

# A Review of History and Background of Technology Entrepreneurship in Developed Countries

Olalusi O C, Fagbohun J O, and Fashubaa T O

*Department of Building Technology Federal Polytechnic, Ado Ekiti, Nigeria*

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## ABSTRACT

A developed country is simply a country having a sufficiently developed economy. In general, a lot of factors such as the level of industrialization, the general standard of living, and/or the amount of technological infrastructure are attributes of a developed economy. These factors are interconnected, and from this study, it was observed that the development of major notable developed countries today have a mutual factor that has impacted the amount of GDP developed countries generate, and all these countries are interconnected by the level of entrepreneurship, and technological development they have built over the years. This study aims to assess the history and background of technological entrepreneurship in developed countries, and relevant information was gotten through the review of case studies of technology entrepreneurship development in developed countries over Four decades ago. Majorities of the developed countries were considered in general, and the factors for the growth and success were reviewed as well. This study has led to the conclusion that Technology development and entrepreneurial spirit fuel the growth of the nation. It is a tool that has facilitated the growth of the majority of the notable Developed countries today.

**Keywords:** Technology Entrepreneurship, Developed countries

## I. INTRODUCTION

The Importance of technology entrepreneurship can not be underestimated for growth, differentiation, and acquisition of competitive advantage both at the corporate level and at the National level. New technology entrepreneurial projects are the most source for renovation and stable growth of an economy (Bailetti, 2012). Over the last four decades, technology entrepreneurship has become an

increasingly important global phenomenon. it's perceived as necessary for growth, differentiation, and competitive advantage at the firm, regional, and national levels. Technology entrepreneurship appeals mainly to leaders and top management teams of institutions, organizations, and Nations, who use technology to form, deliver, and capture value for stakeholders. Technology entrepreneurship also appeals to personnel of regional economic development agencies that attract investments in productive technologies and talent to a selected geographical location.

Technology Entrepreneurship (TE) lies at the guts of many important debates, including those around launching and growing firms, regional economic development, selecting the acceptable stakeholders to require ideas to markets, and educating managers, engineers, and scientists. Unless a generally accepted definition of technology entrepreneurship is established, however, these debates lose their focus. Technology entrepreneurship could be a vehicle that facilitates prosperity in individuals, firms, regions, and nations. The study of technology entrepreneurship, therefore, serves a vital function beyond satisfying intellectual curiosity. Technology, development, and entrepreneurial spirit fuel the expansion of the state. It's a tool that has facilitated the expansion of the bulk of the notable Developed countries today, like the USA, UK, China, Canada, Germany, France, India, etc. During this brief study, we'll be reviewing the History and Background of Technology Entrepreneurship in developed countries, but first an outline of what Entrepreneurship, Technology, and Technological Entrepreneurship mean.

### What Is a Developed Nation?

As stated within the theory and applications of macroeconomics. A nation is often considered to be "developed" if it meets certain socioeconomic criteria. In some cases, this could be as simple as having a sufficiently developed economy. Where that won't suffice, other qualifiers can include but don't seem to be limited to a country's GDP/GNI per capita, its level of industrialization, its general standard of living, and/or the quantity of its technological infrastructure. These factors are typically interconnected (i.e., the amount of obtainable technology can impact the number of GDP that a country is capable of generating, etc.) According to the UN, in 2020, 35 countries were considered "developed." All developed countries were located in North America, Europe, or "Developed" Asia and Pacific.

## II. METHODOLOGY

This is an applied study, exploratory in nature, and per the aim of the research, we studied technology entrepreneurship for the past four decades, reviewing past pieces of literature and case studies of technology entrepreneurship development in developed countries.

Due to the aim of the research, whose purpose is to review the history and background of technological entrepreneurship in developed countries, the foremost appropriate method of information collection and analysis is that of the case method (Yin, 2009). To work out the distinguishing characteristics of generations of technology entrepreneurs in developed countries generally. We studied the cases of technological entrepreneurs, factors affecting them, the rate of success. And For best results, we considered the factors mutual to all or any developed countries normally.

### Overview Of Technology, Entrepreneurship, Technological Entrepreneurship, And Its Sbackground In Developed Countries.

#### Definitions and Importance of Technological Entrepreneurship

Many definitions have been suggested for technological-based firms and TE. (Bacon et al., 1994) defines high technology industries as those that have short development cycles because products of competitors who are not keeping up with the latest industry developments quickly become obsolete. Therefore, a technology-based firm can be defined as entrepreneurial organizations which focus on the creation,

development, and exploitation of technological innovations through a strong R&D orientation in high-technology industries (Dorf and Byres, 2005) define TE as a business leadership style, which includes identifying technological opportunities with high growth potential, gathering resources such as capital and experts, and finally managing the rapid growth and its significant risk by exploiting special decision-making abilities. Thus, the TE concept is made of an entrepreneurial component and a management component (Petti and Zhang 2011). In the current study, TE is defined as the setting up of new enterprises by individuals or corporations to exploit technological innovation. The study has shown that new expanding and innovative firms are responsible for the significant growth of the country (Mueller 2007)). A vast body of research exists on the importance and contributions of TE to job creation, economic and social development, and growth (Lalkaka, 2001). In Nigeria, and in most African countries, the growth rate of diffusion of Information Communication Technology (ICT) is because of the private firms that saw an opportunity and decided to market ICT products and services thereby improving the quality of life of the citizens in the country (Siyanbola, 2011). As the definition of technology entrepreneurship continues to be unsettled, two main approaches to defining the phenomenon are observed. The primary is the quantitative one, with the most criterion being a share of budget spending on R&D activities. The second approach is qualitative in its nature and bases itself on the assessment of some enterprise characteristics and the degree of complexity of the technology used. According to the content analysis of literature, conducted by (Bailetti, 2012) as regards technology entrepreneurship, there are four approaches to the definition of technology entrepreneurship.

The first approach considers technology entrepreneurship as a process of creating and running a technology-based business (Byers et al., 2011). It focuses on organizational aspects of a business and a few characteristics of an entrepreneur (propensity to risk taking, commitment, passion, and relentless desire to be successful).

The second approach develops a Schumpeterian view on entrepreneurship and understands technology entrepreneurship as an activity, connected with resources recruitment (organizational resources, technical systems, and strategies) to use emerging technology opportunities (Liu, 2005). The other group of researchers according to (Garud, 2003) consider

technology entrepreneurship as an interactive process, executed by different actors, each of which contributes to the technology creation and transformation. The fourth approach emphasizes the need of solutions in search of problems (Venkataraman, 2001) that is a technology entrepreneur should find either an application for existing technology or an answer for the unsolved problem.

### Conditions for technology entrepreneurship in an Economy

Several frameworks of factors affecting technology entrepreneurship are found within the literature, however, most of them are developed for economies with stable conditions, like the USA or Canada (Kuemmerle, 2005). These frameworks state venture capital to be the most factor, among a collection of supporting factors. Feldman (2001) complements venture capital with supportive social capital, research universities, and entrepreneurial expertise. Another view on factors for technology entrepreneurship is represented within the work by Venkataraman (2004). The author suggests that venture capital can provoke technology entrepreneurship development as long as it's among novel ideas, role models, informal forums, region-specific opportunities, safety nets, executive leadership, and access to large markets (Venkataraman, 2004).

### Characteristics of technology enterprises and factors of success

The success and development of technology entrepreneurship in any Country may be due to several factors. The research (Bruton & Rubanik, 1997) on the success factors of technology start-ups in Russia analyses the applicability of three broad subject areas, usually used for the stable economic environment, they are: Founder characteristics; Firm characteristics; Start-ups strategy.

Also, based on a casestudy carried out by (Bruton and Rubanik, 1997), they suggest the Following factors as factors responsible for the success rate of Technological Entrepreneurship in developed countries:

- Technology start-ups founded by multiple member teams outperform those start-ups founded by single individuals in an economy.
- The firm's ability to adapt to, or change, its environment is the most critical aspect of firm success in any economy, rather than the industry in which a firm competes.

- High technology firms with breakthrough technology were more successful than those with demand-driven technology in the economy.
- High technology start-up firms that pursue an international strategy from their initiation experience recorded greater success in the economy.
- Higher levels of unrelated diversification by high technology start-up firms in the economy lead to lower levels of profitability.

In recent research by (Medovnikov et al., 2013) some features and characteristics of up to date technology entrepreneurship were revealed. According to the research, technology entrepreneurs are motivated not only by a chance to earn but also by a chance to launch an innovative product or solve a social problem. The strategy of such companies focuses on market development, entrance to the foreign markets, and propensity to a partnership. Such entrepreneurs depend upon governmental support and don't seem to be able to sell their business or to share it with investors, which ends up in small sizes and low growth rates. Also, contemporary technology enterprises suffer from an absence of qualified personnel.

### Factors affecting Technology entrepreneurship

TE research focuses on understanding the conditions and drivers that result in the identification and exploitation of opportunities for value creation. It is a complex and multifaceted phenomenon and occurs at many levels of study. At the individual level, the main focus is on entrepreneurs, venture capitalists, and other individuals that initiate and drive technological innovation. At the organizational level, the research is on the technological teams, structures, processes, and inter-organizational linkages that impact value creation. At the systems level, it's about the resources exchanged among different players within the ecology of value creation, which incorporates the governing factors like government, technology, and competition policy, industry standards, and also the economics of geographical locations. The success of entrepreneurs is influenced by support (formal and informal) from others. Formal support comes may comprise of financial, technology, and strategic partnerships. Informal support may come from personal and community-based networks (Makhbul, 2011). Thereby the factors influencing entrepreneurial success will be divided into two categories – individual factors and environmental factors.

## HISTORY AND BACKGROUND OF TECHNOLOGY ENTREPRENEURSHIP IN DEVELOPED COUNTRIES

One of the most important developed countries where technological entrepreneurship has been utilized is the USA, and samples of entrepreneurs found here, that have identified societal problems and have solved them using technological skills are: Bill Gates, Steve Job, Mark Zuckerberg, etc. Having explored the concept of technological entrepreneurship from different scholars, it is defined that technological entrepreneurship is an entrepreneur who has identified a societal deficiency and has applied technical skills to unravel this societal deficiency which successively has made them maximize profit and create jobs. And also made the country developed immensely.

In conclusion, let's take a short overview of Technology Entrepreneurship in India, which could be a developing country, to assess things to facilitate technological entrepreneurship advancement within the country.

Technology entrepreneurship in India has developed through several pathways, shaped by Government policy, the education system, and through interaction with multinationals. In India, to promote TE, many Government and non-Government agencies are putting efforts to enhance TE activity. Particularly the Department of Science and Technology, the Government of India has played a key role. Technology Innovation Management and Entrepreneurship Information Service, a joint project of National Science and Entrepreneurship Development Board, and Federation of Indian Chambers and Commerce and Industry is now one of the credible ladders towards the enhancement of India's entrepreneurial economy. The project has taken initiatives to provide guidance and assistance to the entrepreneurs especially the technopreneurs to find technologies, projects, funding options, and information about policy environment, incentive schemes, and industrial infrastructure available in the country covering both the central and state government and have become proficient at tapping the local talent pool. Fourteen Science and Technology Entrepreneurship Park and around 24 Technology Business Incubators have been established which are acting as a real booster to convert Technology Innovations into Techno – Entrepreneurship colleges and universities in India have established education and training programs to foster entrepreneurship, Centres for entrepreneurial studies and business incubators, like Society for Innovation & Entrepreneurship at

the Indian Institute of Technology Bombay, in Mumbai. Ministry of Science & Technology, Government of India launched a novel program known as Technopreneur Promotion Programme to support individual innovators to become technology-based entrepreneurs (technopreneurs). The HomeGrown Technology Programme was started in 1993 to support the commercialization of technologies developed by indigenous research and development and provides soft loans (generally not exceeding 50% of the project cost) for technology development which is repayable in user-friendly installments after the completion of the project (Ruchita G. et al.,2015).

## III. CONCLUSION

The study was conducted to study the evolution of technology entrepreneurs, basically in terms of the origin of business ideas, and technological impact of entrepreneurship on the development of nations. The study revealed that over the last four decades, technology entrepreneurship has become an increasingly important global phenomenon. It is perceived as necessary for growth, differentiation, and competitive advantage most especially at the regional and national levels. From the review of the paper, it was observed that technology entrepreneurship appeals mainly to leaders and top management teams of institutions, organizations, and Nations, who use technology to create, deliver, and capture value for their stakeholders. Technology entrepreneurship also appeals to personnel of regional economic development agencies that attract investments in productive technologies and talent to a particular geographical location.

Also, it has contributed greatly to the number of developed countries today.

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