

Review Paper

Technological Readiness, Innovation, Entrepreneurship: Three Key Elements of Increasing the Competitiveness of Small and Medium-Sized Enterprises in Vietnam

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ABSTRACT

The purpose of the research is to analyze the factors and features that influence the development of the business environment in Vietnam, taking into account the technological readiness of higher educational institutions. The following methods were used to achieve research goals: descriptive, survey, comparative. The results of the paper determined that entrepreneurship training lies not only in improving the abilities and characteristics of students, forming the structure of the training program, communication system, startup and entrepreneurial ecosystem, but also in forming the structure of the technological readiness of the business. Technological readiness, innovation and entrepreneurship are the three key pillars of increasing the competitiveness of enterprises, which must necessarily be initiated by universities. It was determined that in the conditions of low innovation speed of the economy, the considered aspects of increasing the competitiveness of experts in the subject area require, first of all, the joint participation of the state and local authorities to accelerate innovative elements. The Vietnamese government needs to properly balance the modern trends of enterprises and the state as a whole in order to rationally organize the management of small and medium-sized enterprises, starting with higher educational institutions.

HIGHLIGHTS

- It was possible to find out that innovative startups have become a broad socio-economic and cultural program that meets the needs of Vietnam in innovation during the period of development and integration.

Keywords: Universities, startup, entrepreneurial ecosystem, business, innovations

Thanks to the business activities of small and medium-sized enterprises in Vietnam, new development strategies are implemented in accordance with their own systemic, cultural and political models, while forming technical cooperation programs, information networks, research and mediation with international financial organizations and entrepreneurs, which characterize the situation with the competitiveness of companies on the international market. In their papers, researchers U. Akram *et al.* (2019) and A. Susanty *et al.* (2020)

argue that system productivity, innovations and entrepreneurship play a major role in achieving management standards in the context of knowledge. Knowledge is the result of innovations that increase the level of competitiveness due to the increased complexity of both demand and supply. G. Saridakis *et al.* (2019) and X. Lin *et al.* (2019)

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emphasize in their papers that innovations in the world of business management include the application of new ideas to increase productivity. In Vietnam, the economy and development of small enterprises depend on production indicators, trade union interaction with macroeconomic variables, and technological innovation, with entrepreneurs playing a crucial role. Profit arises from temporary monopoly situations rather than economic equilibrium, and capitalism is driven by innovators and entrepreneurs. Researchers M.J. Page *et al.* (2021) and R. Sarkis-Onofre *et al.* (2021) consider the concept of economic competitiveness, starting with the concept of competitive forces as the basis of strategy and advantages of the country, region and company as a whole. A nation's competitiveness depends on the ability of its industries to innovate and improve, since efficiency is determined not only by macroeconomic phenomena, but also by microeconomic ones, such as labor. Local competition, the availability of specialized studies as well as information and communication trainings affect the quality of management practice in companies. However, the degree of development of startups and their impact on entrepreneurial activities in Vietnam has been little studied (Dabic *et al.* 2020).

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MATERIALS AND METHODS

The methodological base of the research comprised descriptive, survey, and comparative methods of studying this topic. At the stage of consideration and compilation of the fundamental parts of the business structure of Vietnam, the descriptive method enabled identifying the main factors of adaptability and distribution of innovative opportunities for the creation of startups in higher educational institutions. Development of a reliable information base that allows finding out the characteristics of the competitiveness of small and medium-sized enterprises in the considered environment enabled describing the structural shortcomings inherent in companies in Vietnam.

The survey method was conducted with 1-4 course students of the Faculty of Construction of the Vietnam National University in Hanoi during September-October 2022. About 200 respondents took part. They were divided into 33 groups. For information collection purposes, basic questionnaires with information on entrepreneurial characteristics, entrepreneurial experience and business creation were developed and applied to show statistics and indicators of achievements in knowledge management and identify key factors that influenced the development and strengthening of the entrepreneurial spirit in higher educational institutions.

The comparative method at the stage of comparing the research results with the hypotheses of various authors enabled forming fundamental concepts of the innovative capabilities of small and medium-sized enterprises, focusing on the supposed similarities and differences between the respective cases. When testing the hypotheses, discussion forms of comparison emphasized the broader meaning of technological readiness, innovation and entrepreneurship while competitiveness increases.

RESULTS

The competitiveness of small and medium-sized enterprises in Vietnam must meet 3 main criteria: technological readiness, innovation, entrepreneurship. For the state, innovation is an indicator of the number of patents and depends on the ability to apply them for production and business activities. For universities in Vietnam, innovation is a driving force required in education, science and technology, cooperation and improvement of the quality of scientists (Al Qubtan *et al.* 2021). Taking into account the economic, social and business situation that Vietnam and the world as a whole are going through, especially in such matters as the globalization of markets and free trade agreements, trainees need to have sufficient tools in various localities to adequately face the new market conditions. These tools are based on knowledge, where entrepreneurship is a rapidly developing issue, and its knowledge and management are very important for creating jobs.

The startup movement in Vietnam has existed since 2016. According to the General Statistical Office of

Vietnam, by 2022 there are 237 universities (including 172 state schools and 65 non-state schools), which annually study about 450 thousand students across 63 provinces and cities (Maki and Toivola, 2021). These educational institutions are interested in training highly paid workers with a large number of employment opportunities and, to a lesser extent, are interested in training entrepreneurs. Many higher educational institutions of Vietnam have not yet created a system of technological readiness, including modern technologies (Rana *et al.* 2019).

To create products for Vietnamese society, it is necessary to have a certain level of knowledge that implements 3 types of technologies at the same time: strategic – related to vision, understanding and manipulation of relevant legal corridors and market rules; administrative – includes decision-making, mobilization of resources for creation, evaluation of products, operation and monitoring of production chains, consumption of products and infrastructure systems; technical – related to implementation, creation, improvement, formation and consumption of products (Ministry of Industry...).

The popular size of small and medium-sized enterprises in Vietnam ranges from 10 to 300 employees, and the capital amounts to VND 3 to 100 billion, where on average for the period of 2021-2022, micro and small enterprises accounted for 93.5% of the total number of companies, of which the number of micro-enterprises increased by 54.8% compared to the average indicator for the period of 2019-2020 (Maki and Toivola, 2021). According to the data of the General Statistics Office, about 117,000 newly registered enterprises were registered in Vietnam in 2022, of which only about 1,000 are innovative startups. However, out of approximately 100 innovative startups, 90 are under threat of liquidation within the first two years of operation (Maki and Toivola, 2021). Also, according to the Ministry of Industry and Trade of Vietnam (Zambon *et al.* 2019), most industrial production has a low technological content, with the exception of electronics, which mainly belongs to enterprises with direct foreign investments. In the sphere of production, including construction, transport, manufacturing, and mining, the equity for the sector is valued at VND 80 billion, with 300 persons employed in these industries. In the wholesale sector, the equity amounts to VND 15

billion, with 150 persons employed. For the retail sector, the equity is VND 3 billion, with 70 persons employed.

Since the process of entrepreneurship and innovation in Vietnam is related to the level of readiness of technologies, the initial opportunity of small and medium-sized companies can be obtained through investment or created by the Vietnamese themselves (Bolesnikov *et al.* 2019). From here, there are demonstration opportunities suitable for each business community in terms of size and region, in accordance with the aspects of technology application at the company level. In connection with this, a survey was conducted involving 1-4 course students of the Faculty of Construction of the Vietnam National University in Hanoi. About 200 respondents took part. They were divided into 33 groups. As a result of the survey, it was determined that 14 out of 33 ideas of students relate to the field of construction, which accounts for about 42%. Even at the university, due to the lack of communication about the initial technologies in the specialized field, students are still oriented towards the business model related to the service sector. In the field of civil construction, in the process of industrialization and urbanization, the demand for specialized construction technologies is very high. It is important to emphasize that 55% of students do not have time and resources for researching technological innovations.

According to the results of the survey, it can be noted that the initial potential training program does not include training in the skills of applying technologies at the enterprise level. In some cases, the university is also a place to create a business or attract new users. From the viewpoint of communication, entrepreneurship training for students and interns is the training of those who spread the spirit of innovation, awareness of the origin technologies for local enterprises, the formation of a technological connection between enterprises and educational institutions, and not just the provision of human resources for companies. For example, only 25% of respondents can be focused on several areas in the construction sector at once, which correspond to the trends of new professions in this sector: real estate market, construction materials development, construction of new rural territories and special economic zones, cultural

industry, environmental protection, prevention of natural disasters and climate change. Also, it was determined that 31% of the surveyed students did not undergo any entrepreneurial training on the relevant subject.

Two possible hypotheses can be assumed in this case: firstly, students may not sufficiently use academic and state institutions for business needs, and secondly, that these institutions do not sufficiently promote and cover this topic. 41.9% of respondents stated that they did not receive entrepreneurship education during their career, although 89.3% of students consider the inclusion of startup creation subject in their professional activities important for their personal and professional life. The majority of surveyed students are interested in entrepreneurship and prefer to study this subject at a seminar (36.8%), which, in addition to using it in their personal and professional life, will serve as an addition to obtaining a university degree. The second preferred method is the inclusion of the subject in the curriculum of each profession (32.7%), which in a certain way will force all students to have knowledge and control of this subject, while supplementing the quality of the university's specialists. The vast majority of students of the section do not have any technical knowledge about entrepreneurship and business creation (Zhou *et al.*, 2018). When checking the results obtained in the research, it is also clear that future specialists clearly understand how a business plan is executed and what authorities can help to obtain the necessary support for the successful completion of innovative projects.

Small and medium-sized enterprises receive funding from the state budget for the purchase and use of university research, which means that companies in certain industries must cooperate with higher educational institutions (Turkes *et al.* 2019). In order to maximize the use of existing resources, Vietnam's startup ecosystem must first form separate clusters connected by specialties, establishing a network system at each local level. In addition, for the development of the startup movement, the government needs to finance sufficiently large funds and take risks for startup activity, especially in higher educational institutions (Retnaningdiah *et al.* 2020). Teachers and researchers in schools and

institutes receive funding from the state budget to help develop the business community.

Each higher educational institution should form a system of technological readiness corresponding to its competence (Resolution "Strengthening...", 2022). The Government of Vietnam is currently finalizing a resolution on the development and strengthening of the use of information technologies and digital transformation in education and training for the period of 2021-2025, with a perspective until 2030 and the goal of establishing up to 1.5 million enterprises throughout the country (Fan, 2019). The density of operating enterprises per 1,000 people of working age is higher than the national average in 9 out of 63 provinces, including in Ho Chi Minh City, Hanoi City, Da Nang City, Bình Dương, Khánh Hòa, Bắc Ninh and Cần Thơ City provinces, where the density of operating enterprises per 1,000 people of working age is lower than the national average in 54 out of 63 settlements, taking into account the mountainous provinces of the Mekong River Delta (Maki and Toivola, 2021). Accordingly, Vietnam needs to promote startups and establish many new enterprises of its own, especially in provinces and regions with low population density, since enterprises and entrepreneurs are not formed naturally, but must be supported, trained and standardized by the state.

DISCUSSION

From the socio-institutional viewpoint that clearly has a systemic orientation, innovation, according to Q. Fan (2019), is no longer just a process driven by individual companies striving for extraordinary profits, but rather a consequence of a decision on cooperation between the state and educational institutions. The behavior of innovative systems is determined by a much larger number of variables and factors, in particular, the regulatory structure, political and legal organization, as well as social and economic elements of society. Analysis of innovations as a social-institutional and systemic phenomenon of small and medium-sized enterprises highlights the interrelations between internal and external aspects in relation to the company, institutional and cultural environment.

S. Gavrila and A. de Lucas Ancillo (2021) claim that geographical proximity can limit the critical point of

entrepreneurship, necessary for the creation of new knowledge and innovations. The region is especially important for the exchange of tacit knowledge and the provision of skilled labor. Absence of relevant regional participants, fragmentation of cooperation in the field of innovation between regional entrepreneurs and institutes may inhibit innovative activities. This deficit is manifested to a greater extent in peripheral regions where traditional industries prevail. To avoid such a blockade, the importance of regional ties is emphasized. At the analytical level, the approach facilitates multi-level analysis by observing the influence of global, national and local factors in the production and technological sectors. In a sociological sense, innovative entrepreneurship can be considered as a tool for creating a certain research elite, which brings to the fore the dissemination of knowledge both in broad layers of society and in the organization of the educational environment.

Researchers Q.B. Le *et al.* (2020) believe that among small and medium-sized enterprises, emphasis has recently been placed on the importance of training and the formation of competencies and skills at the organizational and industry levels, as well as education systems. Entrepreneurial innovations are of central importance in the context of the process of restructuring and revival of capitalism, which has been taking place since the mid-1980s. In the political economy of capitalism in the 1990s, entrepreneurship and innovation were positioned as strategic examples of competitiveness and development. This position explains why business and opportunities are part of the new rules of the game of capitalism. And if these rules are accepted, the real option for societies will be to participate in them in the most profitable way. Innovation and competitiveness are the main multipliers in industrially developed countries and states with developing economies. An example of risky innovative behavior are small and medium-sized enterprises in Vietnam, for which new theoretical developments modify the widespread idea that innovative processes can only be carried out by large companies, which is confirmed by the research results.

From the viewpoint of H.T.H. Le *et al.* (2020), competitive small and medium-sized enterprises create jobs and optimal well-being in a certain

territory, thereby contributing to local development. One of the ways to be competitive is to generate innovation, i.e., to be able to introduce new products, methods, technologies and forms of organization in such a way that they produce wealth by moving resources from areas with low productivity. Long-term maintenance and improvement of the local production system requires deepening the process of its modernization, expansion and diversification, especially due to increased internationalization. Analysis of the research results and the data of the authors emphasize the fact that business clusters are fundamental elements for the creation of regional innovation systems, which are the basis of many start-up elements offered in the considered territories.

The economic policy pursued by the Vietnamese government has improved the quality of life of its population. However, the current economic model, which encourages only international competitiveness based on the export of manufacturing products with little added value, is not enough to continue constant business growth in the coming years (Hoa *et al.* 2020). The entrepreneurial environment has a relatively weak infrastructure in this area, and state entities dominate all aspects of scientific and technical activities. Innovation policy is more focused on research, development and accumulation of knowledge than on promoting their dissemination, implementation and application in higher educational institutions. In this context, it is important to consolidate the potential of innovations on the basis of state policies that ensure productivity growth. Vietnam is no exception, and the bureaucratic elite must improve the ability of their enterprises to innovate with the help of the national innovation system, which is largely based on successful scientific and technical activities.

CONCLUSION

As a result of the research, it was possible to find out that innovative startups have become a broad socio-economic and cultural program that meets the needs of Vietnam in innovation during the period of development and integration. This program highlights three main elements of productive functioning: technological readiness, innovation and entrepreneurship, which form the basis for modern small and medium-sized enterprises. In the

modern conditions of Vietnam, current aspects can become a new symbol for attracting young people, contributing to the rapid transformation of the state into a developed country.

It was found that entrepreneurship is important for the development of Vietnam. It is manifested in the benefits that society receives from businessmen who are not only concerned with solving consumer problems and meeting market needs, but also recognizing their contribution to the development of public policy. Academic interest in entrepreneurship is based on evidence of its contribution to economic growth, rejuvenation of the social and production structure, relaunching regional spaces, revitalization of innovation process and creation of new jobs. Innovative productivity, measured from the viewpoint of economic growth, is determined by the degree, to which the structure of the industry more effectively uses limited resources. Changes and transformations occurring in the processes of production and transformation within small and medium-sized enterprises respond to the entrepreneurial spirit, technological advances and globalization, which are part of economic activity based on knowledge, which is recognized as a fundamental element of the business structure. Having analyzed the trends of the business organization that promote innovative activities within Vietnamese companies, which ensures competitiveness in the market, it is possible to conclude that the set goals have been achieved. The problem of global and regional entrepreneurship is quite complex, so its real state still requires further research in the field of scientific activities.

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