

THE HYPERLINK BETWEEN INNOVATION AND ENTREPRENEURSHIP

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Abstract

The pace of change in today's world is so rapid that companies must be innovative and entrepreneurial to keep their businesses afloat by introducing cutting-edge products and services. To keep up with the competitive market, to grow and be at the forefront, organizations must identify challenges and opportunities to explore and define new solutions and implement them in an increasingly dynamic environment. Due to this dynamism, businesses must become more innovative in order to solve present and future issues in a way that adds value. Innovation and entrepreneurship are conceptually closely related and essential for expanding businesses and the economy. The fields of innovation and entrepreneurship have captured a great deal of interest and generated a large number of publications. Entrepreneurship is now recognized as a catalyst for social and economic progress that can increase productivity, create jobs, and stimulate growth. However, ideas such as creativity and innovation are often associated with entrepreneurship. A significant amount of research has been done in both areas, resulting in several publications, to identify the fundamental similarities between the concepts of innovation and entrepreneurship. This article, therefore, seeks to look at these essential elements as the collective growth of communities. The findings highlight that innovation and entrepreneurship are complementary concepts. Therefore innovation and entrepreneurship are positively interrelated and innovation and entrepreneurial processes are both similar and inseparable. These results underline that innovation requires entrepreneurial support to penetrate the market, while entrepreneurship thrives on introducing new and innovative solutions. This paper aims to examine the relationship

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between innovation and entrepreneurship through a literature review, with particular attention to recent research trends.

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1. Introduction

21. In today's world, the global competitive landscape is changing daily (Çelik & Taş, 2021). The importance of innovation and entrepreneurship, two of the most critical components of international economic development, is increasing over time (Balli, 2018). Organizations that prioritize entrepreneurship and innovation will be able to generate financial income and added value, giving them a competitive edge in the global market. Innovation is essential for organizations (Vettik-Leemet & Mets, 2024).

Entrepreneurship has taken on a more global dimension due to the growth and pace of entrepreneurial activity (Çelik & Taş, 2023). Specifically, innovation-based investment derived from entrepreneurship can ensure a nation's economic development and progress. As a result, a nation's welfare level, standard of living, and social norms can increase (Altıntaş, 2021). Innovation seems to be one of the most essential tools for entrepreneurs, as companies need it continuously to gain a competitive advantage and improve themselves. Entrepreneurship is a structured process with a wide range of implications for the development and well-being of the nation (Maruf & Topçu, 2020).

One of the pillars of today's economy is innovation and entrepreneurship, which is why it should be a significant focus for academics. Although there are a variety of study opportunities offered by these concerns, it is observed that the results of scientific applications serve as a benchmark for subsequent studies and meet the requirements of policymakers (İyidemirci & Aydoğan, 2020). To succeed today, entrepreneurs must innovate their business ideas by evaluating their talents and minds about the characteristics of innovators, or those who carry out the work, follow the proper procedures, and utilize all technological advancements (Şen, 2017). This research paper aims to analyze the relationship between innovation and entrepreneurship and identify the main links between them through a literature review.

2. Innovation

The term innovation has been defined differently by different authors in the academic literature (Toprak, 2019). The root word for innovation is *innovatio*, which is derived from the Latin verb *innovare*, meaning "to refresh, change, and transform". Although initially used to describe innovation in French, this word was first used in English around 1588 to refer to "a new

product or practice that results from work or experimentation". Regarding applications, innovation means "creating something new in a product, device, or application and making it better and more useful, rather than a brand discovery" (Dogan, 2017).

Moreover, innovation is defined as the initial introduction or the substantial renewal of a good, service, or process; in the form of a new or unused or non-existent marketing method, or the introduction of a first or renewed organizational method (Erbuğa & Gürsoy, 2024). Based on the concept of dynamic capabilities, innovation capability has been studied for its ability to transform knowledge into systems, processes, and products, especially in small firms. They added that innovation capability focuses on a firm's ability to transform concepts and expertise into original, novel goods that satisfy consumer needs and benefit the firm (Hurtado-Palomino et al., 2022).

Furthermore, Innovation is a novel approach to value creation. It is observed that the company serves the purpose of increasing market competitiveness, increasing the awareness of the original and others, and increasing the profitability of the leader by continuing to exist in the first place (Şengün, H., 2017).

2.1. The innovation process

- One way to characterize the innovation process is as a series of actions that begin with the generation of new knowledge, continue with the discovery of new goods and procedures, and end with an increase in material benefits (Kose & Kavak, 2022). Several steps must be taken before an innovative idea becomes a reality. Five main headings explain these stages (Toprak, 2019):

- Intellectual Revitalization Period: Analyzing the market opportunities for technical development in advance
- Incubation Period: Investigating whether the innovation will be commercialized or not
- Exhibition Period: Prototyping and getting feedback from potential end users
- Market Study: The work of bringing innovation to the market
- Ensuring Continuity: Ensuring long-term market sustainability

Innovation involves the identification, creation, and exploitation of market-driven ideas, the development of new products and services, and the creation of a business. After an innovation process, a new business is started, or a product or service is introduced to the market (Vettik-Leemet & Mets, 2024).

Oeij et al. (2019) outlined that the innovation journey is a process model that distinguishes between the phases of innovation initiation, development, and implementation/termination. Furthermore, the innovation process comprises systematic steps starting from problem or need analysis, idea generation, evaluation and selection, project planning, product development and testing, and finally product marketing (Efe, 2024).

According to the literature, innovation is a significant driver of social and economic progress (Del Monte et al., 2020). As the need for innovation has increased, companies are more interested in finding new, creative ways to acquire innovative ideas. In the innovation process, creativity and innovation go hand in hand (Parjanen & Hyypiä, 2019). Organizational success and competitive advantage are significantly influenced by innovation through creativity. In a robust economy, the importance of creativity is also linked to its effect on business competitiveness, as evidenced by the positive correlation between the success of teams that perform best in creativity tests (Alemany et al., 2021). Innovation is a collection of business strategies companies use to expand their horizons and change how they see the world. Companies' expertise and product/production capabilities are determined mainly by their creativity, innovation, change, and differentiation (Çetin & Gedik, 2017).

2.2. Types of Innovation

According to Şengün, H. (2017), there are six types of innovations: product innovation, process innovation, marketing innovation, organizational innovation, social innovation, and incremental and radical innovation. In addition to these innovations, Sümerli Sarigül and Coşkun (2022) have added ecological, technological, and non-technological innovations. Moreover, Castaneda, I.D., and Cuellar, S. (2020) have outlined the same types of innovations: product, process, marketing, and organizational innovation are the four categories of innovation, along with technological or non-technological, incremental or radical, disruptive, and open innovation. Design-driven and responsive innovation are also among the different types of innovation (Edwards-Schachter, 2018). Open innovation provides technology and information that firms can use to engage with the market. According to the theory of closed innovation, new ideas should only come from within the company (Ayas, 2021).

The definition of innovation is determined by its nature, sectoral dimensions, methods (models), and other elements, including market, business model, product, process, and organizational innovation (Cunningham & Walsh, 2019). Additionally, in his research on innovation types, Efe (2024) highlights categories such as green or sustainable innovation, result driven innovation, breakthrough innovation, and architectural innovation as types of innovation.

Furthermore, various classifications have been made for innovation based on its attributes, levels, and domains. Nevertheless, 'product' and 'process' innovation are the most widely used classifications in the literature (Kılıç, 2018). Regarding the changes and distinctions it brings, innovation includes disruptive and supportive innovations. Innovation can be classified as closed or open, depending on whether it comes from within the organization or from outside. Business model innovation, environmental innovation, and social innovation are examples of new models of innovation (Dinler Sakaryalı, 2016).

3. Entrepreneurship

The most basic definition of entrepreneurship is self-employment. Both in the literature and in the entrepreneurship reports of international organizations, the terms "entrepreneur" and "entrepreneurship" have a wide range of definitions (Karadağ, 2018). In general, entrepreneurship analyzes how, why, and from what opportunities originate, how the perceived opportunity and intention lead to the opportunity, and how companies develop their concepts and launch their ventures (Vettik-Leemet & Mets, 2024).

Studying emerging businesses' international operations gave rise to the well-known area of international entrepreneurship (IE). Globalization and technical advancements have led to the rapid geographic growth of new enterprises due to the enormous number of foreign competitors in an increasingly global marketplace. This phenomenon has been researched for decades (Baier-Fuentes, H. et al., 2019).

The process of entrepreneurship entails generating ideas, turning them into goods and services, and finally establishing a business to sell the goods (Alemany et al., 2021). Therefore, due to its active role in economic growth, entrepreneurship is a topic of increasing interest for economic researchers (Crecente-Romero et al., 2016). Since entrepreneurship has grown to be a significant economic force in today's globe, it is now the primary source of funding for economic endeavors, and it is not limited to a specific job (Laqaa, 2019).

An entrepreneurial opportunity is the capacity of an entrepreneur to carry out an entrepreneurial journey, turn a concept into particular outcomes, realize an idea, and add value (Vettik-Leemet & Mets, 2024). An entrepreneur is a person who combines the elements of production, seeks to turn a profit, and bears the potential risks that may come with their endeavors (İlter, 2016). When they engage in entrepreneurial activity, entrepreneurs participate in the entrepreneurship ecosystem. The entrepreneurship ecosystem is a system that supports, nurtures,

and grows the entrepreneur throughout their life cycle. The entrepreneur has a more productive and healthy life in this system, just like in any other ecosystem (Tekin et al., 2020).

Entrepreneurship is characterized as one of the critical factors required for the economic growth and mobility of both developing and underdeveloped nations and for raising the nation's standard of living (Artug, 2020). Moreover, entrepreneurship is a structure that becomes increasingly vital for national economies and becomes an index of a strong economy (Elmalı, 2024). The impact of entrepreneurship programs on national economies is indisputable and governments produce several strategies and policies to increase the contribution of entrepreneurship to the country's economy (Kaygısız et al., 2024). According to Küçük (2017), entrepreneurship is vital because it is a reminder of the individual's superiority in the universe, the unveiling of the infinite capabilities of the individual, and the individual's understanding of his fundamental duties and differences. Entrepreneurship is remembering oneself, recognizing oneself, achieving oneself, integrating, and becoming oneself.

3.1. Types and Process of Entrepreneurships

Entrepreneurship is defined as the capacity to transform concept into practice. Entrepreneurship is also described as a process by which new combinations are developed and built (Rawah & Tarifi, 2021). Entrepreneurship is the process of launching a new business, developing an existing one, and beginning a new one. In general, entrepreneurship examines how, why, and from what opportunities emerge; how the opportunity is created by intention and perception; concept and business development; and venture launch (Vettik-Leemet & Mets, 2024). There are three types of entrepreneurship: Innovative, follower, and opportunity entrepreneurship. Opportunity entrepreneurship is the first stage of the entrepreneurial process that begins with analyzing the gaps in the economy and how these gaps can be filled. Innovative entrepreneurship is defined as introducing an idea or invention to the market. In contrast, follower entrepreneurship is a form of entrepreneurship that involves imitating business owners who are happy to behave according to the state of the market (Küçük, 2017).

According to Berglund et al. (2020), the entrepreneurial process starts with ideas and possibilities as artifacts and then moves on to stages, sub-stages, actions, and outputs, which serve as input for the subsequent stages. Entrepreneurship as a process consists of the ability to absorb ideas, transform these ideas into products or services, and then construct a venture by which the product is brought to the marketplace (Alemany et al., 2021). A variety of analytically distinct components are typically included in the entrepreneurial process, such as the development of a business idea, the identification of business opportunities, preliminary

evaluation, feasibility study, customer relations, the search and utilization of financial resources, and the establishment of an organizational structure (Bensaid & Azdimousa, 2021).

3.2. Digital Entrepreneurship

The process of creating digital value through entrepreneurship by utilizing a variety of socio-technical digital enablers to facilitate efficient digital information gathering, processing, dissemination, and consumption is known as digital entrepreneurship (Sahut et al., 2021). Technological breakthroughs in computers and the internet have significantly altered the environment in which entrepreneurial activities occur (Tekin et al., 2020). As new initiatives using digital tools are developed to take advantage of global economic prospects, a new kind of entrepreneurship emerges. Put differently, digitization, which has proven effective in all facets of life, has also been evident in entrepreneurship and has played a significant role in developing digital entrepreneurship (Ata, 2024). The advantages these new technologies provide entrepreneurs include the opportunity to work from anywhere globally, flexible work schedules, cost savings, increased reach, simple scaling, and immediate feedback (Özay & Bayrak Kok, 2022).

Digital entrepreneurship is the intersection between entrepreneurship and digital technologies. It is an entrepreneurship approach based on digital technologies (Du et al., 2017). According to Antonizzi and Smuts (2020), digital entrepreneurship is distinct from entrepreneurship since it encompasses entrepreneurial activities conducted on digital platforms. Digital entrepreneurship is the process of creating digital value through entrepreneurship by utilizing a variety of socio-technical digital enablers that facilitate the efficient gathering, processing, sharing, and consumption of digital information (Sahut et al., 2021).

Due to rapidly evolving technical advancements, the Fourth Industrial Revolution which gave rise to "Smart Factories" opened up new entrepreneurial opportunities (Çelik et al., 2018). Businesses with a flexible organizational structure might offer the most cost-effective, instantaneous, and logical adaptation to changing customer demands and needs, speed, and modern technology (Tekin et al., 2020). Thus, entrepreneurship is closely linked to economic growth, income enhancement, and poverty alleviation in the world's impoverished regions (Sall, 2022).

4. Innovation and entrepreneurship

Entrepreneurship and innovation are increasingly important across all business and management arenas. Startup businesses in the venture sector stimulated the economy by

introducing labeled new opportunities and redistributing capital (Rawah & Tarifi, 2021). Innovation is characterized as developing more productive, effective, or efficient procedures and services or developing the ideas and attitudes to encourage such creativity. This is accompanied by the motivation to change current strategies or methods to achieve improved efficiency (Altıntaş, 2021). Entrepreneurship is crucial for economic growth and innovation since it is a very effective way to spread knowledge. An essential function of entrepreneurship is reinforcing innovation's beneficial effects on growth (Del Monte et al., 2020). For entrepreneurs, innovation is a vital tool and an activity that contributes to expanding the pool of resources accessible to boost wealth (Kose & Kavak, 2022).

Innovation is of great importance to entrepreneurs and a beneficial entrepreneurial activity that provides a framework for opening opportunities and creating change in macroeconomic factors. Thus, innovation is an entrepreneurship tool. Furthermore, entrepreneurship and innovation are increasingly important across all aspects of business and management (Rawah & Tarifi, 2021). According to Altıntaş (2021), innovation and entrepreneurship are mutually exclusive concepts. Hence, by establishing a relationship between the constructs of innovation and entrepreneurship, nations can guarantee the meaningful effectiveness, efficiency, and productivity of innovation and entrepreneurship activities.

The application of digital technologies in the invention process is known as digital innovation. Software for innovation management can support entrepreneurial ecosystems by centralizing an organization's resources, stakeholders, and innovation initiatives (Endres et al., 2022).

Throughout the literature, comparable ideas are connected to the idea of innovation. These ideas include entrepreneurship, technology, innovation, change, and research and development. These ideas have been shown to impact innovation positively. It is crucial to apply these ideas when developing breakthroughs (Şengün, H., 2017). Creating a new economic project or advancing an existing one is called "entrepreneurship." This term is frequently used to describe innovative and unique concepts that are typified by the entrepreneur's capacity to generate new concepts and transform them into profitable ventures while utilizing available resources and capital to receive monetary gains from his undertaking (Laqaa, 2019).

Innovation makes entrepreneurship possible and directs entrepreneurship to gain a competitive edge and advance nations. In emerging countries, entrepreneurship plays a significant role in economic development to obtain a competitive edge, entrepreneurship should develop in tandem with innovation. As a result, entrepreneurship must center all around the

nation and offer assistance by focusing on the regions where innovative start-ups face challenges. Innovation is presently linked to entrepreneurship (Keskin & Yıldırım, 2021). Through entrepreneurship, university idea creation is promoted for implementation. The goals of entrepreneurship and innovation policies are to generate and execute innovative concepts and offer the required incentives to support their commercialization, distribution, and the development of a supportive environment (Keskin, 2018).

Furthermore, according to Galindo-Martín et al., (2019), innovation not only has a positive relationship with entrepreneurs but also with growth by creating competition in the market. Additionally, innovation has a positive effect on both types of entrepreneurship which are opportunity entrepreneurship and necessity entrepreneurship. Moreover, innovation is also linked to user-entrepreneurship. Srivastava et al., (2021) found out that user-entrepreneurship directly correlates with innovation and user-entrepreneurs are more innovative than non-user entrepreneurs. On the other hand, entrepreneurship promotes innovation efficiency and absorptive capacity plays a positive moderating role (Qian et al., 2022). As a result, entrepreneurship and innovation are complementary as entrepreneurship encourages innovation and innovation is one of the core functions of entrepreneurship. In other words, one of the important elements that increases the importance of entrepreneurship is that entrepreneurship is an activity based on innovation and their combination can expeditiously lead to economic and social development (Keskin, 2018).

In reciprocal connections, the ideas of entrepreneurship and innovation enhance one another. Therefore, by demonstrating the connection between innovation and entrepreneurship, nations may guarantee that these activities are more significant, effective, efficient, and productive (Altıntaş, 2021).

5. Discussion and Conclusion

In our century, it is essential to stay current and demonstrate progress. Thinking creatively is the only way to keep up with this shift. Innovation is acknowledged as a critical component of a nation's economic prosperity and as a vital instrument for corporate survival. Businesses must endeavor to produce innovation above and above regular performance and develop products that guarantee the continuation of their commercial selves in a worldwide market with fierce and fierce competition (Ayas, 2021). Innovative thinking has a significant impact on improving both the welfare level of society and the living standards of individuals. When we examine nations with high levels of competitiveness in the current competitive landscape, we find that their strength is derived from creativity rather than labor. There is a deficit in international commerce

because nations with low levels of competitiveness do not generate innovative and skilled goods (Koçak, 2018).

Innovation is the process of turning any new concept or product that emerges in various fields into goods with a high added value. In mature markets, innovation is mostly manifested as a distribution or marketing strategy in emerging countries (Duran & Artekin, 2023). The substantial amount of existing material makes it clear that innovation significantly influences the dynamics of socioeconomic development and economic growth. In general, innovation refers to a feeling of direction for human growth, which is elucidated in terms of inventiveness as a source of social, cultural, and technological change (Edwards-Schachter, 2018). At the same time, economic growth and environmental objectives around the world now view innovation as the Holy Grail.

The stages of entrepreneurship and innovation are comprised of idea-opportunity recognition, selection and development; conception and design; business creation; operation and sales (Vettik-Leemet & Mets, 2024). Thus, entrepreneurship encourages innovation that affect economic growth (Cervelló-Royo et al., 2024), the effect of innovation and entrepreneurship on economic growth is found to be positive and statistically significant (Eryer, 2020).

According to Ren & Wu (2023), economic growth is positively impacted by innovation and entrepreneurship, which contributes to promoting the high-quality development of China's economy. Moreover, innovation and entrepreneurship in the eastern and central regions of China do significantly contribute to economic growth as the more higher the administrative level is, the more significant the economic effect of entrepreneurship and innovation. Furthermore, Galindo-Martín, et al., (2020), figured out that entrepreneurship and social entrepreneurship with innovation and green innovation have a positive impact on sustainable development according to their study carried in the case of 20 Organization for Economic Co-operation and Development (OECD) countries (Australia, Belgium, Estonia, Finland, Germany, Ireland, Italy, Latvia, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, the United Kingdom, and the United States).

Additionally, according to Zhang et al., (2023) in their study research found that innovation and entrepreneurship significantly have a positive impact of common prosperity in China specifically in regions with low economic development levels and low fixed capital stock. Entrepreneurship actually plays a key role in economic development and transformation of society, but the biggest driver of that entire process is innovation. The innovation will generate the development of the entrepreneurship ecosystem in Türkiye. To develop the entrepreneur

ecosystem of Türkiye, the innovation should be supported, and the needs of the entrepreneur must be adhered to. Such an approach would benefit not only economic growth but also societal development (Sırakaya & Aslanlar, 2024).

Digital tools and platforms are encouraging the rise of new work types that are difficult to categorize clearly under the conventional headings of employment, self-employment, freelancing, or growth-oriented entrepreneurial endeavors (Sahut et al., 2021). In general, digital entrepreneurship consists of three key elements. These elements are innovation, entrepreneurship, and investors. Digital entrepreneurship, as a subset of entrepreneurship, plays a significant role in the economic growth of a nation, the creation of new jobs, and the expansion of innovative strategies (Eyel & Sağlam, 2021). Digital entrepreneurship is exemplified globally by companies like Netflix, Google, Wikipedia, Facebook, YouTube, Uber, and Alibaba, while in Turkey, examples include Hepsiburada, Trendyol, Gittigidiyor, and Sahibinden.com (Özay & Bayrak Kok, 2022).

The aforementioned arguments acknowledge that there are certain parallels between entrepreneurship and innovation. An innovator is actually someone who is driven by opportunity and has a strong focus on growth. The processes of entrepreneurship and innovation are intertwined and similar. Therefore, innovation ought to be a fundamental component of the theory of the entrepreneurship process (Vettik-Leemet & Mets, 2024). The concepts of entrepreneurship and innovation make sense when considered collectively since they have a robust positive link. As a result, the roles of entrepreneurship and innovation are complementary (Altıntaş, 2021).

Ethical Aspect of the Research

In this study, all the rules specified under the "Directive on Scientific Research and Publication Ethics of Higher Education Institutions" have been strictly followed. None of the actions listed under the second section of the directive, titled "Actions Against Scientific Research and Publication Ethics," were conducted.

I declare that this research is among the studies that do not require ethics committee approval.

Conflict of Interest Declaration

I declare that there are no financial or other substantial conflicts of interest that could influence the results or interpretations of this study.

Author Contribution Statement

All stages of this study were designed and prepared by the authors.

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