

High Technology Entrepreneurship

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Abstract:

High Technology entrepreneurship is very important aspect in many debates, including those which are regarding launching new firms and development, regional economic development, section of stakeholders, selection of markets, educating managers and scientists. The purpose of this article is to define the high technology entrepreneurship, and identify its various aspects in relation with economics, entrepreneurship and management. High technology entrepreneurship is an investment in a project that uses various specialized individuals and various assets to create and capture the value of firm. Collaborative experiments and production of new products, assets and their attributes, which related to advances in scientific and technological knowledge and the firm's asset ownership rights are the various factors which distinguishes Technology entrepreneurship from other entrepreneurship types (e.g. Social entrepreneurship, Small business and Self employment).

Keywords: *Entrepreneurship, Technology, Innovation, Technology Intensiveness, Social Networking*

I. INTRODUCTION

High technology entrepreneurs are with high growth and these ventures are expected to develop into complex enterprises. Entrepreneurship refers to the process of innovation that creates a new organization. Entrepreneurship flourish in those countries that supports the new venture creation and national institutions and social norms facilitates the creation of new venture. Entrepreneurship is very important for the economic growth. High technology describes the "technology intensiveness" of a business or industry, which is measured by money spent on research and development (R&D) as a percent of revenues to develop innovative products and technology. In 1890, "high" Technologies included petroleum refining, street railways, machine tools, and telephones. In 1990, it also included electronics and computers. By 2007, consumer devices also included in high technology like the Iphone and non-engineered materials. In High technology entrepreneurship there is high risk because the uncertainty cannot be forecast properly about the market acceptance of new technology. But High Technology entrepreneurship is also rewarded high for high risk, because new technology can create new markets and can transform the existing market and industry. There are very rare chances of innovation in established firms, so one has to focus on entrepreneurship, new ventures and start-ups.

II. ENTREPRENEURSHIP THROUGHOUT THE WORLD

Entrepreneurship is important because it pushes the economic growth. The rate of entrepreneurship surged throughout the world in last quarter of 20th century. According to the Global Entrepreneurship Monitor (GEM;2006), which is a study of 42 countries, 5 continent about the dynamic entrepreneurial propensities of countries, entrepreneurship is thriving in countries like China, India, The Czech Republic, Turkey, Korea, Ireland, Peru, and USA. GEM reported that a country's rate of entrepreneurial activity is directly related with national economic growth of the country (measured as per capita GDP) over time, 1999-2006.

Throughout the world, the rate of early stage i.e. nascent varies across the world from low of 2.7% (Belgium) to high of 40% (Peru). Rate in USA is at 10% and in Australia at 12%. In 2004 there were 24.7 million businesses in USA, in which 99.7% were employed between 10 to 200 people, accounting for 45% of the total private payroll, and just over half of the 112.4 million workers in the nonfarm private sector. Jobs created by small firms amounts to 60% to 80% of the net jobs annually for the last decade and these are more innovative than their larger counterparts, producing 13 to 14 times as many patents per employee. Sale of innovative products of these firms is account for up to 80% sale of innovative products. So high technology small firms create wealth, jobs, and economic growth because of innovative nature.

III. THEORIES OF ENTREPRENEURSHIP

Joseph Schumpeter (1936, 1940/1950), an early 20th century economist, argued that innovation leads to "gales of creative destruction" because innovation by entrepreneurs causes obsolescence of old products, ideas, technologies, skills, and equipments. Other contemporary researchers also argued that new technology drives economic growth by replacing older capital expenditures, expenditures on labor and time.

There is on general theory about entrepreneurship, so we consider five framework that have evolved to account for the phenomenon. Two are the "Macro" frameworks and three are the "Micro" frameworks.

A. Liability due to Newness

At Macro Level, rate of failure is more in new firms as compare to old firms which is called “liability of newness.” All organizations are dependent on social systems. But new firms must create new managerial and functional roles, new processes, trial and error learning, and has potential for interpersonal conflict.

New business originally depends upon social relations among strangers. But interpersonal trust among strangers is generally low. Commitment to organizational goals is also uncertain which complicates the execution of the Business Plans. Establishment of relationship with potential customers and suppliers is difficult because of lack of external legitimacy. It is difficult for the new firms to compete with existing rivals.

Factors those affecting the new firms also includes the institutional framework which is the component of “social conditions.” Japan’s institutions do not favor high technology entrepreneurship. Japanese firms prefers to starts as the subsidiaries of large firms rather than as independent new firm. Chinese entrepreneurs were also not allowed to join the communist party until the late 1990s. Japan and China has different institutional arrangements than others countries of the world like USA and has different social conditions.

In Science based industries, new firms have additional liability in their search for innovation. It is uncertain to measure the time required for the creation of new product, and realization of income from sale of products.

Newness liability is Important for the new business because the firms fails at a higher rate than the existing established firms, reason being the high rate of risk in the new firm which is substantial challenge for the high technology entrepreneurship.

B. Death rates of new firms and factors

This framework describes that there is inverse relation between number of firms and their death rates i.e. when number of new firms increases in the industry, the death rate of the new firms decreases. But after a certain point death rates begins to increase again. According to “Density-Dependent death rates” (Hannan & Carroll, 1992), this same type of relationship is found in a wide range of industries such as telecommunications, newspapers and hospitals etc.

It is argued by many researchers that population density i.e. number of firms in an industry is the determinant of both the legitimation and competition in the industry. By the increase in density legitimation also increases but up to certain level or point. Increase in density also increases the level of competition among new firms. As the more firms come into competition, death rates increases again because there are too many firms competing for same type of resources. This leads to industry “shake out.”

C. Entrepreneurial Features

Micro framework examines those entrepreneurs who are “entrepreneurs by necessity” i.e. who starts business in under developed countries and technical specialists who starts high technology business. Conventional approach describes that entrepreneurs are more comfortable with risk, more achievement oriented and more self directed. There are various barriers for the ethnic minorities, women, and immigrants for entry in the mainstream businesses.

The main or key characteristic of any entrepreneur is the ability to recognition of opportunities. It is the ability to think “outside the box” of traditional thought. It is personal experience of the entrepreneur to see that their problem is also the problem of many others. These distinctive capabilities of the entrepreneurs are of utmost importance but focus should be on high technology entrepreneurship dynamics rather than on entrepreneurs’ personal characteristics.

D. Teams of Entrepreneurs

Small businesses are generally started single individuals because these are relatively small undertakings. But high technology firms are tends to be found and operated by team of entrepreneurs. Entrepreneurship is a social process because the various resources required to start a new business are obtained from the various groups of society. Firms founded and operated by team of entrepreneurs enjoy larger number of resources and various human skills.

Thus it is very complex task to establish a new high technology firm and can easily overwhelm the knowledge, experience, and time of any single individual. Science based technologies are more complex and are multidisciplinary which requires various specialists and resources to bring a new product.

A strong and capable Top Management has very significant role in starting of new business. Top management should comprise of members with industrial and functional expertise. Firms with strong and capable Top management teams have the highest rate of growth, higher revenue, and higher profitability.

E. Entrepreneurship as a Social Process

Many researches show that entrepreneurship is a social process. It draws it various inputs from the various groups of society and depends upon the society for the sale of their products. Various resources and human expertise are exists in society. Markets are also the part of society.

Networking and sound relations with other existing firms in industry is very important. Networking with existing firms can provide various benefits to the new business such as public trust, social capital and access to broader network’s resources. Many other benefits can be credibility, legitimacy etc. Network ties, alliances and other similar ties are very important for a successful new business.

IV. CONCLUSION

By the brief study of high technology entrepreneurship it is concluded that the field it still lacks of a general theory of entrepreneurship or even substantive partial disciplinary theories. It is noted that economists, business experts

and sociologists have been attracted by the macro phenomenon of entrepreneurship. At micro level, personal traits are not so significant that these can be proven as helpful in prediction of successfulness of an entrepreneurship. Many key characteristics like ability to recognize the opportunities are of utmost importance. Social networking stands between macro and micro level and shows that how entrepreneurs and their teams covers the gap between idea of new business and actualization of this idea. Entrepreneurship is very important, risky and exciting task.

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