

# Example of essay on innovation systems and the global innovation divide

[Technology](#), [Development](#)



In these lecture notes the innovation system and the global innovation divide is discussed in detail. Firstly, innovative perspective from social networks to innovation systems is described, among them the main points are that the economic actions are implanted in the social relationships. Our social circle and relationships are responsible for our economic actions. The behaviors of people in the society pave the way to the economic actions of the whole community. If social relations are good then they lead to good actions in the economy and if they are not good then they pave the way to worse economic actions.

These social networks are responsible for developing positive and healthy relations in the society that allow people to live a peaceful life. The social networks and other informal relations help in boosting and promoting innovation and creativity as newer ideas develop with socializing. Many people meet in order to work together for a common project or different projects and this will ultimately bring about innovation. They can even do wonders by inventing new products.

Furthermore, Innovation systems at organizational, regional and national level are explained. The innovators are rooted in the layered relationship arrangements, communities and social networks. Because of the presence of trust, mutual relationship and cooperation in such groups the people learn from one another at the minimal or primary level. Further, they are also associated with the organizations that are more or less welcoming to the innovative aspects. They are also member of the national and regional innovative systems.

As far as regional innovation systems are concerned, they encourage fast

knowledge, practices and skills diffusion i. e., they help to spread knowledge quickly. They also facilitate the spread of knowledge, practices and skills in vast geographical area, which is greater than a city but smaller than a nation. A region can however keep up a correspondence with discrete geographical unit, for example Baden-Wurttemberg. A region can also be defined as the distinct and unique culture that comes into existence as a result of a network of social and economic relations and relationships. Silicon Valley is an example of region that is consistent with the definition of region. They are proffering specialization, proximity and cooperation. Specialization is provided in the form of technology, industry and various types of knowledge relating to different things. Proximity is offered in the form of interrelated organizations that are geographically grouped together. They also provide cooperation that brings people together that have common interest, working for same cause and interested in same type of things. Different names are allocated to the regional innovation systems such as innovation milieus, learning regions, industrial clusters and industrial districts.

Moreover, in the notes regional innovation systems in Baden-Wurttemberg, Germany are explicitly explained. Baden-Wurttemberg is among the richest states of Germany. Its key industries are automobile industry, which include Mercedes, Benz, Porsche etc, Information technology, and telecommunication, electronics such as Borsch, solar energy and pharmaceuticals. The innovative index of the city state is quite high that reflects that people are passionate for socializing and these social relations are good that are fostering better economic relations and ultimately

innovative, novel and revolutionary ideas are emerging that is increasing the worth of state and standard of living of people living in the state.

Additionally, Baden-Wurttemberg's institutions are offering higher and increased learning chances and facilities as compared to other states. This is the reason that people going to such institutions are getting better knowledge and learning new skills that is helping to generate ground-breaking ideas. Further, there is close collaboration between the academic research centers and industry in the state. They negotiate with each other regarding any issue and then come to the final solution after in dept analysis of problem they are confronting. This help in collaboration and interaction of different people and different institutions, which further enhance the chances of innovation.

A renowned example is Max Planck Institute that is conducting various meetings and in these meeting industry heads also participate in order to remove the problem that the state is confronting in order to further facilitate innovation and invention for enhancing the economic relations and conditions of the state. In order to ensure better and deep understanding of the latest requirements and needs of the society, the state is continuously promoting research and development. It is however subsidizing heavily for the research and development of the regions. With R & D the state will be able to identify the problem areas and the areas of deficiency and can work on them in order to further improve the social and economic conditions of the state.

After Baden-Wurttemberg the regional innovation systems of Cambridge, United Kingdom are discussed. Cambridge in United Kingdom is also an

innovative region that encourages innovation and revolution. The Science Park, which was founded in 1970 situated in Cambridge, is one of the biggest centres for the commercial research and it is serving for many years. It is located at a distance of just 3 miles from Cambridge University and is contributing for promoting social relationships and generating new and bright ideas. The Science Park provides wonderful facilities, convenience and amenities. It has also famous internationally for its excellence and innovative capabilities.

Moreover, it comprise of matchless conference centre, coffee shop, health and fitness club, and restaurant. These all facilities are offered in order to encourage research and development for making innovation possible the region. The park however attracts the best people with remarkable skills and exceptional knowledge, it is attracting a pool of entrepreneurs and innovators particularly those that have close relations and ties with Cambridge university because they are well aware of the region, its people, regions drawbacks and advantages, requirements of regions, deficiencies and needs. So, they can do research on that particular field lacking specific aspects and with innovative ideas they can help in the improvement of those regions and ultimately social and economic condition of region will improve that help to improve conditions of country.

The regional innovation system of Silicon Valley is also explained. This region is enjoying close and good relations with Stanford University, by having affiliations with the research park, research programs and honors degree programs. Stanford is a medium of expression i. e., conduit for the social networking in the region. It ensures best regional innovation system with

unique and distinct culture by allowing social research and social networking. Other universities are also linked to the Silicon Valley; these universities include California Institute of Technology, University of California and San Jose State University. they all are encouraging research and development activities and social networking and relationship building. California state however also supports innovation and research and development by providing small grants in the form of series. California has also created hubs for innovation which are named as iHubs to guarantee the innovation and enable social networking.

Then there is regional innovation system of Island of Singapore, which is not just a regional system of innovation but is considered as the national system of innovation. Island of Singapore is enjoying first class academic institutions and desirable quality and high caliber engineers, and trained scientist's cadre.

Moreover, it consists of high tech research and development infrastructure. The government is very supportive and promotes research and development and social networking for building social relations and paving way to innovation. The government officials are knowledgeable and experienced in sciences and they support research for developing novel and ground breaking ideas. The government emphasizes on the science education, and also pays funds and subsidies to the research laboratories just to encourage innovation and ultimately progress and socialization in the region.

In addition, National innovation system is also explained. There is no definite definition of the national innovation systems, but following ideas are mostly accepted that define national innovation system. It is considered as the

network of private and public institutions whose actions encourages, alters and disseminate innovation at the national level. It is also defined as the set of innovations whose interactions and connections decides about the innovative process of the nationally operating forms. They are also regarded as the national institutions, their policies, procedures and motivational structures that determine the directions and rate of the production, which is based on knowledge and process of learning. However, they are also national unique, distinctive and peculiar cultural values, norms and ideas that contribute to the development of the innovative ideas, implementation of these concepts and ideas and diffusion of these ideas and innovations. Considering the National Innovation System and Economic Prosperity many experts have agreed on the fact that those economies are called innovative that have welcomed and embraced innovative economics model and are working according to the model for introducing change and innovation. The National Innovation Policy was promoted in 1841, by Freidrich List. He has favored this policy in his book named The National Systems of Political Economy. Some countries have however; openly adopted policies that encourage innovation and such policies are related to training, education, immigration and intellectual property protection.

### **Some examples of National innovation system as described below.**

Firstly there is National Innovation System of the Mongol Empire dated 1294. Mongols were wanderers/nomads having no cities or towns. They had no woven cloth and did not bake bread and did not make pottery. They were very passionate for innovations and they turned innovators themselves. They

had developed new and fresh ideas and then diffused the ideas of innovation throughout the whole empire and made it a modern place to live in. their innovations include grenades, rockets, devices that resemble cannon, constructed bridges and roads and maintained roads and bridge system. They also formed global market for a larger variety of the products at local level, introduced new law code of conduct that was less penalizing and they also encouraged the farmers for growing high demanding crops which are suitable for that region.

Further, in notes the Soviet National Innovation System is described, which was established in 1917, when Soviets developed a centralized national innovation system which was controlled centrally. They succeeded remarkably in the areas such as health care, science, technology, industrialization and education in the initial phase. However, in 1960s and 1970s they give tough competition to United States and emerged as the biggest U. S. competitor in the field of science, technology, economic development and exploration of space. Later, the creativity and innovativeness was muffled by state controls and censorship.

As far as American National Innovation System is concerned, innovation is a distinguishing trait for America. This fact can be seen from the examples such as Jonathan Boucher, who was an English clergyman claimed in 1700s that American nation is addicted to do innovation. Evolution of NIS is also representation of this fact. By the end of world war II, America was declared as the world leader in the applied innovation. The research of 1980 also confirms it to be the world leader. In 1900 ascend of Silicon valley was viewed and then American government laid stress on innovation. The



American government pay special attention to the innovation in the while framing any policy. This can be analyzed from the fact that President Obama has created a team for ensuring innovation agenda for United States in order to leverage technology for promoting economic growth, creating employment opportunities and for solving most depressing problems that the country is facing.

Chinese NIS has experienced several innovation cycles after Communists took control in 1949, and some of these innovations were shockingly successful. These innovative movements include Hundred Flower Movement in 1956, Great Leap Forward in 1958, Cultural Revolution in 1965. However, with Mao's death in 1977, socialism evolved with an exclusive Chinese face. The cultivation was based on the responsibility of the household i. e., on family. Private trade was legalized; special economic regions were developed for allowing foreign capital to enter the country. Such reforms offered the chance to China to become competitive in the post industrial era.

If we consider national innovation systems in global contexts then we find that the countries vary in their innovation systems and in innovation levels. The Global Innovation Index ranks the nations in term of their allowing and enabling surrounding and environment to encourage innovation and the innovation output. The index components are human capital, institutions, research, and market sophistication, and infrastructure, scientific and creative outputs. In Global Innovation Index of 2012, Singapore is at 1st position and United States is at 8th position behind Singapore, South Korea, Switzerland, Iceland, Ireland, Hong Kong, and Finland. China is ranked at 27th position, Norway is at 18th position and India is at 46th position. China

is ranked low due to the fact that the state is investing a lot of money in research and development and the spending of money is targeted at biotechnology, technology, new materials and alternative energy.

But, according to Wall Street Journal central planning is not an effective tool for innovation. This is due to the fact that markets are never present and survive in the free environment. They are formed, shaped and controlled by people, specifically by entrepreneurs and politicians. This fact is consistent with Mark Granovetter's saying that the economic actions are associated and embedded in the social relationships. Social relations build on trust help to reduce the ego-centric market approach and wrong doings in the market. The least innovative countries are those which are hostile towards innovation. Uganda, Burkina Faso, Argentina, Tajikistan etc are ranked as least innovative countries 2012. They are ranked low due to the lack of a national innovation system, inappropriate assistance for the development of science and technology; market mechanisms are not functioning and deficiency of venture capital financing. Jeffrey Sachs has introduced three worlds of innovation for describing Global Innovation Divide. The three words are Core Countries, which have innovation dominance, Technological Diffusers, which have advanced production techniques but are not innovative, and Marginalized Countries, where rate of diffusion of innovation is low. Innovation is low in marginalized economies due to cash trapped governments that are doing inadequate investment on education, technology, laboratories and science by government on etc.

Innovation is low also because of brain drain and ecology specific technology. For making marginalized economies as technology diffusers by

integrating national economy into global economy. Marginalized economies are agricultural economies and just 10% live in cities, sur to which they are unable to innovate. However, a country can become an innovator from diffuser by transferring knowledge via capital goods importation form the innovative countries by forming joint ventures. The idea can also be achieved by importing a national policy that deliberately moves farther away from the diffusion towards innovation. However, it is not an easy process but few countries such as Korea, Ireland etc have adopted it.