Saudi Technology and Business Incubation: an Analysis and Indication of Gaps in Functioning

Emergent Research Forum papers

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Abstract
Due to the increasing occurrence and the tendency to be unsuccessful, one may argue that SMEs and any other new budding businesses are should be developed to be self-sustaining entities; this would be the right step to ensure economic sustainability of any nation. However, the self-sustenance follows the initial nurturing by business incubators of different types. Recently, the Kingdom of Saudi Arabia (KSA) has experienced a rapid increase in its economy due to a large number of startup businesses that create new employment and training opportunities. This trend in employment stability is not free of challenges. Despite the growing awareness and interest in business incubation, the benefits incurred by them to support new business and enterprises have much room to be fulfilled. In this review, the current growth in the rapidly-flourishing Saudi business incubation system has been reviewed; the investigation reveals that while the system has successfully supported new enterprises, its performance can be enhanced by emphasis on creativity, innovation, and knowledge-sharing within the incubation systems.

Keywords:
Technology incubator, KSA Business Incubation, Incubation Performance, Startup Firms, KSA Business and Economy

Introduction
There is an agreement by researchers, business practitioners, and economists that new and successful enterprises are an important stake not only for increase in employment of a region but also for its economic and political stability (Rahatullah Khan 2013). However, the chances of success for new enterprises are largely dependent upon the entrepreneur’s personal strengths (Aubert and Reiffers 2003). Incubators of different types nurture young entrepreneurs and firms. The goal is to help them survive and grow through the difficulties of start-up because this is the most vulnerable period for them. Both technology and business incubators provide managerial services, access to a financial capital, and the most required business and technical support and counseling (Mian 1997). Effective business incubation programs promise provision of office space, necessary equipment, and manpower. On the other hand, technology incubators are instrumental in developing new economic sectors within IT and communication field.

According to Flavel business incubation originated from the United States of America in 1960s (Flavel and Kalendra 2008). It was an initiative for the support of budding SMEs in order to help them establish and develop their management skills, networks, and to create a market for their products and services. Yet, developing countries have failed to adopt incubation as a mode of overcoming the barriers faced by
Businesses and technological advancements. This is particularly true for Saudi Arabia, where business incubation programs have been developed but are failing to reach their true potential. Although the country's budget has ballooned from 69$ billion to 170$ billion, its SMEs are contributing no more than 25% to the overall GDP in comparison to 64.3% and 44% contribution of SMEs to their respective countries in Spain and Austria, respectively (Ghali 1997). This is attributable to the differences that Saudi incubation programs have with the successful incubation initiatives all across the globe (Sherman 1999).

Keeping in mind, these issues, three research questions have been devised as follows:

**Research Questions**

Keeping in mind the aforementioned goals, the following research questions have been formulated:

1. What forms of incubators currently dominate the Saudi incubation industry and are their modes of action leading them towards achievement of their goals?
2. What are the current principles regarding creativity, innovation, and knowledge-sharing being practiced in Saudi technology and business incubators?
3. What gaps does a comparative analysis indicate between Saudi incubators and those of the US and UK?

**Methodology**

**Strategy to Search Literature**

Relevant journal articles and online sources reflecting views and research on incubation in KSA and other countries, the implementation of innovation, creativity, and knowledge-sharing in incubators, and on successful incubation techniques were identified from Google Scholar. The searching strategy included collection of articles pertaining to “business incubation,” “technology incubation,” “incubation in Saudi Arabia,” “innovation and success of businesses,” “creativity and businesses,” and “knowledge at workplaces.”

**Selection of Articles for Review**

Following the search of relevant literature using keywords, 426 papers references were obtained. The title and abstracts of these papers were further reviewed to check their relevance to the research questions to be answered. Papers were included if their abstract provided support to the research questions, otherwise they were eliminated. Any papers that were published before 1995 were also eliminated from the research. At the end of this pruning, 25 papers were left for development of this study.

**The Review and Assessment of Information**

The 25 papers finalized for the research were read and discussed from a comparative point of view. After gathering and penning information on the incubation practices of KSA and other countries, including USA and UK, a comparative analysis was carried out after discussion between the authors. Key pieces of information were acquired/highlighted from each publication and analyzed to be made a part of this research for answering of the research questions.

**Business and Technology Incubation in KSA**

**The Common Trend of University-Based Incubation**

The private and government sector in KSA has been working to establish incubators in the country for the purpose of enhanced technology-based business activities with associated benefits (Salem 2014). An interesting trend seen in this feat in KSA is the establishment of university-based incubators (Salem 2014). University business incubators are special types of incubators that ensure the provision of office space, equipment, and technological/software services to startups. The only difference with conventional incubators is that they are run and funded under the patronage of universities. This type of help makes possible that fresh entrepreneurs are given a secure environment to have a head-start that they would not have otherwise (Peters et al. 2004). University based business incubators are actually a major source by
which commercialization can be facilitated because university research and knowledge facilitates economic growth and development. This choice of the business incubator-type is actually dependent upon the objectives and goals of the program (Salem 2014).

**Major Technology Incubators**

Business incubation has developed roots in KSA in the past decade. Research shows that Saudi Industrial Development Fund (SIDF), Kind Abdullah University of Science and Technology (KAUST), Saudi Business Incubator Network (SBIN), Bab Rizk Jameel, Khadija Bin Khuwaile Centre, Badir-ICT, and Injaz are only a few of the business and technology incubators that work with an emphasis on science and technology (Al-Mubaraki and Schröl 2011; Khorsheed et al. 2012). These business incubators in the KSA are characterized by their involvement with the private sectors for the monitoring of performance of fresh entrepreneurs and businesses in the market. Among these incubators, Badir-ICT is the first information and communication technology incubator that was established in KSA. It is formed as a part of the national Badir technology incubator initiative of Saudi Arabia’s national research institute, King Abdulaziz City for Science and Technology (KACST) in 2008 (Al-Mubaraki and Schröl 2011). Badir-ICT focuses on information and communication technologies (ICT) and supports the startup of related enterprises.

**Analysis for Indication of Gaps in Saudi Incubation Programs**

KSA is the largest country and the most widespread flourishing economy in the Gulf; this is clear from the fact that KSA’s economical budget has increased by more than 140% in the last eight years (Rahatullah Khan 2013). Currently, all of the aforementioned incubation programs provide only selected services for incubation of SMEs and new businesses (Rahatullah Khan 2013). It seems that although resources are enough, the absence of a certain motto for functioning of these incubations programs and an absence of well-defined goals and training aims hinder them from providing a complete set of services as is expected of good incubation programs. The situation of business incubation in KSA is thus fragmented and there seems to be a clear need to help the potential entrepreneurs of this country.

**Role of Creativity, Innovation, and Knowledge-Sharing in Saudi Incubation**

KSA has kept with the pace of the world to develop its incubators. It has been noted in research that in the developing countries, including the Saudi Arabia, business and technology incubators have not been able to come up to their expectations. They have not been contributing to the development of local economy, the transfer of technology, creation of new enterprises, and increase of job creation (Al-Mubaraki et al. 2010). From review of literature, it has been seen that creativity, innovation, and knowledge-sharing are crucial parameters for the successful performance of technology incubator. Yet, they are not present in the overall functioning of the Saudi incubation programs.

For success of young startups, it is essential to have assistance not only from incubators but other businesses within the same sector as well. This is made possible by transfer of knowledge and shared experience among these companies (Dey). Knowledge that companies generate helps them to identify, share, evaluate, and apply newer prospects within their field for their advantage (Alavi and Leidner 1999; Nonaka et al. 1994). Research indicates that the performance of an organization is considerably made better when the workers, collaborators, and the members of a team do not hesitate to share information with one another (Dey 2015). Their communication of knowledge can be of diverse nature; it may be based upon their personal experiences, personal understandings, and skills etc. Thus the business incubation industry in KSA can benefit from a common and unhindered custom/tradition of knowledge sharing whereby knowledge is shared to extent that it helps businesses grow and establish and be effective in the long-run for the country and its development instead of remaining limited to the establishment of a new firm in the market (Liao et al. 2007).

According to Robert Lucas (1988), highest growth and development was observed in cities and regions that were seen to promote a clustering of human capital. This means that all those regions which have talented people, tend to grow faster and are also better able to attract more and more talented people (Florida and Gates 2003). So while considering the purpose of technology incubators as the promoters of technological innovations, it is sensible and crucial that skilled, inventive, inspirational, and ingenious labor and manpower is sought out for employment within them. They should have the promise of
recruiting similarly zealous teams that offer to enhance the incubator’s performance. In line with this, in KSA, special laws have been set which are revised and updated continuously so as to make sure that effective legal framework is there that promotes creativity and also enforces rights for its safety with the individual to whom it belongs.

With an application of creativity in such wide-ranging fields, the government can easily work to strengthen its overall domestic and regional capabilities of innovation. It can continually seek and recruit competent scientific and technical staff of academicians in all of the strategic areas of technology (Mumford 2000). In this manner, KSA needs to develop some ground where residents can freely use their creativity and innovation thus procuring the benefits of both. Innovation is defined in literature commonly as the change and “newness” which is seen in a firm (Liao et al. 2007). This innovation can be in the form of a product, any service, or any other type of new offer; it also includes the ways it creates and spreads them across the region among the concerned stakeholders (Ekvall 1999). Apart from the numerous ways in which a technology incubator can fulfill its competitive advantage, innovation and strategic flexibility are also critically significant for effective performance of technology incubators. In this regard, it is deemed fit for incubation programs in KSA to adopt innovation.

**Ideas to Enhance Innovation, Creativity and Knowledge Sharing within the Incubation Framework**

Information Technology (IT) or more generally the digital technology has revolutionized almost all the fields in this world including the innovation and creativity sectors. However, as it has been seen in the past years, the Kingdom of Saudi Arabia has always had a tough time in the acceptance and use of digital technologies (Al-Gahtani et al. 2007). There are various factors that play important role in the development of general trends about technology adaptation within the specific fields or subjects. One of the most common factors, in this regard is the culture of the nation that could not allow the flexible changes in the current cultural trends. Among such reasons and many others, the managerial companies and technology incubators can provide awareness and knowledge about the technology adaptation while ensuring the cultural stability.

In addition to the increase in entrepreneurship opportunities, the technology adaptation can also provide basic framework for the positive incorporation of IT technology in the specified industry. One very clear example, to elaborate the above mentioned claim, is the use of digital technology for the publishing of research articles and magazines in the fields of science and technology. Another example, in this regard, can be the conceptualizations about the new ideas while setting up new business. Most of the stakeholders in Saudi Markets think that the new business should be set up according to the predefined standards and rules. While this is true for most of the cases in the past, the new technological era demands new and innovative approaches to set the things up (Al-Mubaraki et al. 2010).

**The Role of Incubators in Technology Adaptation**

The real and most basic role of any business incubator is to provide all the essential equipment related to developing a successful small business in the given field. In the field of science and technology, one can argue about the importance of technological adaptations to meet the new and exciting demands of innovation. One of the most common advantages that can be provided by technology incubators to SMEs is the professional advice about the exact amount of effort that is going to make a specific business successful (Peters et al. 2004). Sometimes, it can be almost impossible to determine in the start of the business. However, if the professionals from other technology sectors have tried the same method of innovation, they would have some ideas about the course of actions and initial input (Mumford 2000). The basic need, at this stage, is the encouraging behavior from an expert and it can be provided by incubators without being confused about the whole process.

**Conclusion and Future Recommendations**

After review of literature in this investigation, it has been concluded that KSA is rapidly joining the global movement of establishment of business incubators as a means of supporting the SMEs and new businesses. However, it has been noted that much improvement can be brought to these incubation systems in KSA in order to bring them at par with the international ones. Keeping in mind the
performance of incubators currently in the KSA, we give certain recommendations. For incubators that have produced startup firms that are older than 5 years, the impact and efficiency of performance should be measured in the KSA in terms of job creation, wealth creation, the number of companies established by the incubation program, the revenues generated, the exports, and the total valuation created. Since currently, KSA incubation programs have failed to fulfill these parameters; it is worthwhile to see how support for creativity and innovation and a culture of knowledge-sharing will help KSA to overcome the losses that it currently faces in its incubation performance. Furthermore, incubators should work to establish long-term collaborations and sustainability with the firms that are already in business in order to help provide collaboration and knowledge-basis to the new entrepreneurs. The incubators should consider implementing components such as a board and a motto to govern the incubator activities. Also, incubators should hire experienced and knowledgeable staff members that can encourage the new developers to think creatively and build upon their ideas.

References


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