

REGIONAL KNOWLEDGE MANAGEMENT AND DEVELOPMENT: A NEW APPROACH TO INTEGRATE KNOWLEDGE MANAGEMENT INTO REGIONAL DEVELOPMENT

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Abstract

In the new era called “knowledge economies or societies”, competition among companies, countries and even regions has become increasingly based upon innovation and knowledge management. Therefore, new strategies and systems are needed to be developed to adapt the new and rapidly changing dynamics and conditions of this global competitive world. In this context, regions are considered as a central site of innovation and competitiveness and the importance of their role is further highlighted for growth and development. For regions, building a knowledge management system is a key factor to succeed in their role for regional competitiveness and development. The main objective of this work is to explore the term “regional knowledge management” and its possible effects and impacts on region and the whole economic system with particular attention to regional growth and development. Also at the end, an attempt will be made to develop a general model for regional knowledge management platform.

Key Words: *Regional Knowledge Management, Regional Development, Knowledge management*

JEL Classification: R11

1. INTRODUCTION

In the new era called “knowledge economies or societies”, growth and development strategies have become increasingly based upon on the concepts like knowledge, innovation, network and entrepreneurship.

Knowledge as "the driver of competitiveness and productivity, facilitator of welfare and environment and enabler of institutions and governance" is one of the main factors contributing to development. Capacity to use knowledge effectively meaning choosing the right knowledge according to needs, mastering its application, adopting it to specific circumstances, keeping up with changes, and making improvements is crucial for development (World Bank,2007:5). Therefore, knowledge is treated as a notion that has to be managed at all levels from firm to region or country.

Knowledge is defined by the Oxford English Dictionary as: a) expertise, and skills acquired by a person through experience or education; the theoretical or practical understanding of a subject; b) what is known in a particular field or in total, facts and information; or c) awareness or familiarity gained by experience of a fact or situation. From the definitions, it is seen that there are mainly two form of knowledge: tacit and explicit knowledge. Tacit knowledge is some type of knowledge that is tacit in the form of know-how which is complementary to knowledge that can be coded in messages, stored, transmitted and diffused (Polanyi,cited in Covan and Foray,1958-1967:2). The explicit knowledge is more tangible in the sense that it is in codified manner. The process of knowledge creation and using knowledge in the economy contains the transition between tacit and codified forms. Knowledge codification is the process of transformation of knowledge into messages with which the creation of information begins. (Covan and Foray,1997:596). The codification of knowledge constitutes the main steps of knowledge management.

Knowledge management is the collection of processes that govern the process to create, use and disseminate knowledge (Newman,1996:1). It provides valuable solutions to problems arising from of increasingly discontinuous environmental change by means of increasing organizational adaptation. Essentially, it combines organizational processes including information technologies facilitating data and information processing and the creative and innovative capacity of individuals (Malhotra,1997).

A number of analyses show that there is a positive correlation between individual learning and economic growth. In learning process, both access to knowledge and capacity to use it effectively is crucial. Access to knowledge and technology network can stimulate the growth and valorisation of local skills and competence levels (Balderi,2007:37). On the other side, capacity to use knowledge effectively allows individuals, enterprises, and communities to utilize resources and improve their well-being, thereby contributing to development (Building knowledge

economies). Thus, knowledge management enables both users and producers access to knowledge and improve their capacity to use it effectively has become a leading strategy for all actors in economic system from individuals and firms to territorial systems at different levels.

Considering the importance of knowledge in driving sustainable regional development, a different conceptualization of knowledge management takes place namely “Regional Knowledge Management”. As a general framework, regional knowledge management is a version of knowledge management at regional level, bringing the regional actors together, revealing, organizing and reusing the knowledge within the region. In terms of regional development and innovation, this system has a catalyzer and booster effect. The main objective of this work is to explore the term “regional knowledge management” and its possible effects and impacts on region and the whole economic system with particular attention to regional growth development. Also at the end, an attempt will be made to develop a general model for regional knowledge management platform.

2. FROM KNOWLEDGE MANAGEMENT TO REGIONAL KNOWLEDGE MANAGEMENT

As it is stated earlier knowledge management includes the whole process of having effective creation, capturing, sharing and managing knowledge. The concept is applicable to various disciplines. Knowledge management applications can be seen specific for firms, institutions, sectors or public policies like health, education, transportation etc. (WHO, 2006:6).

Although there exists different definitions and implications of real life systems, knowledge management structures generally try to form developing systems and processes targeting to increase knowledge and information in order to promote creativity, intelligence and transmission of knowledge. Thus knowledge management can be divided into three major components; people, processes and technology. In order to have a working knowledge management model, these three components shall complete each other and each should manage their part of contribution effectively. People as being the component creating, sharing and using knowledge and also forming the organizational culture easing knowledge sharing shall effectively able to apply the processes component which are “the methods to acquire, create, organize, share and transfer knowledge” via correct implementation of technology which are the mechanisms making possible to access to data, information, and knowledge” (WHO,2006:5). In order to benefit from the knowledge management structures or systems either it is organization based or region based above mentioned components should work harmonically

and complementarily. Thus, indifferent of its application area knowledge management structures aim to combine people with technology and processes to identify, create, store, use, share and distribute knowledge in order to improve innovation capacity and effectiveness. (WHO,2006:5).

Large companies and non-profit organizations are known to have dedicated resources for their internal knowledge management efforts. The resources implement knowledge management processes in order to reach their organizational targets such as improved performance, competitive advantage, innovation, sharing of lessons learned, integration and continuous improvement of organization as part of their organizational strategy. Also there exists consulting companies which specialized in knowledge management concept and applications. These consulting companies provide required advice and strategy in order a firm to implement its specific knowledge management systems successfully (Addicott, McGivern & Ferlie 2006:87-94). Thus a market for knowledge management applications is already formed which in fact can be accepted as an evidence that knowledge management helps organizations to be better managed and innovate. However, it is inevitable to see some failure cases and wasted investments for forming knowledge management. Even so knowledge management concept continues to be improved both theoretically and practically in several areas by learning from those failure cases.

Knowledge management can be seen to be applied in various different disciplines in different levels such as regional, sectoral or organizational. Specifically regional knowledge management applications shall be treated privileged since it does not only try to achieve knowledge management benefits for a specific firm or institution but for the sake of whole region. Apart from the size of the region, by means of establishing a comprehensive regional knowledge base, a successful regional knowledge management provides regional stakeholders to reach necessary knowledge and information required for improving their business for better profits or for establishing networks for new markets or for reaching social and cultural maturity of society. In that sense, what is gained through regional knowledge management application is strongly related with regional development. Then, regional knowledge management can be considered as a path to regional development according to acceptance that it provides a regional knowledge environment where necessary knowledge mechanism exist in order to increase productivity, innovation, democratic environment hence contributing to economic and social development of the region.

3. REGIONAL KNOWLEDGE MANAGEMENT AND DEVELOPMENT

Over the last decades, national development plans and models have further highlighted the importance of regions' role for growth and development as they have been considered as a central site of innovation and competitiveness. For this reason, various strategies and systems are developed and realized at regional level and positive effects of them are tried to be diffused for national development. Having a regional functional area, regional knowledge management is one of the systems aiming growth and development at national level.

In regional knowledge management system region becomes a "cluster" in itself. This concept which is mainly used within industrial and sector based approaches is a tool employed for promoting national and regional competitiveness, innovation and growth (OECD, 2002:25). A cluster is characterized by firms which are linked through traded and untraded relationships with each other, firms which are geographically proximate and a mix of public and private organizations which provide specialized skills and infrastructure of value to the cluster (Davis, Arthurs, et al.,2006:3). In regional knowledge management system, the concept of cluster is moved into regional base. Instead of solely firms, stakeholders including individuals, firms, public and private organizations and NGO's in the region are considered to be a central unit. By this system, the stakeholders which are already geographically proximate as they locate in same region are tried to be linked through various relationships with each other. Like the value generated by means of clustering firms, in regional knowledge management system region as being a "cluster" in itself creates an added value for growth and development.

Regional knowledge management is a multi-dimensional model including individuals, organizations, economic and social systems, technology and information centric mechanisms within a region. In this model, knowledge of stakeholders in the region are identified, created, stored, filtered, shared and distributed. With regional knowledge management, individualized, locked, inactive knowledge is transformed into something open, shared and valuable one. Like the firm as a member of an industrial cluster benefiting from lower cost of access to information, collaboration and mutual learning, a stakeholder within the regional knowledge management system benefits from fast flow of knowledge, easy access to it and more rapid transfer and diffusion of knowledge like best practices, effective method and applications.

The system of regional knowledge management refers a development model based on social capital. Social capital is described as "networks together with shared norms, values and understandings that facilitate co-operation within and

among groups" by OECD (2001:42). By activating social capital which is "institutions, relationships, networks and norms that shape the quality and the quantity of a society's interactions" within a region, regional knowledge management facilitates coordination and cooperation among stakeholders and networks (World Bank). Networks become interactive and interrelated at regional level and a shared virtual framework is created. Therefore, available social capital is used as an asset to improve the social capital capacity of the region as a whole for development. In this way, social capital which has been generated through historical and natural processes and so become uncoordinated is turned into a planned action for the sake of development of the region.

Regional knowledge management system creates also a suitable environment for innovation which is one of the triggering mechanisms for development and growth. According to United Nations Economic Commission for Europe, innovation is a systematic process where it emerges from interaction and technological cooperation and depends on the external environment of the unit performing innovation activities (2009:18). This means networks and knowledge created and shared within them are key factors for innovation. Regional knowledge management system by creating a virtual pole of tacit and explicit knowledge of stakeholders in a region contributes to increasing innovation capacity of region. This system enables interchanging of ideas and information to be made in a more open and accessible atmosphere and so constructs a suitable basement for stimulating innovation within the organizations in the region. Moreover, the system aims to develop effective, continuous and systematic relations among the actors to ensure the functionality of tools and mechanisms for improving innovation capacity of the region. It covers all the actors, connections, networks, clusters and relations at different levels within the general innovation system. Hence, regional knowledge management may also be considered as an effective tool for forming national innovation system.

Innovations capabilities of a region are known to be correlated with knowledge that exists in the region. Firms or institutions' technological and innovation capabilities are strongly related with their competency to combine and use internal and external knowledge both in tacit or codified form in order to introduce a new product or process (Quatraro,2008:5). Hence, firms need to interact with other firms, institutions that have the related innovative experience to gain the knowledge or technology. In order to such interaction exists between different institutions development of common communication methods, effective channels to access the knowledge between the firms are required. Knowledge management

occurs as the environment to supply necessary communication medias to access external knowledge in the region.

Regional knowledge management allows firms to input their technology and knowledge in the system and allow other firms to access this knowledge for closing their gaps in innovative path of their survival. The set of competencies, lessons learned or specific technological knowledge or an innovation experience in field shall be inputs of knowledge management and can be easily accessed by parties in the region. Sharing or transferring such knowledge between the firms operating in the same or different fields, can trigger a less equipped firm's innovation processes, or improve processes of another firm of high competency for more productivity. Thus generating new knowledge and innovation capacity of the region will be increased via regional knowledge management, resulted in having the benefits of knowledge economies of scope; competitive advantage, technological growth, increase in productivity or briefly economic growth.

Regional knowledge management system needs an ICT infrastructure where people can easily access, develop ICT applications and trust the confidentiality and security in use of the system. Building such an infrastructure enables knowledge-based economies to develop faster in the region.

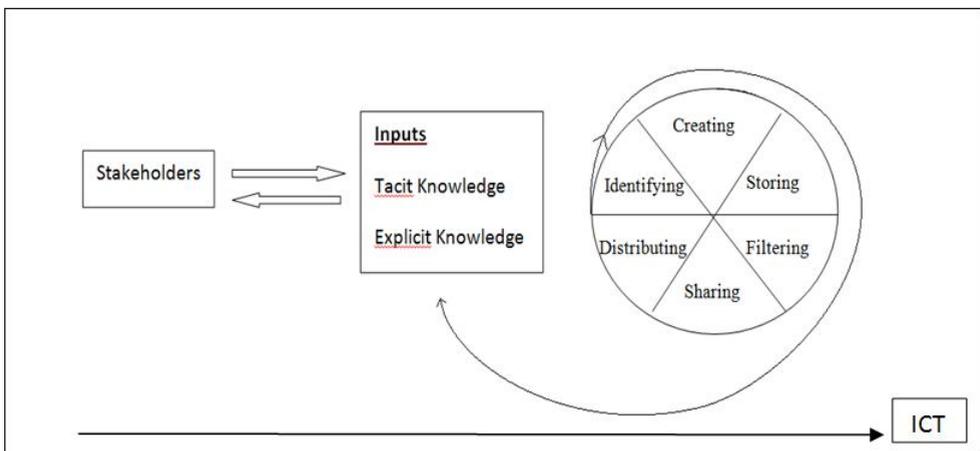
Regional knowledge management aims to manage regional intelligence capital, lessons learned, best practices in benefits of the region. Regional knowledge management supported by strong ICT platforms also enables translating knowledge in policy and action (Muresan,2009:545). Knowledge management platforms including various regional data and standards provides valuable information to decision makers and other actors of the region (citizens, institutions, NGOs etc) in order to interactively determine and implement regional strategies. Regional knowledge management allows integrating data and inputs coming from specific views and experience of actors in the region, the best use of regional knowledge, the consensus building on regional policies, the transparency in determining and implementation of these policies (Muresan,2009:554). In this way, interaction between the regional parties and the decision makers could be enabled to occur in an efficient manner for reaching appropriate regional development strategies. The increase of interactions between regional authorities and citizens and/or intuitions will help building more democratic and socially creative environment for the region which also helps social intelligence to generate new knowledge and innovate more.

From above explanations it can be said that knowledge management also helps improve governance process in the region since knowledge is significant in the

polycymaking process. Having required knowledge can ease taking effective decisions and actions to solve regional problems including the ones related with development. In determining and applying development policies, it is important to identify and disseminate the good policy practices into all dimensions of public administration. Via knowledge management basing on the sharing the experience and increasing the participatory rate as a natural structure of knowledge management, good development policies are more possible to be put in force (UN, 2009:65).

4. MODELING THE SYSTEM OF REGIONAL KNOWLEDGE MANAGEMENT

Figure-1: Regional Knowledge Generation Process



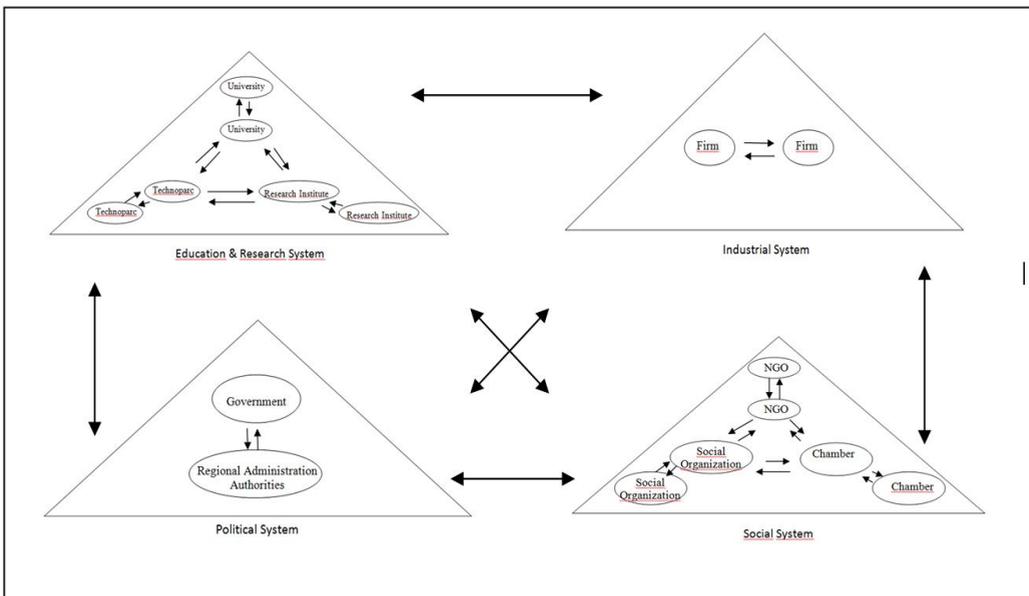
In the process of regional knowledge management the tacit and explicit knowledge of stakeholders within the region are included as inputs. The knowledge are identified, created, stored, filtered, shared and distributed within the process with an advanced ICT infrastructure.

1. **Identifying:** In the identifying process, stakeholders become aware of the system and understand potential benefits that they can get, learn what kind of knowledge is available and will be captured.
2. **Creating:** In the creating process, stakeholders start to feed the system by providing their explicit and tacit knowledge and also to benefit from the system by using the system. In every step of mutual learning, new knowledge will be created.
3. **Storing:** In the storing process, created knowledge is stored.

4. **Filtering:** In the filtering process, knowledge generated is filtered as not all of the knowledge is qualified, relevant or effective.
5. **Sharing:** In the sharing process, knowledge which is created, stored and filtered is shared among stakeholders within the region.
6. **Distributing:** In the distributing process, the knowledge is distributed through best practices, lessons learned, guidelines and success stories.

In the regional knowledge management system, the virtual pole of knowledge is fed by stakeholders who are users of it at the same time. Therefore, the creation of knowledge becomes a continuous process. With the re-generated knowledge and transformation of this knowledge into an economic value is contributed to innovation capacity and competitiveness of region. By covering all the stakeholders with the region, the system strengthens the links among them, improves their mutual learning process and social capital capacity.

Figure-2: Interactions among stakeholders with regional knowledge management



Within stakeholders, there are 4 main subsystems namely industrial, education-research, political and social. With regional knowledge management, exchanging of knowledge among them will be in intense and systematic manner and so the four systems become interrelated within the virtual pole of regional knowledge management. In industrial system, firms in different sectors and sized will

exchange their routines and techniques, increase their networking activities, and form a value-chain in accordance with their needs and a virtual clustering system become active within the whole industrial system in the region. In education and research system, the flow of knowledge among universities, research institutes, technoparcs, academicians and researchers will speed up, more opportunities will be created for doing research activities requiring inter-disciplinary works. In social system, NGO's, chambers and other social organizations will become more interrelated and interactive with regional knowledge management system. In political system, regional authorities will know better the needs, ideas and interests of individuals that they represent or work for. Also, if the regional management system is formed covering the whole regions throughout the country, the knowledge transfer among regions and between government and regions will be ensured. Then, this structure would turn into a nationwide knowledge management system which could be a base to improve all policy measures taking knowledge as a central dimension such as building national innovation system.

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3. CONCLUSION

The global competitive world where we live in requires developing new strategies and systems in order to adapt the new and rapidly changing dynamics and conditions for sustainable growth and development. Building regional knowledge management is one of the strategies or systems as being a significant driver for regional development via presenting essential environment for generating, sharing and using knowledge in various areas and for creating a virtual framework connecting all the stakeholders in the region.

The suggested model for regional knowledge management is a general one but in accordance with the specific dynamics of regions regarding their economic, social, political and cultural structures, this basic model can be revised and applied by including these specific characteristics.

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