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FRAMEWORK FOR OPTIMAL UTILIZATION OF GLOBAL RESOURCES IN THE AREA OF KNOWLEDGE CREATION AND APPLICATION THROUGH FLEXIBLE ORGANIZATIONS

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ABSTRACT

This paper examines the potential of utilizing productive resources available around the globe through application of information technologies and principles of flexible organizational design with a view to bring the vast untapped potential of rural communities and population living in tier 2 and 3 cities in the main stream of global economy through globally connected networks and systems. Knowledge creation and dissemination process is governed by three important macro variables of people, process and technology. People are the fundamental units for creation and application of knowledge. Processes are the vital structures of organizations supported by enabling technologies like ICT. For an optimal performance level these three important macro variables have to interplay in a flexible domain to resonate with the fast changing internal and external environment. Rigid structures by nature are not suitable for turbulent and fast changing environment. BPOs and KPOs are some of the emerging practices for taking advantage of global resources across different geographic and time zones. The suggested framework covers the three dimensions at holistic level as no single variable will provide the desired outcome.

Introduction

When billions of single logic units are integrated and controlled, what we get is unimaginable computing power of modern day microprocessors. The power of computing comes by controlled interconnections. Similarly, every human being is a potential knowledge processor, who has capability to create and apply knowledge. If we can design systems and processes which can interconnect these human knowledge processors in a meaningful manner, then enormous capacity and capability could be created to create new knowledge and apply existing knowledge, which can change the entire spectrum of our civilization by way of providing technologies, products and processes which will be capable of dealing with miseries like hunger, malnutrition, disease, suffering etc. The concept is like fusion reaction, where in light atoms of hydrogen are fused together to release enormous energy. Same way, if systems and processes could be devised to bring isolated brain power distributed across the globe, then the society tend to have a mega mind capable of churning out new knowledge at a speed beyond imagination.

Knowledge Economy

Products are by Product of Application of Knowledge: Products, services and processes of knowledge economy are the outcome of integration of diverse knowledge. Every time a new knowledge gets developed somewhere in some corner of the world, a product and process

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becomes potent for new features which are superior to the existing levels.

Power of Collaboration and Connectedness: Knowledge resides in individuals and nurtured in communities through collaboration. Communities are forums of connected people with shared vision. There is rich to and fro flow of knowledge amongst members.

Knowledge Networking: It is the process of harnessing the knowledge at global level. The prime objective of knowledge networking is to spot potential knowledge creators at a global scale to nurture them, help them to complement and collaborate with peers around the globe in the process of knowledge creation. Without support of effective communication and collaboration, knowledge remains fragmented in small pieces in the heads of people. In the universal population set, there are enormous potential knowledge creators spread across the globe in different national boundaries. If these talented people are spotted in their early life and carefully nurtured to their full capacities and capabilities through effective knowledge networking, they will create new knowledge which when applied will generate new technologies, products, processes, systems which are superior to the existing ones and will have far reaching impacts in better utility to the society at large.

Design of Flexible Institutions for Knowledge Creation: The primary objective of organization design is to devise social institutions that mobilizes human knowledge, capabilities and resources around the globe for productive purposes with a view to improve the well being of the society and the constituent members. The new information and communication technologies and new ideas in organizational design are providing large number of choices for new variants of organizational forms with lot of built in flexibility to harness knowledge resources at global canvas. Wikipedia defines flexibility as the popular term for the ability to adapt to different circumstances. In systems theory the flexibility of a system is related to its adaptation to a new environment or its resilience in recovering from a shock or disturbance. The flexibility in system comes when large number of options is made available at the design stage itself.

Flexibility provides knowledge systems with possibility of increased participation and collaboration and offers higher degree of freedom of choice. More the options available, more is feasibility space and chances for more innovations. The diverse supply networks involving customer driven product development requires integration of diverse knowledge in a flexible domain to enhance the speed of innovation and product launch. The ability to satisfy customer demands while responding to relentless competitive pressure requires creative and often complex approaches to managing a firm's Knowledge. Perhaps more than any other area, now there is an increasing belief that a concept called globalization offers the best opportunity to achieve major performance gains. Companies have begun to capture the benefits of globalization through global sourcing, which involves the worldwide integration of knowledge in R&D, engineering, operations, and procurement centers of a company.

The focus so far has been on open knowledge systems, where different knowledge producers and users are restricted in connectivity as depicted in Figure-1. In such systems, knowledge dissipation rate is very slow.

Unfortunately, capturing the benefits potentially offered by globalization is often limited by a lack of understanding concerning how to pursue this important area.

To mitigate this limitation multi-level continuum for the factors that are the most critical to global success are discussed to arrive at a broad framework which could set the future directions for knowledge management at global scale.

Framework for Optimal Utilization of Global Resources in the Area of Knowledge Creation and Application Through Flexible Organizations

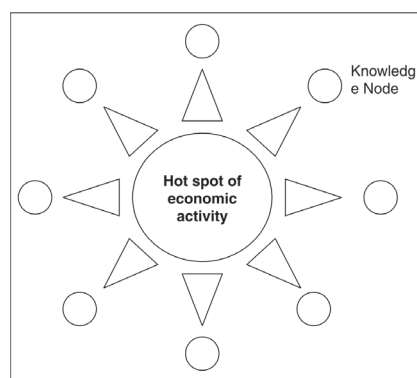


Figure 1: Open Knowledge System

- Knowledge is a global resource which is meant for the betterment of entire universe.
- Enough opportunities exist for everyone to create new and diverse knowledge which could be converted to utility through products and processes resulting in prosperity and well being of people who are creating it.
- World is going to face talent crunch in the pursuit of knowledge creation. The civilization is at the beginning of knowledge economy. With the creation of every new knowledge in any corner of the globe in any field opens many new fields through analysis, combination and synthesis of existing and the newly created knowledge. The accelerated pace of knowledge creation will put the talent in short supply.
- Basic raw material (i.e. human beings) for knowledge processes is spread across the globe. It is high time now that all out efforts are put in place at global scale to process this raw material in usable form by enhancing their basic skill sets. People located in far flung isolated places need to be integrated with the knowledge economy. To start with, concerted efforts could be made to integrate large population with high literacy rate located in tier 2 and 3 cities to knowledge creation systems of the emerging knowledge economy.
- Principles of co-existence are the fundamental requirement for the knowledge economy. It is through co-existence and cooperation that the human race will enjoy the fruits of an exciting future which has just begun to unfold. The new future is being built on the rock solid foundations of emerging knowledge economy. The divisive forces guided by fundamentalists may put the world on war like situation, which needs to be avoided at any cost.
- Knowledge economy puts greater responsibilities on knowledge rich economies for equitable distribution of the fruits to the entire population. They will have to learn from the fruit bearing trees to be more humble, more serving and more responsible. The excessive divide between haves and have not's will always create a threat to the peace and prosperity of the world.
- World leaders will have to work for a boundary-less world for frictionless movement of knowledge and physical goods. World is moving towards global integration and hence more democratization is required to listen the aspiration of different stakeholders on this mother earth.
- Open, adaptive, tolerant and flexible mindset for co-creation with multicultural work force and different stakeholders needs to be built.
- World over governments will have to develop processes and systems for ensuring dignity,

freedom and economic well being of individuals.

- Global highways for frictionless movement of goods and knowledge across the globe are becoming the basic requirement to harness the fruits of knowledge economy.
- Knowledge has many dimensions like explicit and tacit and each one has to be tackled differently. Just like heat energy moves from one place to another through processes like radiation, conduction and convection.
- Human race is facing many challenges like global warming, environmental concerns, melting of glaciers, poverty, epidemics, fundamentalism etc. to name a few. To tackle these problems the entire world resources (both intellectual and physical) need to be put to use. For this to happen great minds and world leadership has to come together by forgetting petty consideration of regionalism and individual gains. This is necessary for the long term safety, security, prosperity of the human race.

The proposed frame work as depicted in Figure-2 heavily banks on high degree of collaboration and freedom of choice in terms of collaboration. It suggests a networked architecture and managerial, legal and technology frame work in place to support the same.

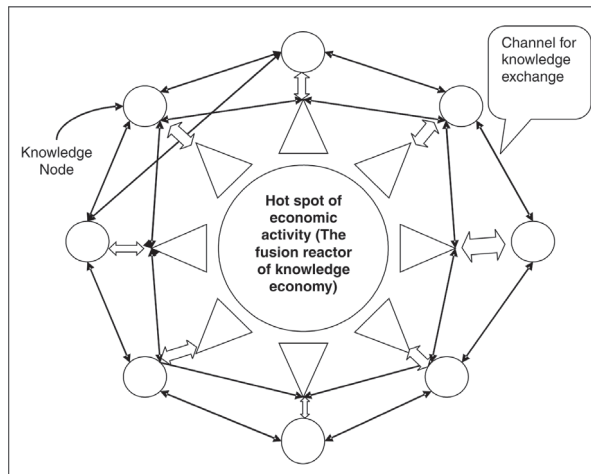


Figure 2: Networked Knowledge System

The broad frame work mentioned above and depicted in figure-2 has been further amplified in four dimensions of people, process, technology and performance or results.

People Dimension of Knowledge

Getting Rid off Rigidity: The biggest challenge in knowledge management is not of technology but of mental blocks and rigidity at thought and vision level. Breaking the silos at thought and vision level is the most challenging one. The world is rigidly divided on issues like cast, creed, religion and geographic locations. Cultural rigidities also act as a barrier in smooth flow of knowledge across the globe. The past mindset of working in isolation has to give way to collaborative working at a global scale. An infrastructure of soft issues enabling linking of minds across the globe has to be made available so that flexible teams of different age, different culture and diverse field can work at ease for smooth transfer of explicit and tacit knowledge. Minimum universal education to world population has to be the agenda. Figure-3 depicts some of the people dimension on two extreme ends of continua.

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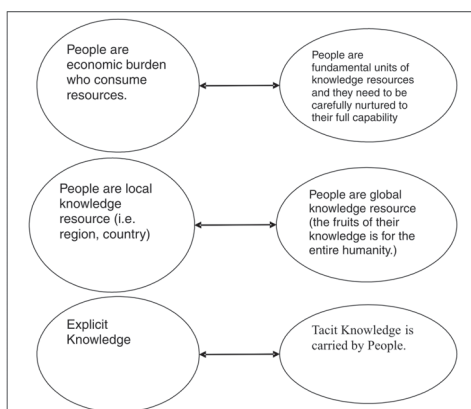


Figure 3: People dimension of Knowledge

Technology Dimension of Knowledge

The Challenge of Leveraging Flexibility and Connectedness: The development in the field of information and communication has opened vast opportunities in the field of knowledge transfer across the globe at a faster rate. The diverse fields of information and communication is converging and time is not far off when there will be a universal device available with capabilities of phone, computer and TV at affordable price to masses. The capabilities of this device will further improve by high speed internet and 3-dimensional High definition TV technologies, application of artificial intelligence tools and connectivity through high bandwidth networks from anywhere to anywhere. Figure-4 depicts some of the technology dimension on two extreme ends of continua.

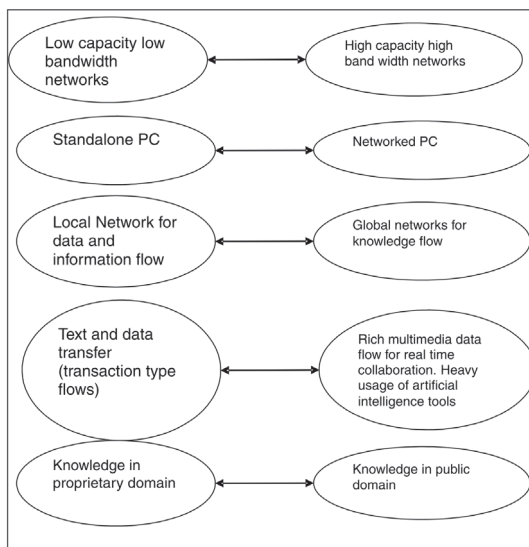


Figure 4: Technology dimension of Knowledge

Flexible knowledge transfer networks for sharing proprietary knowledge through partnerships have to be developed. Sharing of laboratories and contract research and development beyond national boundaries is one of the emerging area for knowledge creation and transfer. Large scale funding from different industries, nations on consortia basis for future promising technologies

is another area of focus. Large scale participation of public and private institutions, cooperation between industry, educational and research institutes in knowledge creation also offers a big potential in knowledge creation.

Process Dimension of Knowledge

Flexible Networks for Knowledge Transfer: These networks allow easy entry and exit routes for knowledge creators and users. These should be plugged and play type arrangements be made so that these networks can easily become part of a larger network. Transnational consortia for knowledge creation needs to be worked out in different emerging technologies with a specific focus on free flow of man, material and information.

Managing the Paradox of Global and Local: The biggest challenge in designing the processes in the area of knowledge management is resolving the paradox of local and global, competition and collaboration, public versus private, limitations of geographic boundaries to name a few. Figure-5 depicts some of the process dimension on two extreme ends of continua.

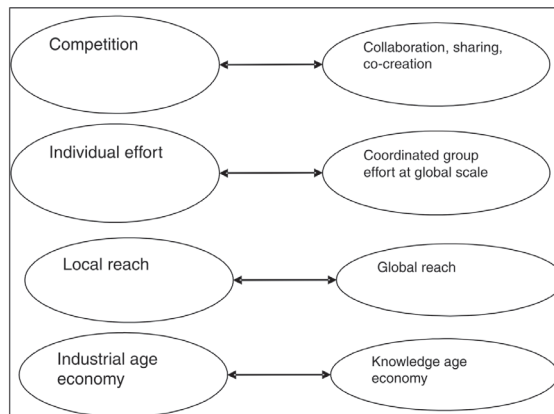


Figure 5: Process dimension of Knowledge

Organize Knowledge Fairs, Exhibitions and Conferences: These arrangements provide opportunities for research, policy and development institutes to broadcast their achievements, exhibit their research products, and market new research programs to donors, policymakers, other institutes and potential partners. These also facilitate networking with peers and also different stakeholders. This will help in setting common research agendas, help think tanks benefit from each other's experiences, stimulate interest in future research collaboration and the development of new programs. These will also provide a forum to share tacit knowledge through face to face interaction, which is otherwise difficult to transfer. For knowledge processes to be effective, two pronged strategy for convergence of technology and convergence of mind is required.

Performance Dimension of Knowledge

The most important issues in the sharing the benefits of global knowledge is the resource utilization in a just and equitable manner. It should not lead to exploitation and imbalances in the society. It is a delicate issue and requires well thought out consideration by different stakeholders. The outcome of the interplay of three enablers of knowledge creation will decide whether the fruits of knowledge processes are directed towards a select group or a larger community or for the entire world population. For a peaceful, progressive and stable world, we should talk of inclusive growth.

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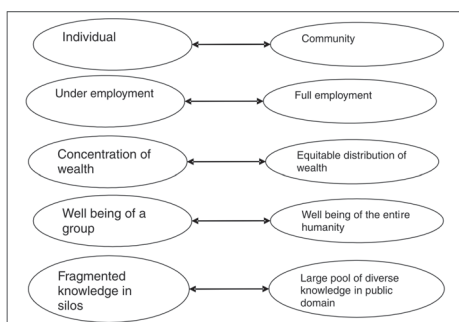


Figure 6: Performance dimension of Knowledge

Success stories of IITs in India: Indian Institutes of Technology were set up in India with state of art facilities and practices followed in best institutes abroad. These institutes attracted best talent in India through rigorous selection process and provided leading edge inputs to these students with the help of talented teachers who had exposure to contemporary knowledge through different collaborative processes with leading technical institutes all over the world. The talent pool generated by IITs is in heavy demand world over and has become a global knowledge resource. The graduate students from IITs are recruited by companies working on cutting edge technologies in US and other advanced countries. Based on the success of the existing IITs, Government of India has announced to set up eight more such institutes in different parts of India. This initiative of government will go a long way in creating a diversified pool of knowledge. This knowledge pool will be the primary fuel for the emerging knowledge economy and will be available for the world as a whole.

Conclusion

Knowledge processes have large number of micro level dimensions under broad three heads, which can interact on many planes to provide knowledge for a select group or for the well being of the world. The outcome of a myopic vision cannot be expected to be grand. The framework discussed above offers recipe for diverse outcomes. If full potential of potent knowledge workers across the globe is made use of, for the good of the entire world population, then outcome will be such knowledge systems, which are broad based, long lasting and generating fruits for the total population of the world. The broad based framework will reduce disguised unemployment for those who are engaged in work which is far below their intellectual capabilities. This will provide an opportunity to individuals in rural areas to be part of the main stream of knowledge creation and promote technical skills in rural communities which in turn empower them to make efficient use of local resources. The slogan for the 21st century should be knowledge of the people to be applied by the people for the well being of the people. One of the important task of governments will be to raise the intellectual capabilities of its population on a continuous basis.

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(Views expressed in this paper are those of the author and not of the organizations with which author is associated.)