

INNOVATION AND ENTREPRENEURSHIP IN EMERGING ECONOMY VERSUS MATURE ECONOMIES: CHALLENGES AND OPPORTUNITIES

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***Abstract:** Innovation and entrepreneurship are critical elements in diversification of economy worldwide and the engines for economic growth and job creation. Many researchers and practitioners are claiming positive effects of innovation and entrepreneurship in developing countries on the economic development. However, few programs and initiatives are taking place and adapted in a right way for successful implementation for growth and development of emerging economies. The purpose of the study is, therefore, to provide an overview of different programs and initiatives worldwide and in Oman in the area of innovation and entrepreneurship. Finally the paper concludes with challenges and opportunities facing innovation and entrepreneurship in emerging economy.*

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INTRODUCTION

The innovative enterprises in Oman or anywhere in the world are characterized to seek new products and services, applying new, more efficient and cost effective production and organization, creating and entering new markets. These innovative enterprises are the engines for economic growth and job creation. The challenging parts with innovative idea are the existing economic and social inheritance where innovators and entrepreneurs are trying to break existing consumer habit. Furthermore, the lobbying power of companies and politics that might prevent the development of innovative solution. Then after that come the commercialization process and the ability to find the required financing at different stages specially the seed and startup stages.

Normally there are four stages of commercially successful enterprise: Seed, start-up, early growth and expansion. The seed is the initial research and development of a commercial idea. The startup is the development of product prototype and initial market search. The early growth is where small scale

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commercialization occurs and finally the expansion stage where a substantial growth is happening. At the seed and start-up stages innovative enterprises are experiencing business uncertainty and a negative net cash flow, which makes these two stages very difficult for innovators and entrepreneurs to finance their operation through a traditional financing, such as banks. However, there are two options available at these two stages: government grants and external equity. In the external equity, there are the business angles, seed funds and venture capital (private and public).

This paper is organized as follows: Section 2 highlighting some background information and providing an overview on the literature review. The next section outlines worldwide initiatives in innovation and entrepreneurship. Section 4 provides details and a list of programs in Oman that support innovation, entrepreneurship and SME. Section 5 centers on the challenges and opportunity around the development of innovation and entrepreneurships and the final section provides a summary and a conclusion for this paper.

LITERATURE REVIEW

Shane and Venkataraman (2000) defined entrepreneurship as sources of opportunities; processes of discovery, exploitation of opportunities, and evaluation. Moreover, entrepreneurs are those individuals who discover, evaluate, exploit and willing to develop, organize and manage business venture given a specific level of risk and return. The entrepreneurs are able to develop goods and services, forecast market trends and determine activities that are profitable. Most developed countries have acknowledged the added value of entrepreneurship for both large and small business. They have developed the concept of "Entrepreneurial Economy" where governments and policy makers change the market conditions which results to have easy access to infrastructure, technology, raw materials, grants, favorable industrial and tax reform and easy access to finance.

Buckley and Rynhart (2011) estimated that the unemployment in Oman to be around 15 percent and with more than the double for the age group between 15 – 24. The promotion of innovation and entrepreneurship in Oman is motivated by necessity. One important motive to move toward innovation and entrepreneurial policy is the employment concern and the decrease in the oil revenue due to low oil prices.

Studies and research provide convincing evidence that the better the outcome of innovation, entrepreneurship, education and research the stronger the economic performance. This will lead to economic growth, employment opportunities and a competitive international economy lead by the private sector. It is important to conclude that Oman needs to develop entrepreneurial and innovation culture

through public awareness, protection of innovative ideas, seed funding, grants, venture capital, active interventions of the government and educational institutions. All this is crucial to build the entrepreneurial mindset. Furthermore, a study by Boocock (1989) concluded that there is increased recognition on the importance of small business to the national economy in the United Kingdom. The strength of Oman relatively due to their stable government and low taxes makes it a desirable place for innovation and entrepreneurial culture. Oman has no tax on personal income, dividends, capital gain or housing. A flat rate of corporate tax rate is at 15% with no consumption tax or value added tax. This environment and infrastructure is very important for the entrepreneurial and innovation culture. Vachani (1994) noted that small scale businesses are at disadvantage with poorly developed infrastructure.

Anderson (1993) indicates that most new jobs in the United States, the United Kingdom, and other countries, are most likely to be created in the small business sector. Furthermore, Data from European Union shows that small enterprises with less than 10 employees generate around 32.8% of jobs (Commission of the European Communities, 1999).

Collier and Mayer's (1989) showed that commercial banks are more likely to provide funds for small businesses in poorer countries. This is normally because of the lack of venture capital in these countries. Ivy (1997) found that 44 percent faced problems related to finance for new SMEs in Slovakia, Nepal and the Philippines. Moreover, Meier and Pilgrim's (1994) found that only large enterprises had viable access to finance in the formal sector in Bangladesh. Romano, (1991) discovered that access to finance was one of the major problems facing entrepreneurs. This was his conclusion after surveying 214 Hungarian SMEs. Bates and Hilly (1964) concluded that finding long-term financing is very challenging and thus forcing SMEs to take short-term and medium-term financing. However, short period financing is more expensive than the longer period.

WORLDWIDE INITIATIVES IN INNOVATION AND ENTREPRENEURSHIP

1. SBIR - Small Business Innovation Research launched 1982 (\$850,000 funding for early stage research and development funding for small technology companies) Apple, Compaq and Intel received this funding.
 - A. Phase I: Up to 6 months (\$100,000) for project feasibility study.
 - B. Phase II: Up to 2 years (\$750,000) for prototype development and commercialization with external, private funding or VC fund.
2. EXIST Program launched in 1997 in Germany to increase the number of start-ups and entrepreneurs from higher educational institutions. Higher education institutions started to offer financial and professional support for their students, graduates and researchers.

3. START Program launched in 2004 in Russia to stimulate spin-off activities from universities and research institute (started with \$180,000 then in 2009 they raised to \$250,000)
 - A. Phase I: For up to one year (\$30,000, in 2009 increase to \$40,000) for research and development.
 - B. Phase II: For up to one year (requires a private investor to invest 50/50)
 - C. Phase III: For up to one year (requires a private investor to invest 50/50) only given for projects that are in line with their business plan and they have started their sales.
4. The Techno-Partner Program launched in 2004 in Netherlands to promote technology based start-ups. This program offers seed financing, subsidy, certification to obtain bank credit guarantee and knowledge through Techno-Partner Academy that offers courses in Entrepreneurship.
5. Technology Incubators Program launched in 1997 in Denmark to bring research institutions, entrepreneurs and investors together to transfer the research idea to commercialization and the creation of new enterprise. The initial budget was 40 million euro for 3 years with a maximum of 100,000 euro for each company.
6. TULI program established in 1993 in Finland that seeks innovative idea in technology based business and support them commercially.
7. Adie program established 1989 in France that provide financing for micro entrepreneurs to welfare recipients and active poor. They provide grants for start-ups, non-interest bearing subordinated loans and market rate loans of up to 5,000 euro.
8. Pre-Seed Program launched in 2001 in Finland to help the people with innovative ideas to find sources of venture capital to support them and create the new enterprise.
9. CCIP - Canadian Community Investment Plan established in 1995 in Canada. The objective is to increase the number of community investment that help small firm with innovative and entrepreneurial ideas to get the required knowledge, experience and match with investors.

INNOVATION AND ENTREPRENERUSHIP INITIATIVES IN OMAN

1. The Research Council (4 programs)
 - A. Industrial Innovation Assistance Program
 - Encourage small and medium sized to adopt innovation
 - Link between academics and Industries where the industries provide the problems and challenges and academic help to find solutions.

- Research and innovative community network
 - B. Education Innovation Assistance Program
 - Develop innovative education and solutions in the public education sector.
 - C. Academic Innovation Assistance Program
 - Awareness in innovation
 - Technology Transfer Office (TTO)
 - Commercialization
 - Patent
 - Innovation in governance
 - D. Community Innovation Assistance Program
 - Targets the general public and raise the awareness about research and innovation across all age's group.
2. IDO - Innovation Development Oman Holding (Ibtikar Development Oman)
Ibtikar launched in 2016 with initial capital of OMR50 million. It is a venture capital to support innovative idea and support them during the commercialization phase. This fund supports individual projects between OMR400,000 to OMR5,000,000. This fund is owned by State General Reserve Fund (60%), Oman Oil (35%) and Omantel (5%).
 3. SMEF – Small and Medium Enterprise Fund
The SMEF is managed by the National Company for Project and Management (NCPM), which is owned by the Public Authority for partnership for Development. This fund provides subsidized loans for qualified small and medium Omani enterprise. The fund shareholders are from both government and private sector.
 4. KOM - Knowledge Oasis Muscat
The Knowledge Oasis Muscat launched in 2003 as a technology park that aims to be a leading center of business excellence, innovation and entrepreneurship. KOM targets Multinational Corporations and start-ups and provides excellent services, world class facilities, networking and linking with academia and industry and provide incubators.
 5. NBC - National Business Center
The National Business Center established in 2012 under the Public Establishment of Industrial Estate. Provides pre-incubation and incubation services. During both periods of pre-incubation and incubation entrepreneurs and innovators gets business consultancy, financial and legal advice, marketing and growth development assistance and networking with potential investors, government and corporate entities.

6. **Sharakah Oman**
Sharakah was launched in 1998 to provide financial support and guidance to entrepreneurs and SME in Oman. They provide three customized financial solutions: equity finance, loans and bill discounting.
7. **Zubair Small Enterprise Centre**
This center was launched in 2013 by The Zubair Corporation as incubator for small businesses. They use their network, professionalism, knowledge and experience to make small business in Oman successful.
8. **Al Raffd Fund** founded in 2013 that aims to provide support to entrepreneurs in Oman. They have four financing programs:
 - A. **Mawred**: loans up to OMR10,000, grace period of 12 months and repayment schedule of up to 7 years. This option is targeting entrepreneurs under the social welfare program.
 - B. **Ta'sees**: loans up to OMR20,000, grace period of 12 months and repayment schedule of up to 8 years. To receive this funding applicant should be unemployed and looking to start his own business.
 - C. **Tazeez**: loans of up to OMR100,000 with no grace period and repayment schedule of up to 12 years targeting business pioneers who benefited from Al Raffd Fund.
 - D. **Riyadh**: loans of up to OMR100,000 with a grace period of 12 months and repayment schedule of up to 12 years targeting different groups.
9. **PASMED - The Public Authority for Small and Medium Enterprise Development (Riyadh)**
Riyadh is launched by a royal degree in 2013. Their objectives are to make the SME a key pillar in creating jobs in the country and help to accomplish added value. In addition, they guarantee 50% of the loan given to SMEs up to a maximum of OMR250,000.
10. **Shell Foundation**
Shell Foundation and Grofin have launched an initiative called Nomou that provides loans ranging from \$100,000 to \$2 million based on the viability of business plan submitted by SME.
11. **The Cell**
The Oman India Fertilizer Company (OMIFCO) launched the CELL program to identifies, accelerates and provides seed financing in forms of grants to Omani entrepreneurs.
12. **Local Commercial Banks**
Different banks are offering different products and services to support entrepreneurs and SMEs. Bank Muscat is offering al Wathbah and Najahi

products. National Bank of Oman is offering Tijarati product. Other banks created separate unit to handle SMEs in Oman such as Oman Arab Bank, Ahli Bank, HSBC Oman, Bank Sohar and Bank Dhofar.

CHALLENGES AND OPPORTUNITES

The government here in Oman needs to pursue a combined innovation and entrepreneurship policies that reflects not only their current economic environment and national needs but also their own local enterprise, education, research and culture. For successful innovation and entrepreneurship policies in Oman there are some key factors. These include:

- I. Strong universities and research centers - This will help to create the required knowledge and skills that can be transferred to the local economy through spin-out companies, patent, Technology Transfer Office, consultancy, research collaboration with the industry and formal and informal contracts with investors and venture capitalist.
- II. Public and Private Sector Investment - The government sector is the critical player in forming and implementing initiatives and varies programs that support a successful innovation and entrepreneurship culture. Moreover, the private sector in Oman is currently playing a big role in supporting innovation and entrepreneurship initiatives given the limited resources available from the public sector. In fact, both sectors should create a form of a business model that resources provided by the public sector will be managed in a private sector way to ensure a maximum return from the given resources.
- III. Leading model - Entrepreneurs and innovators who have been successful in their business can be used to run the show and convince both public and private that the way forward is through creating the right environment for promoting innovation and entrepreneurship culture.

In contrast there are few Challenges that are currently facing innovation and entrepreneurship in Oman. The main one's are:

- I. Lack of coordinated policy and strategy between stakeholders. The public sector might be very successful on setting up innovation policies and developing the strategy. However, without the help and the co-ordination of private sector and the society challenges will be faced on implementing a forward looking and comprehensive strategy that utilize all resources efficiently and effectively.
- II. Lack of seed capital. One major problem with innovative idea is their business nature of being risky investment so there is a lack of venture capital and other sources of both mixed and private financing.

- III. Lack of commercialization opportunities of public research, patent and innovative ideas. The universities and research center organizations are a major potential source of innovative and entrepreneurship and the seed for start-up ideas. However, do these universities and research centers have their investment policy and spin-outs regulations? The spin-outs from universities are not always easy and few ideas from their pool can actually be the next big idea in the market. The universities normally help to encourage entrepreneurship culture through nurturing innovative ideas and support them until they manage to successfully commercialize their ideas.
- IV. Lack of qualified labor with required skills in innovation and entrepreneurship. The skills required promoting entrepreneurial and innovative culture is by having a highly skilled and qualified researchers, professionals, educators and staff within the organization that deals with entrepreneurs and innovators.

CONCLUSION

This paper makes a positive contribution to the innovation and entrepreneurship literature by comparing different international programs in innovation and entrepreneurship to the initiatives available in Oman. The analysis presented provides a comprehensive snapshot of different programs, centers, authorities and foundation that support innovation and entrepreneurship. Furthermore, this research paper places a spotlight on the challenges and opportunities facing innovators and entrepreneur. Further research is needed to measure the performance and effectiveness of these initiatives.

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