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**Business Innovation Development through Special
Social Programs by Science Parks, and the case of
Isfahan Science & Technology Town (ISTT)**

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Science parks and innovation communities in developing regions

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BusinessInnovation Development through Special Social Programs by Science Parks, and the case of Isfahan Science & Technology Town (ISTT)

Introduction:

Science and technology parks as the links between academia and industry are considered as one of the key components of the national innovation system in each country which in turn play an important role in technology development. Establishing science parks is a measure taken by countries to enhance economic development and they are considered as one of the major elements for sustainable development. A science park can help the development of a nation if it works well and if it is successful in its performance. They follow different objectives and they could be classified in different categories. Some of them are university science parks that focus mostly on the commercialization of research results performed in universities and create technology hubs based on the university achievements. A number of science parks are urban parks that develop science and technology in the society and lead to creating businessinnovation in the society, developing entrepreneurship in the society or social problems solving by innovative solutions. Each of these models has its own advantages. These are common almost among all science parks including those in Iran.

How establishing a link between university, industry and society through Science Park and businessinnovation has worked in Iran?

One mechanism which brings together the basic resources into a working system for the generation of wealth and welfare is science and Technology Park and/or incubator, depending on the size and some other considerations. The ideaof science parks in Iran started as a remedy to promote university-industry relation and to help improvethe economic and technological development of the region. The aim of science and technology parks is to link industry and academia. They also establish a good link between government and the private sector. Science parks are tools for economic development. With regard to the important role they play in technology transfer, networking, collaboration, national innovation systems and promoting innovation and technological development they are considered as one of the best and the most appropriate tools for knowledge-based development and filling the gap between university and industry. Meanwhile, in order to cover all aspects in a sustainable development process, both mentioned models should be taken into consideration. This means both commercialization results and the infrastructures for innovation and entrepreneurship in society should receive enough attention as the structures of sustainable development.

Isfahan Science & Technology Town (ISTT) has been one of the major elements in this structure for sustainable development. During the last years, ISTT has focused on the commercialization of university research results and creating employment opportunities for university graduates, however, in the next steps ISTT has been involved in industry and it has completed the triple helix through interaction with R&D units of industries, linking university with industry, commercialization of university outcomes in industry and settling R&D units of industries in ISTT. As a hub for entrepreneurship and innovation, ISTT has added another factor to the triple helix to complete its mission and it is involving the society in two parts: promoting the culture of innovation and entrepreneurship among the young graduates and investors, and involving the commercialized technologies and innovations in people's daily lives (social innovation). Therefore, a plan was needed to fulfill this goal and it was embarking on social events through which creative thinking and creative businesses will be developed in society. ISTT has then investigated different similar models in different parts of the world including China, Silicon Valley, MIT, etc. followed by implementing events such as start-up weekend, start-up booths, Startup Camps, Startup Grinds, Pitch nights, etc. to promote business innovation and present new technologies and innovation in the society.

As for the second goal for involving people's daily lives with the newly developed technologies, ISTT has organized techno fairs, technopreneurship festivals, and some social activities to involve the society in business innovation and move it toward sustainable development. Social innovation is a form of innovation that can be linked to reforms in various societal structures, which improve the efficiency of the economy and society. Social innovation can change the society's, the community's or the individuals' way of acting, even though it may not be tangible in product and service markets. In addition, significant technological innovations always social processes – the question is about social shaping of technology, the intensification of producer–user relationships, the development of organizational structures, and new operating models and modes of behavior. Social innovations are reforms and renewals that make these social processes more efficient, leading to new technological products or processes or more efficient human activities. Social innovation in itself is seldom the object of business activities alone.

ISTT has good experiences in adopting these models and the newly developed model. This paper intends to have a comparison between the two models and suggests the most appropriate model to achieve sustainable development. The role of ISTT in arranging social networks and gatherings, its role in finding the social needs for developing innovation and developing technology-based innovative businesses will be investigated in the next part. How ISTT has helped promote business innovation in Iran and different programs (mentioned above) taken in this regard will also be referred to at the final part of this paper.

Today, Science & Technology Parks and Incubators are considered as one of the major components and infrastructures for economic development. They are considered as the engines for knowledge-based activities and moving toward sustainable development of their community. Science and technology parks create an appropriate environment for the activities of elites in their society so that they could be effective in promoting their society, region and elites. In this way, in order to make this role more effective special attention should be paid to the hosting society and region for these structures. This attitude encompasses the way they interact with the region, localizing the created technologies and meeting the needs of the society.

Localizing the technologies can lead to promoting the quality of the region and sustainable development. Moreover, since it is intended to create a platform in which knowledge can be changed into wealth it is necessary to meet the needs of the society as the target market. Creating employment opportunities and brain drain are among other outcomes of science and technology parks in society. If STPs are identified as the economic pole in their region, they can be successful in the formation of a k-based society, otherwise, they will be deemed as the ineffective public or private structures in which the society cannot trust. On the other hand, if STPs cannot present their created technologies to the market in the form of product or service

they will miss their role as the element for development. Therefore, they may fail because of incapability in developing the target market and proving themselves as effective structures. In order to achieve these goals STPs should enter into the societies and to be presented to the public and to elites and play their roles in the best possible way.

Today the social networks are being developed virtually and actually and many people have been able to improve their capacities, learn and being updated through membership in these networks. These social networks that are formed with different attitudes have been able to change into a strong tool to direct the society toward political, economic and cultural development.

The social networks are a group of individuals who communicate with each other directly (virtually or actually). These networks can be used as strong tools that facilitate each member to achieve his/her goals. Researchers and experts believe that these networks can play an important role in economic development and success of the companies. The successful experience of these social networks and their role in economic and social development during the Communism in Russia and in Silicon Valley in the U.S. in 1980s are some examples that prove this effective role.

Through these structures entrepreneurs and technopreneurs settled in STPs can more easily have access to the needs of the community. On the other hand these social networks are strong tools for introducing the capabilities existing in society. Therefore, it seems that the social networks specially the virtual ones that do not need physical presence in the gatherings, are appropriate tools for STPs in the three following areas:

1. A tool for introducing infrastructures and processes of attracting elites
2. Identifying the needs of the society through informal interaction with the target market and establishing relations with potential customers for STPs and incubators and their tenant companies
3. Marketing for the products and services of knowledge-based companies in science parks and incubators and improving these services and products and easy access to their view points

There are three attitudes or approaches during the interaction with the target community through virtual networks: 1. Passive attitude; 2. Active attitude; 3. Pro-active attitude.

Passive attitude: The social networks are just tools for entrepreneurs and technopreneurs who are doing marketing, acculturation and market identification. However, STPs have nothing special for entering into these networks. Therefore, it leads to disappointment among people and they could not achieve their objectives and sustainable development. More than two third of Iranian STPs have a passive structure toward social networks.

Active Attitude: In this approach STPs together with entrepreneurs, technopreneurs and their tenant companies initiate creating new markets and marketing and they try to join the social networks. The technology festivals and exhibitions are some examples in this regard. Interaction with universities and industries, as the two major elements of regional development and entering their social networks are among other measures taken in this regard.

Pro-Active approach: This is actually the more complex approach toward social networks. STPs, as the sources of knowledge-based businesses and policy-makers in science and technology try to form and organize these networks so that through these networks they define some new activities and renew and renovate the networks. STPs will become the major element in these networks and use it as an effective tool for managing sustainable development.

ISTT as a Case Study:

As the first and pioneering science and technology town in Iran, Isfahan Science & Technology Town (ISTT) was established in 1993. It established the first technology incubator in 2001 when it came into existence as the first role player in Iranian National Innovation System. During the last 21 years, ISTT as the pioneer of innovation, k-based businesses and k-based economy in Iran, has trained more than 1000 successful companies and it has entered them in the economic cycle of Iran.

During the past 20 years, ISTT has endeavored to choose and implement the best possible policies for the region and country in line with its role and obligation to create a culture of innovation, entrepreneurship and technopreneurship, and also to help foster an environment suitable for the formation of knowledge based companies which in turn leads to a knowledge based economy. With the creation of an innovative ecosystem in Iran during the past two decades, and in order to manage, organize and effectively form the infrastructure of this widely used new network of society, ISTT has taken the following measures:

1. Sheikh Baha'i National Technopreneurship Festival:

Sheikh Baha'i National Technopreneurship Festival was first launched in 2004 to promote a culture of creativity and innovation, and to assist in the creation of a social network for the participant of these fields of operation. This social network was intended to recognize and encourage Iranians residing in and out of Iran to participate in this field. Bringing together Iranian technopreneurs and entrepreneurs residing in Iran with their similar counterparts who due to the internal conditions after the Iranian revolution either have not had the opportunity or have chosen not to reside in Iran, and thus creating a social network amongst them, has been a main objective for this festival. This has been the first step ISTT has taken to utilize the power of social networking for the advancement of its goals in the development of the region and country. Participating in this festival has no age, gender or educational criterion and is open to anyone who is interested to be involved in this social network. Over the years organizing this event has greatly influenced the productivity of ISTT by generating a proper innovative ecosystem throughout Iran and also assisting in the regulation of the national macro policy making in this field of activity. This cooperative social network has also helped Iranians not residing in Iran to better understand technopreneurial and entrepreneurial progress and achievements attained here in Iran. As mentioned before due to the informal and independent nature of social networks, they can at times be trustworthy channels of communication (although distrust is a more common attribute). In order to announce the technopreneurial and entrepreneurial achievements of the innovative ecosystem of Iran, this created channel of trust needs a social platform to annually showcase these achievements, thus ISTT has organized Sheikh Baha'i national technopreneurship festival to satisfy this need.

2. Tea party :

In its early years of establishment ISTT recognized that in its attempt to help entrepreneurs and technopreneurs support themselves, aside from assisting in the formation of an innovative ecosystem, it also needed to help in the formation of a professional social network which promotes the product and services market for ISTT'S companies and would also recognize their needs in developing a better working and cooperative relationship with their relative industries, and marketplace. ISTT has tried to satisfy their shortcomings and create further introductions through network channels of communications created by organizing social events. Tea parties are of such events which have yielded great success in their 3 year experience so far. Tea parties create friendly environments for bringing together different companies, organizations, industries and influential persons in a specific field of activity. At first a friendly relationship will foster which can hopefully stem into a professional relationship in the future, and thus create a social network

of professionals, thinkers and influential persons.

ISTT can then achieve its two main objectives of a) understanding the needs of the marketplace and b) marketing and commercialization of different products and service, through managing intranet work relations.

3. Idea Show

After many years of attracting entrepreneurs, and technopreneurs with the intension of initiating newly established companies in the field of technology, there was a need to take notice of and to participate in new social networks where the members viewed entrepreneurship in a different light. During this period, it was assessed that the country's innovative ecosystem was no longer single dimensional but instead new participants and players were actually trying to guide its movement. This drove ISTT to search for a new method of guidance, the reusage of the existing social networks, and also the formation of new social networks alongside these new emerging players. In this capacity ISTT has attempted to organize proactive events to create new waves in entrepreneurial activities and to further motivate an elite part of society towards our supportive and encouraging environment within the park. An Idea show is created with the incentive to promote the generation of new ideas and encourage creativity amongst university students, fresh graduates seeking employment, and individuals who are interested in entrepreneurship and who have the needed creativity, but who don't just pursuit entrepreneurial activities and could in potential become an entrepreneurial team planner. This time the existing social network of innovation and entrepreneurship helped internalize the culture of creativity within the thought cycle of these fresh individuals and recruit them for membership within the network. Another possible outcome could be the creation of a new network with the before mentioned culture and orientation. The existing social network which has either been fostered by membership of ISTT or created by ISTT itself, has contributed in the Idea show by providing the guidance of successful entrepreneurial or commercial experience and hence facilitated in the creation of the trust needed to form a draft of a stable social network. Thus a newly established social network which includes thinkers of new ideas, and persons interested in entrepreneurship, who are mainly university students and potential customers as mentioned before, is created. This new social network can help ease the development of the new entrepreneurial culture within the group.

In the three mentioned structures, the interactive roles of social networks and ISTT in helping the development of technology and innovation ecosystem of the region are worth mentioning. ISTT has acted as the executive body and the supporter of innovation culture in these events to bring together people under the umbrella of innovation, entrepreneurship and synergy, playing in this way its role in formation of effective social networks. ISTT has tried to remove the problems existing in the society in regional development, employment opportunities, localization of technology and use and consumption of knowledge-based products helping in this way the promotion of the region.

Conclusion:

Formation and development of the social networks (virtual and actual) have been started alongside the development of communicative infrastructures in the countries and the interest by people in keeping updated and being aware of the up to date subjects. In general, in today's world, the social networks are being established in three levels of self organized networks, sampling networks and complex networks. They are changed into strong tools for directing social capitals and resources. Meanwhile, the information sources that are gathered and transferred in these structures have been considered by politicians and economists of significant importance. Considering the importance of these networks, utilizing them as effective tools in

sustainable development is a must. With the use of these social networks we can provide the necessary information for policy making for sustainable development. On the other hand, through these networks it is possible to direct STPs and policies related to culture of innovation and science park development in society. ISTT has been able to successfully use this effective tool of social network to develop new networks and to direct and promote the existing ones for regional development activities including creating employment opportunities, k-based economy, and promoting the culture of creativity. ISTT intends to form specialized-social networks and through them promote the culture of using k-based products and services in daily lives of the community helping in this way the economic growth of the region and sustainability.