physical libraries with respect for the end users' frames of reference. Defining the role of the librarian as knowledge facilitator is in line with the projected function of the physical library as a knowledge centre.

In a sense, the issues involved in developing public libraries as informal knowledge centres in the manner sketched out above, takes us back to some of the old, yet recurring questions of library service: what is the role of public libraries in furthering civic society and citizenship? How should librarians be trained and how should they operate in their daily

Table 1. Library Innovation and socio-cultural conditions

	Industrial society	**Information society**	**Knowledge society**
Aim of library use	Cultural discrimination (taste)Personal relevance of cultural choice	Universal and free access to information Information literacy	Universal and free use of information and fiction Multimodal literacy
Definition of library/librarian	Cultural custodian Cultural guide	Information disseminator	Knowledge facilitator
Definition of material/content	Material entity, physical artifact	Non-material process Effective, reliable information processing	Material artifacts and non-material processes Information and fiction
Definition of user	Receiver of choice cultural consumer	Information producer and evaluator	Knowledge producer, cooperator and cultural citizen

Source: Kirsten Drotner

work in order to make the institutional ideals materialise? The answers to be found, however, belong to our own present and immediate future[7].

5. KNOWLEDGE SHARING

The first challenge is to define what 'knowledge sharing' means in practice. On the face of it, the meaning is self-obvious: to encourage the sharing of knowledge or information between members of staff within an organisation. When this is probed more deeply, however, KM teams tend to start talking about 'capturing tacit knowledge' and other similar topics. Unfortunately, this simply introduces further jargon, but no greater clarity. Knowledge sharing is certainly an important concept for those in the KM and information management disciplines. The starting point to moving beyond this terminology, however, is to recognise that it means little to anyone else in the organisation[8].

5.1 Purpose of Knowledge Sharing

Knowledge sharing is not just about giving. It is about:

- Soliciting feedback.
- Asking questions.
- Telling people what you plan to do before doing it.
- Asking other people for help.
- Asking someone to work with you in some way, however small.
- Telling people what you are doing and more importantly why you are doing it.
- Asking people what they think; asking them for advise.
- Asking people what would they do differently
- Not just sharing information but know-how and know-why.

Fundamentally sharing is about being more open in our way of work and in our relationships with other people.

6. CREATING A KNOWLEDGE SHARING CULTURE

Culture, according to Vijay Sathe is "the set of important understandings (often unstated) that members of a community share in common." These shared understandings consist of our norms, values, attitudes, beliefs and 'paradigms'. Another definition given in Webster's New Collegiate Dictionary is "culture is the integrated pattern of human behaviour that includes thought, speech, action, and artifacts and depends on man's capacity for learning and transmitting knowledge to succeeding generations." This second definition is an exciting one as increasing our capacity for learning and transmitting knowledge is one of the prime aims of KM[9].

7. INFORMATION CULTURE

Information culture can be thought of as a relatively rigid tacit infrastructure of ideas that shape not only our thinking but also our behaviour and perception of our library/information centre environment. It effectively establishes a set of guidelines by which members of a library/information centre work and how those library/information centres are structured. It is rigid mainly due to our paradigms we don't recognise why we do so much of what we do. Also, we tend to resist change rather than embrace it.

8. IMPORTANCE OF SHARING KNOWLEDGE

Today, the creation and application of new knowledge is essential for the survival of almost all businesses. There are many reasons. They include:

- Elusive products ideas, processes, information are taking a growing share of global customers from the conventional substantial goods of the manufacturing economy.
- Progressively, the only sustainable spirited advantage is continuous novelty. In other words the application of new knowledge.
- Increasing yield of staff. People don't take a job for life any more. When someone leaves an organisation their knowledge walks out of the door with them.
- Our problem as an organisation is that we do not know what we know". Large global or even small geographically discrete organisations do not know what they know. Expertise learnt and applied in one part of the organisation is not leveraged in another.
- Accelerating change technology, business and social. As things change so does our knowledge base erode[6].

8.1 Rewarding Knowledge Sharing

We are told by many of the gurus that rewards must be put in place to encourage knowledge sharing.

We need to find out mechanisms of rewarding those who share knowledge.

8.2 Motivating Knowledge Sharing

The real answer is to help people see for themselves that knowledge sharing is in their personal interest. The old paradigm was "knowledge is power". Today it needs to be explicitly understood that "sharing knowledge is power". If people understand that sharing their knowledge helps them do their jobs more effectively; helps them retain their jobs; helps them in their personal development and career progression; reward them for getting things done (not for blind sharing); and brings more personal recognition, then knowledge sharing will become a reality. So what are the reasons to share that should motivate people? Here are a few:

- Knowledge is perishable and is increasingly short-lived. If we do not make use of our knowledge then it rapidly loses its value.
- Even with the low level of knowledge sharing that goes on today if we do not make our knowledge productive than someone else with that same knowledge will. One can almost guarantee that whatever bright idea you have someone else somewhere in the organisation will be thinking along the same lines.
- By sharing our knowledge, we gain more then we lose. Sharing knowledge is a synergistic process we get more out than we put in. If I share a product idea or a way of doing things with another person then just the act of putting my idea into words or writing will help me shape and improve that idea. If I get into dialogue with the other person then I'll benefit from their knowledge, from their unique insights and improve my ideas further.
- To get most things done in an organisation today requires a collaborative effort. If we try to work alone we are likely to fail we need not only the input from other people but their support and buy-in. Being open with them; sharing with them, helps us achieve our objectives.

8.3 Overcoming the Objections

Some people object to sharing as they feel that others will steal their ideas and reap the rewards rightly theirs. This is a fallacy. Knowledge sharing is not about blindly sharing everything; giving away our ideas; being politically naïve; or being open about absolutely everything. We still need to exercise judgment. There is also another fallacy embedded in this thinking, knowledge sharing is not just about sharing great ideas, its about improving the way that things get done by sharing the little things. One may have lots of knowledge of little use to him if it can share with others who can make use of it and in return they will share relevant knowledge with you.

9. ROLE OF TECHNOLOGY

Some people will argue that there is no need of technology to implement a KM programme. To some extent they are right. KM is fundamentally about people not technology. But there is absolutely no way that one can share knowledge effectively within an organisation, even a small one, never mind a large geographically dispersed one without using technology. Technology plays a crucial transformational role and is a key part of changing the corporate culture to knowledge sharing one. In many ways it is technology that has made knowledge sharing a reality. In the past it was impossible to share knowledge or work collaboratively with co-workers around the globe. Today it is a reality. If implemented well and if people are trained and educated in its use, knowledge sharing technology is good. Not only one can find the information and knowledge one need quickly and effectively but one can post their knowledge on the system for access by others in the organization; be they at the next desk or on the other side of the world[2].

10. ROLE OF E-GOVERNANCE

Imagine a situation in which all interaction with the government can be done through one counter 24 hours a day, seven days a week, without waiting in lines at government offices. In the near future this is possible if governments are willing to decentralise responsibilities and processes and they start to use electronic means such as the Internet. Each citizen can then make contact with the government through a website where all forms, legislation, news and other information will be available 24/7. Of course, at first the front office will retain several communication channels, such as physical counters, telephone, (e-) mail and Internet to serve everyone properly, but this will change dramatically in the next few years[10,11].

10.1 Defining E-governance

Many definitions exist for e-governance. Before presenting an overall definition of e-governance, the relation between governance, e-democracy and e-government is explained. E-democracy refers to the

processes and structures that encompass all forms of electronic interaction between the government (elected) and the citizen (electorate). E-government is a form of e-business in governance and refers to the processes and structures needed to deliver electronic services to the public (citizens and businesses), collaborate with business partners and to conduct electronic transactions within an organisational entity[12].

10.2 E-Governance based on KM

E-governance has not made enough impact on the people as e-commerce and e-learning have done. There are several barriers on the roads of e-governance. From the software engineering point of view, e-governance has a lot of characteristics, which are different from e-commerce and e-learning. Unlike e-commerce and e-learning, e-governance needs to be proactive. While e-commerce and e-learning involve information management, e-governance involves KM. KM is the management of information, skill, experience, innovation, and intelligence. E-governance mostly based on knowledge management system (KMS) is built on KM cycle of knowledge capturing, knowledge sharing, knowledge enhancing, and knowledge preserving. The development model of e-governance, based on information management system, applies a cycle-based process such as waterfall, spiral or iterative process. E-governance is a combination of interaction and integration. It is also a path-based process[10,13].

11. 2010 DIGITAL LIBRARIES INITIATIVE

The 2010 Digital Libraries initiative is of significant interest to all librarians. The initiative is evidence that the European Commission recognises the value of library and information services. The library community must ensure that its voice is heard as the initiative is developed. Community must also ensure that they have the capacity to deliver the social and political role of public libraries[14].

12. SOCIAL AND POLITICAL ROLE OF PUBLIC LIBRARIES

How will libraries continue and develop their roles in e-government? Through doing what they have always done. In the words of the UNESCO Public Library Manifesto:

- 'The public library, the local gateway to knowledge, provides a basic condition for lifelong learning, independent decision-making, and cultural development of the individual and social groups.
- Provides access to the world of imagination; to the cultural memory of communities and society at large, and to sources of information and knowledge.
- Have provision of easy, personalised access to information.
- Have trained staff and a wide range of documentation and multimedia information facilities to put users in touch with full-time help desks manned by experts.
- Free phone access to a live Q&A service, free PC access to e-mail questions and browse online services, and especially trained staff to answer questions. This network should cover a spectrum of urban and rural environments, while maintaining accessibility from any part of the country[9].

The initiative hopes to increase the general level of understanding and endorsement of Indian priorities and activities in the general public and to enable the public to participate in debates and discussions about the information on India and about India.

This purpose of the public library, generally accepted worldwide, has not changed by the ICT revolution. It is still to further democracy, equality, and social justice; increase access to information; disseminate culture and knowledge; contribute to a meaningful and informative leisure time; and act as a communal institution and a social meeting place[1].

Good governance rests on the pillars of knowledge and recognition of this set of knowledge by the decision makers and people alike. Digitisation of this entire set of knowledge within a network, which is open to all individuals (an inclusive network by design) opens up possibilities for all to access and use this knowledge, paving the way for digital governance or e-governance as it is more popularly known.

Introduction of digital governance will ensure that citizens can participate in, and influence decision-making processes which affect them closely. Citizens will no longer remain passive recipients of governance provided to them, but can pro-actively decide the types and standards of governance they want and the governance structures which can deliver best. Stressing on the importance of a national coordination for the e-governance system, Mr Sam Pitroda, Chairman, National Knowledge Commission (NKC) said, e-governance was not about computerising existing processes. We need to change our basic governance pattern and ensure transparency, productivity, and simplicity. We should pick 10 to 20 important services and offer them on the Web and create a common e-governance platform to make it citizen-centric. He

further added that at present, different states have different ways of implementing e-governance. The recommendations were based on the report of a special group formed within NKC headed by InfoSys CEO, Nandan Nilekani on e-governance[15].

13. NKC ROADMAP

- Before computerisation, redesign government processes.
- Offer services like issuance of birth/death certificates, ration cards on Web.
- Ensure common standards of operation, across the country.
- Digitise relevant government data. Make it accessible to the public.
- Provide nation-wide broadband infrastructure.
- Localise data and services in regional languages.
- Provide open source software for implementation.
- Appoint Chief IT Officer for each State.
- Invest 1-2 per cent of national programme budget e-governance.
- Create organisation with CEO to drive e-governance[16].

14. VILLAGE KNOWLEDGE CENTRES

Information and communication technology is the key enabler and a vital component of the new knowledge-based economy and information revolution. It is a major factor in economic growth and increasing productivity. India is increasingly integrating ICT into its national development plans and adopting strategies for its widespread promotion in all the spheres of economic activities. There is a need to ensure that the benefit of the ICT percolates to all the different socio-economic strata and to the grassroots of the rural India. The rural areas in India cannot be compared with its urban areas, where needs and service requirements are at a very different level. With poor existing infrastructure in the rural areas, delivery of services of essential requirements becomes in itself a formidable task in its 6,40,000 villages spread out in every type of agro-climatic zones[15].

Along with the improvement of physical infrastructure, the government has shown firm commitment to improve the e-infrastructure, especially in the villages, through its National e-governance Plan. According to the guidelines provided by Department of IT, it has been mandated that the Government would create an enabling environment for establishment of at least 1, 00,000 centres in rural areas to provide all possible services. Fitting into this overall e-governance plan, Council for Advancement of People's Action and Rural Technology (CAPART) proposes to introduce an e-governance initiative to reach the un-reached, un-served, and under-served areas more effectively using state-of-the-art high-tech ICT through its partner NGOs by setting up Village Knowledge Centres[16].

Dissemination of knowledge and services to the under-served, un-served, and un-reached areas will help in:

- Better skilled and oriented cadres and individuals.
- Training of trainers.
- Capacity enhanced at the grassroot level.
- Modern human resource practices for efficient service delivery.
- Improved organisation and better decision-making ability in the community.
- Improved capacity within communities to manage VKC systems.
- Networking of governmental, non-governmental institutions, PRIs, SHGs.
- Knowledge connectivity.
- Better opportunity of employment.
- Availability of online market rates and better marketing of rural produce.

Financial assistance will be provided for the following components:

- To meet the operational expenditure for central/ remote site for initial 3 years.
- Content generation.
- Capacity building and training of NGOs/communities
- Community organisation and orientation.
- Any other component related to the local need[11].

15. CONCLUSION

The most effective way to create a knowledge sharing culture is first to start to practice it at working level. The higher up the organisation, the more effective it will be in changing the culture. But even if we are low down the hierarchy, we have an

influence. We need to put in place the knowledge sharing technology and train and educate people in its effective use. The people with the appropriate knowledge sharing mindset and the appropriate knowledge sharing technology to support them will rapidly bring about a knowledge sharing culture that will help us to meet our objectives in a better way. Libraries are increasingly adapting distributed models for information access and management, and more often, use open and collaborative models for developing library content and services. With the incorporation of open models and distributed technologies, libraries have the potential to get more involved in knowledge creation, dissemination, and use. With reference to libraries, the creation and dissemination of knowledge in ways that represent the libraries' contributions broadly and that intertwine the library with the other stakeholders in these activities. The library becomes a collaborator within the academy, yet retains its distinct identity.

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