

Digital Platforms for the Development of International Innovative Entrepreneurship Based on the Enterprise Europe Network

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Purpose. The main objectives of the study are to consider approaches to expanding the international system of information and organizational relations in developing international innovative entrepreneurship based on the Enterprise Europe Network. **Design / Method / Approach.** The methodological framework of the study is based on utilizing the Triple Helix Space (THS) and the Actor-Network Theory (ANT) application to structuring the business model of the Enterprise Europe Network; **Findings.** The article proposes new directions for expanding the international system of information and organizational relations based on the Enterprise Europe Network by specific transactions such as: (i) expanding the production or distribution of products in international markets; (ii) gaining access to new international markets; (iii) finding the technology needed to innovate; (iv) collaborating in research projects. **Theoretical Implications.** As a result of the study, a business model describing the operation and relationships based on the Enterprise Europe Network has been structured. **Practical Implications.** The proposed model allows entrepreneurs to promote their innovative development and enter international markets using the digital platform of the Enterprise Europe Network. This improves the efficiency of technology and knowledge transfer for sole proprietorships and small enterprises. **Originality / Value.** As a result of studying the state of application of digital platforms used for the development of international innovative entrepreneurship, it has been established that the use of the platforms is associated with the manifestation of the paradox of openness. Solving the problem of openness for the Enterprise Europe Network is associated with the creation of a network of autonomous and geographically distributed subsidiary platforms. **Research Limitations / Future Research.** Future research may focus on the relationship between the European Entrepreneurship Network and Small Business Development Centers in the USA. **Article Type.** Conceptual Paper.

Keywords:

open innovation, innovation ecosystem, paradox of openness, technology transfer, SME internationalization, transaction typology

Мета. Основними цілями дослідження є розгляд підходів до напрямків розширення міжнародної системи інформаційних та організаційних зв'язків у розвитку міжнародного інноваційного підприємництва на основі Enterprise Europe Network. **Дизайн / Метод / Підхід.** Методологічна основа дослідження базується на просторі потрійної спіралі та теорії actor-network щодо структурування бізнес-моделі Enterprise Europe Network. **Результати.** У статті запропоновано напрямки розширення міжнародної системи інформаційних та організаційних зв'язків на базі Enterprise Europe Network для розвитку міжнародного інноваційного підприємництва щодо таких транзакцій, як: (i) розширення виробництва або розповсюдження продукції на міжнародних ринках; (ii) отримання доступу до нових міжнародних ринків; (iii) пошук технологій, необхідних для інновацій; (iv) співпраця в дослідницьких проектах. **Теоретичне значення.** У результаті дослідження структуровано бізнес-модель, що описує функціонування та взаємозв'язки на базі Enterprise Europe Network. **Практичне значення.** Запропонована модель дозволяє підприємцям здійснювати свій інноваційний розвиток та виходити на міжнародні ринки, використовуючи цифрову платформу Enterprise Europe Network. Це підвищує ефективність передачі технологій та знань для приватних підприємців та малих підприємств. **Оригінальність / Цінність.** У результаті вивчення стану застосування цифрових платформ для розвитку міжнародного інноваційного підприємництва встановлено, що використання платформ пов'язане з проявом парадоксу відкритості. Вирішення проблеми відкритості для Enterprise Europe Network пов'язане зі створенням мережі автономних та географічно розподілених дочірніх платформ. **Обмеження дослідження / Майбутні дослідження.** Майбутні дослідження можуть бути зосереджені на взаємозв'язку між Європейською мережею підприємництва та Центрами розвитку малого бізнесу у США. **Тип.** Концептуальна стаття.

Ключові слова:

відкриті інновації, інноваційна екосистема, парадокс відкритості, трансфер технологій, інтернаціоналізація малих та середніх підприємств, типологія транзакцій

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Innovative entrepreneurship is one of the priority areas of socio-economic development in the world (Audretsch et al., 2020; Krenn & Chiarvesio, 2024). The growing R&D complexity and cost results in the need for international scientific and industrial cooperation; transfer of knowledge, technology, and technical equipment (Vetterling, 2022). This type of transfer is impossible without establishing a communication process between developers and potential consumers. One of the problems that arises while organizing communications is information asymmetry regarding the understanding of the operational requirements for a technology and its design specifications (Gontareva, 2016). The developer and the consumer often use different knowledge bases and work methods and have different production cultures. One effective way to organize communication processes during international exchange of knowledge, technologies, and goods, is by using digital platforms (Da Rocha et al., 2024). A digital platform is a socio-economic system that provides services and creates added value through the application of digital technologies when networking with different social and economic actors (Caputo et al., 2022; Fu et al., 2017; Parker & Van Alstyne, 2018). The main structural elements of the digital platform are: (i) AI-based data and knowledge bases; (ii) actors involved in the interaction (platform ecosystem), including information providers and consumers, experts, and coordinators; (iii) software and hardware; (iv) organization support, including behavioral norms, procedures, and rules for the interaction (Cusumano et al., 2019; Broekhuizen et al., 2021). Digital platforms are classified according to several criteria including functional purpose (Appiah et al., 2025). This study examines the multi-stakeholder support platform Enterprise Europe Network (EEN). It is a network that hosts an online platform and brings together international experts known for their achievements in creating and developing innovative entrepreneurship both in Europe and beyond. The network manages Europe's largest online database of business opportunities, which contains thousands of requests and proposals for cooperation in business, technology, and research from companies and research institutes. The EEN budget is formed by the European Commission, and the platform is accessible for free. The Network also embraces technology poles, innovation support organizations, universities and research institutes, regional development organizations, chambers of commerce and industry. These participants can also use their own digital platforms to implement innovative business ideas of entrepreneurs.

Since 2008, approximately 3 million innovative and international projects for SMEs have been implemented based on the Enterprise Europe Network (European Union, 2025). For example, thanks to EEN, the business idea of Emergency Eye found its implementation and was developed with the assistance of an IT partner, Corevas. Now, with the software from Corevas, emergency response centers can pinpoint the exact location of an accident and ensure rapid deployment of emergency services. This project has been implemented in Germany and is currently being expanded to Switzerland. During the coronavirus pandemic, Corevas provided its technology to medical performance centers free of charge for screening and treating patients. As a result, they were able to register more than 350 facilities. However, despite these successes, not all problems associated with management of communication processes on digital platforms, including the EEN online platform, have been completely resolved. The remaining challenges are primarily due to the open access of databases; the so-called paradox of openness.

The main objective of this study is to consider approaches to expanding the international system of information and organizational relations for the purpose of developing international innovative entrepreneurship based on the Enterprise Europe Network.

The main tasks of this study are to conduct a literature review of theoretical and empirical research on the state of application of digital platforms for the development and support of international innovative entrepreneurship; and to define the structure for the business model of the Enterprise Europe Network.

The state of application of digital platforms for the development of international innovative entrepreneurship

Several existing studies on digital platforms highlight their ability to significantly expand opportunities for innovation and business internationalization. The cross-border cooperation on digital

platforms improves the conditions for value co-creation and produces a network effect at different stages of entrepreneurial activity (Fu et al., 2017). Digital platforms connect at least two sides of the market – people who own companies (entrepreneurs) and people who are looking for international partnerships with these companies (entrepreneurs), which generates network effects. The more entrepreneurs register in search of partners, the more new partners will be attracted to the platform resulting in increased interest in utilizing the platform (Cusumano et al., 2019). Considering that the digital platform is an independent institution with its own regulations and rules of conduct, the resulting structure is like THS (Triple Helix Space). Information and services offered on digital platforms help upgrade the digital transformation capabilities of small and medium-sized enterprises (SMEs) (Anwar et al., 2024; Li et al., 2017). Thus, a digital platform supports entrepreneurial activity and facilitates protection against entrepreneurial risks (Eckhardt et al., 2018). The importance of digitalization of entrepreneurial activity only increases during periods of strong socio-economic upheaval (Crespo et al., 2023). In particular, the war in Ukraine has displaced many entrepreneurs and innovation developers. This has highlighted the need to find ways for them to participate in innovation activities. (Gontareva & CoHu, 2025).

The market potential and commercial effectiveness of a digital platform depend on each user, specifically, on their competence (Ondrus et al., 2015). Any decision on enhancing the effectiveness of a digital platform should be made regarding such characteristics as suppliers, consumers, value-added service providers, product categories, sales channels, and the environment (Broekhuizen et al., 2021). The influence of digital platforms on the internationalization of business is primarily due to the following characteristics: (i) the international and even global reach of many digital platforms, which helps users from different countries to connect with each other and allows them to collaborate with foreign buyers and suppliers with whom they could not otherwise get in contact in case of using other distribution channels; (ii) external network factors, the number of which grows with an increase in the user base; (iii) the possibility for developing relationships between users of digital platforms from different countries, including relationships with foreign suppliers or buyers; (iv) the possibility for exchanging and sharing information with other users of the platform, which gives firms access to information from users located even in remote markets and allows firms to create knowledge about their actual and potential buyers and suppliers, facilitating the prediction of future random events and trends in decision making (Witek-Hajduk, 2021).

Digital platforms take on many different forms depending on the business model they use and the specific goals they serve. Examples of successful digital platforms are (<https://www.bmc.com/blogs/digital-platforms>): (a) social media platforms, e.g., Facebook, Twitter, Instagram and LinkedIn; (b) knowledge platforms, e.g., StackOverflow, Quora and Yahoo! Answers; (c) media sharing platforms, e.g., YouTube, Spotify and Vimeo; (d) service-oriented platforms, e.g., Uber, Airbnb and GrubHub.

Digital platforms help participants in the innovation ecosystem. Large firms use idea platforms to find designs for their products. For example, LG used the idea platform CrowdSpring to request a new USD 20,000 phone design instead of spending millions of dollars to contract a design firm for the same purpose (Winsor, 2009). CMNTY (<https://cmnty.com>) and Spigit (<http://spigit.com>) develop innovation management software to enable other organizations to launch digital platforms. 99designs (<http://99designs.ca>) and CrowdSpring (<http://crowdspring.com>) have simplified for many entrepreneurs the online search for low-cost designs. On the 99designs platform, users create design contests. Designers submit ideas for evaluation and receive financial rewards if their designs are selected. The Zooppa (<http://zooppa.com>) platform has served more than 400 global brands in the production of visual content by implementing over 750 member-created projects, through which it awarded USD 6 million for 145,000 business ideas. Another digital platform, Quirky (<http://quirky.com>), has paid over USD 10 million to its community of about one million users who have contributed more than two million ideas (Hossain & Lassen, 2017).

Most researchers of digital platforms and entrepreneurship focus on addressing four issues: knowledge base architecture, openness of access and interactions, digital communication technologies,

and organizational support environment (de Reuver et al., 2018). The improvement in the architecture, breadth and depth of the platform knowledge base contributes to increasing the likelihood of extracting useful information for its users. If the data and knowledge base of the digital platform are open and the information is constantly updated, entrepreneurs will more often and rationally use these resources to develop their activities (Li & Li, 2021). Being the backbone of the digital platform, information technology affects the entrepreneurial process at three levels – individual, corporate and ecosystem level, and thus affects the survival, productivity and competitive advantage of entrepreneurs (Eshima & Anderson, 2016). A digital platform can provide them with a better R&D and innovation environment and create an efficient innovation ecosystem. Compared to a closed platform, an open platform can greatly empower both developers and users in international markets (Parker & Van Alstyne, 2018). In the context of digitalization, the openness of a digital platform in terms of supply and demand increases its efficiency and provides more opportunities for the development of international business activities (Wang et al., 2020; Benlian et al., 2015). Therefore, each digital platform should have a consulting network, which would help improve the efficiency of the platform and promote its scaling up. Such a consulting network expands the field of study for entrepreneurs and provides the information required to further develop their business ideas, integrates additional resources, and exerts a wide impact on the innovative development of entrepreneurship. Moreover, a competitive and orderly platform innovation ecosystem should aim to mitigate risks for its users and internationalize the business.

In our study, we will pay more attention to consulting environment in the context of digital platforms, specifically, to the issues of its organization and operation, using the example of the Enterprise Europe Network. In the case of EEN, the paradox of openness is solved through decentralization and geographically distributed subsidiary digital platforms. Many such platforms allow, on the one hand, to expand the reach of the Network to users; on the other hand, to enable implementation of transactions with partners located closer to industrial customers. This provides better consideration for and understanding of the organizational and legal characteristics of regions, the level of their industrial development, and the availability of skilled professionals. The level of subsidiary autonomy should be determined based on the principles of subsidiary network management (Franklin et al., 2005; Van Dut, 2018). The main principle of effective operation of a subsidiary network is maintaining network centrality by autonomy and complementarity in the activities of all network participants. From this principle the principle of information interoperability between functional units of the central and subsidiary platforms follows. Information interoperability is achieved through the standardization of communication channels, certification of communication and document management systems, harmonization of interpersonal and intergroup relations.

Many empirical studies (Araujo & Teixeira, 2014; Pinto, 2017; Van Dut, 2018; Singhai et al., 2021) have confirmed the significance of digital platforms for the development of international innovative entrepreneurship. Moreover, these studies revealed the need for further structuring of the business model of the Enterprise Europe Network and the modernization of its information and organizational relations at the level of temporary project teams. According to ANT, organizational interconnections are formed through the process of translation and re-translation. Specifically, the interpretation and adaptation of the terms and interests of individual actors during their interactions with other actors. As a result, a shared communicative field of meanings and interaction rules is established. Actors are defined as any participants in communication: individuals, groups thereof, communication media, and intangible entities (Akrich, 2023). Interacting with any device requires mastering its operating rules. The use of the term *translation* underscores the complexity of communication among actors. In this article, ANT is employed to form and analyze the alliances necessary for executing various transactions within the EEN.

Methodological approach

The main theoretical approach used in this study is the methodology of Triple Helix Space (THS) (Etzkowitz & Zhou, 2017). The THS methodology considers the possibilities to create University-Industry-Government consensus space. One of the tools for

achieving this is the use of intermediaries that form areas of common interest among the actors involved in innovation processes. The aim is to reduce transaction costs and help overcome communication barriers for diverse actors and stakeholders in the process of knowledge and technology transfer. Features of the consensus space are determined by the willingness of actors to harmonize relations and the degree of trust among them.

The THS methodology was used in the article (Araújo & Teixeira, 2014), dealing with the analysis of the EEN, as a tool for international technology transfer. Using the empirical data on partnership agreements signed with the support of the EEN, a regression model was obtained. This model confirmed the importance of communication processes of such determinants of network actors as human capital, absorptive capacity, level of trust, and previous experience. However, the study (Araújo & Teixeira, 2014) did not consider the influence of the EEN parameters, in particular, norms, rules and procedures for managing access to the platform and interaction among its various actors, on the performance results. Rules and regulations for its use should take into consideration the paradox of openness (Schmeiss et al., 2019). The paradox can be formulated as follows: enhancement of the network performance of a platform requires openness, while for improvement of its financial and economic efficiency, on the contrary, its security is needed.

To study the paradox of openness, it is proposed to expand the THS methodology by applying the actor-network theory (ANT) (Pinto, 2017; Sembiring, 2025). This theory describes the creation of a network as a dynamic process of forming a common institutional and information space for communication. To denote the process of creating a consensus space, the term “translation”, borrowed from sociological sciences, is used. The translation process includes the following four stages: (i) problematization, when a starting actor defines a problem and reveals it to a group of other participants; (ii) intersement, when the group considers the problem defined and the proposals made by the (initial) actor regarding the distribution of participation in resolving the problem; (iii) enrollment, which implies clarifying role norms and rules for the participants and receiving their consent to perform tasks; (iv) mobilization, which involves the acceptance of the obligatory points of passage in the Triple Helix relations and procedures for its implementation.

The information basis of digital platforms is data and knowledge bases. For mutual semantic understanding during the transfer of knowledge and technologies, Stage 3 of the translation process must be supplemented with the condition of formation of a single semantic code. In other words, it should include the creation of a conventional consistent vocabulary of terms and definitions. This is especially important when the personal knowledge of network participants is heterogeneous (Gontareva et al., 2020). The introduction of these changes in the THS methodology will make it possible to clarify approaches to the modernization of information and organizational relations that affect the level of EEN openness and its ability to promote the development of international innovative entrepreneurship. The need to use the above approaches to the study and digitalization of foreign economic activity is noted in (Appiah et al, 2025, p. 6).

Results and Discussion

1 Structuring of the business model of the Enterprise Europe Network

The business model of the Network is adapted to the creation of a THS University-Industry-Government consensus space. The bodies that exercise control over the EEN represent the interests of the EU Commission, subsidiary platforms of the Network are mainly universities, and its clients are representatives of industry. The EEN business model is at the intersection of such trends in international management development such as open innovation, network business models, virtual collaboration, collaborative design thinking, crowdsourcing (Brasseur et al., 2017). Another feature of the EEN business model is the complete involvement of the client in the processes of knowledge and technology transfer. Experts should understand what the client ultimately wants to receive, agree with them on the parameters of a new technology or the detailed conditions for its transfer. To improve mutual understanding, at the first stage, a technology audit of the client’s activities is carried out. Based on the audit results, a conclusion is made. First, whether the

client's requirements are reasonable; second, how these requirements can be satisfied in practice; third, to what extent the requirements comply with the EEN technology policy.

OECD countries pay much attention to accelerating innovation diffusion to SMEs through digital platforms and ensuring they keep up with digital transformation (OECD, 2019; OECD, 2020). However, policy considerations differ from country to country. In some regions, there are different points of view due to uneven development, differences in the dominant economic sectors, and demographic heterogeneity. SMEs and entrepreneurs are often unaware of what the potential new digital tools could offer for enhancing their business or they consider the initial expenses for upgrading towards more sophisticated digital technologies to be too high (OECD, 2017). Policy makers have been actively providing targeted financial support and technical assistance to SMEs in conducting technology diagnosis and problem-solving or implementing new digital business solutions, often through small-scale and local initiatives. In some cases, financial and technical assistance is supplemented with training and guidance on the skillset and organizational changes required to support technological transformation. Publicly funded technology extension programs aim to expand the absorption and adaptation of existing technologies (e.g., equipment, new managerial skills) in business entities. These programs typically begin with an assessment of the entrepreneurship's operations and processes, followed by a proposed plan for improvement and implementation assistance.

Key services include providing information (e.g., to improve use of existing technologies, trends or best practices); benchmarking to identify areas for improvement; technical assistance and consulting; and training. While this type of support is not new, technology extension programs targeted at SMEs have become increasingly used over the past decades (Shapira et al., 2011).

In 2008, the European Commission launched the Enterprise Europe Network, funded through the Single Market Program (SMP). The main components of the EEN include:

1. Digital data and knowledge base. The Network operates Europe's largest online database of business opportunities. It contains thousands of requests and proposals for business, technology and research cooperation from companies and research institutions. The database is available free of charge.

2. Experts from the EEN member organizations, namely: technology poles, innovation support organizations, universities and research institutes, regional development organizations, chambers of commerce and industry. Network experts search potential partners for entrepreneurs – consumers. They use the online database of business opportunities; arrange the participation of entrepreneurs in international matchmaking events and trade missions; use the capabilities of the organizations with which they are employed and, if necessary, attract additional experts.

3. Applicants and consumers — individual entrepreneurs, both potential and existing. They cannot participate in the management of the Enterprise Europe Network but can use many services offered, receive advice and training at their request, and give recommendations on the development of the network.

The main economic driver of platform costs is network effects (Vetterling, 2022), i.e. platform network effects increase with an increase in the number of platform users (Gregory et al., 2021). In turn, an increase in the amount of data that can be used with the help of information technology increases the value of the platform for the user but makes navigating the information space difficult for them. The Enterprise Europe Network model is presented in Figure 1.

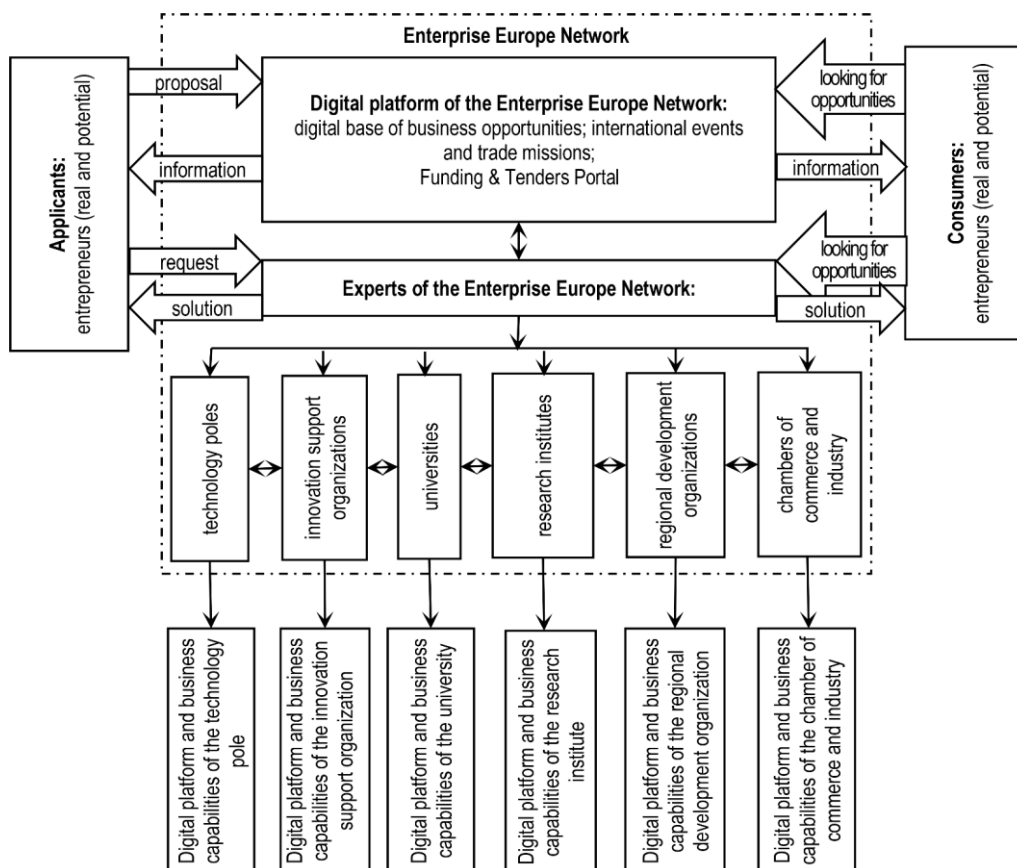


Figure 1 – Business model of the Enterprise Europe Network (developed by the authors)

Teams of Network experts in each of its member organizations offer customized services to entrepreneurs. They know the local business environment and have contacts for business opportunities across the world. The EEN expert groups cover all key economic sectors, from healthcare to agrifood, from intelligent energy to fashion and textiles. Furthermore, the Enterprise Europe Network helps entrepreneurs enhance their resilience and support them in their

transition to scaling up with the use of innovative technologies or entering new international markets through their own digital platforms and business opportunities. Each entrepreneur pursues different goals; therefore, they can use the capabilities of the Enterprise Europe Network digital platform on their own, without recourse to experts. This platform contains the following information: (1) description of the EEN and its capabilities; (2) local Network contact

points in each of the regions represented; (3) the partner database, which is an online database of business opportunities — business, technology and research cooperation; (4) international events and trade missions; (5) the Funding & Tenders Portal.

Let us consider the business model of a local contact point of

EEN experts using the example of Warsaw (Poland). In Poland, the points are located in 22 cities. In Warsaw, these are the University of Warsaw, the Polish Agency for Enterprise Development, Łukasiewicz Research Network — Institute of Mechanized Construction and Rock Mining (Figure 2).

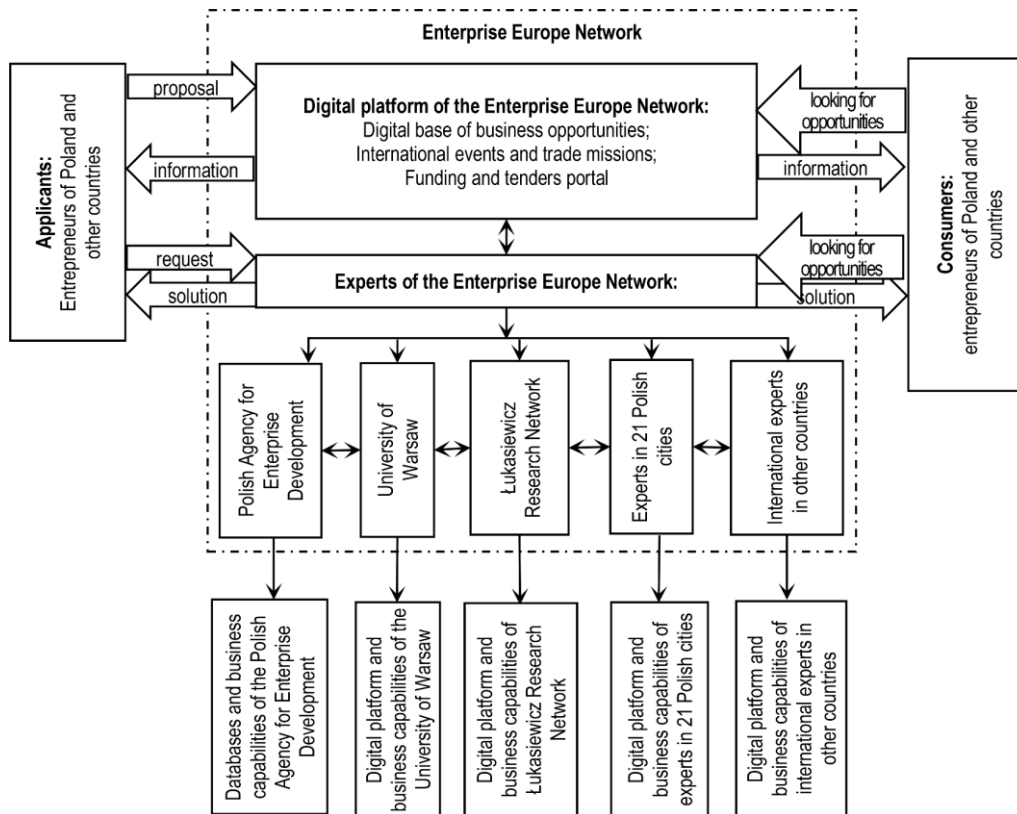


Figure 2 – Business model of the Enterprise Europe Network in Warsaw (developed by the authors)

Such a model of interaction within the Enterprise Europe Network allows Polish entrepreneurs to carry out innovative development and enter international markets using the digital platform of the Enterprise Europe Network as well as the digital platforms and business capabilities of the involved expert organizations, including international ones.

Thus, the main advantages of the Enterprise Europe Network include: (1) ease of use and access for entrepreneurs; (2) reliability and security, i.e., clear conditions are necessary as well as confidentiality protection and guarantees of intellectual property rights and data ownership; (3) connectivity using APIs enabling third parties to expand the ecosystem of the platform and its capabilities; (4) facilitation of the exchange of information and technology among users; (5) provision of wide opportunities for international cooperation both in the field of trade and transfer of technologies and knowledge: since the community is big, it can provide access to all parties involved.

The Enterprise Europe Network helps entrepreneurs find the right international partners to scale up and expand internationally. The transactions for the development of international innovative entrepreneurship most often considered on the Enterprise Europe Network are: (1) manufacturing or distributing products; (2) gaining access to new international markets; (3) finding the technology needed to drive innovation; (4) collaborating on research and development projects.

Detailing by types of operations, according to ANT terminology, is the opening of the “Black Box”, clarifying its configuration. Ultimately, this process should serve to mitigate the impact of the “paradox of openness” by reducing the uncertainty faced by alliance participants in their decision-making. A distinctive feature of the configuration of the identified interaction nodes (Figures 3–6) is the presence of an operational initiator. This initiator triggers the process of identifying potential alliance members and establishing (translating) a shared language. The dynamic process of mutual translation — involving the exchange of individual perspectives, interests, and capabilities — generates a capacity for collective action,

a capacity that is in a constant state of flux and reconfiguration. This capacity is grounded in a shared understanding of common interests and capabilities. Once the process has been initiated, temporary and conditional dominance (termed “capturing the action” in ANT terminology) may shift from the original initiator to another actor-stakeholder. Nevertheless, all actors remain interdependent, exerting influence both upon the outcome of the interaction and upon one another. This applies equally to the formal and informal norms governing conduct within the alliance, as well as to the technical and organizational capabilities (or “affordances”) provided by the digital platform. Indeed, it is often the specific capabilities of the digital platform that shape the composition, character, and underlying meaning of the interactions within a situational alliance. From an organizational standpoint, the digital platform plays an active role in the distribution of operational outcomes; for this reason alone — if no other — it qualifies as a full-fledged stakeholder within the alliance. Let us take a closer look at each of these four types of transactions.

1. *Manufacturing or distributing products* (Figure 3). This type of transaction is most often carried out between the consumer and the manufacturer using the EEN online platform. The manufacturer is already familiar with the market and its requirements. The involvement of an expert may be necessary to participate in international events and trade missions of the Network, as well as to obtain additional advice from the manufacturer in the process of negotiating the terms of a sales agreement with foreign consumers and / or concluding it.

2. *Gaining access to new international markets* (Figure 4), which may entail a survey of the specifics of operating in the relevant international markets by the manufacturer and consumer. In this case, the product manufacturer first gets in touch with the Network contact point in their region to jointly analyze business proposals on the EEN digital platform. Network experts provide training and advice to product manufacturers, participate in the negotiation of terms of collaboration with consumers and the conclusion of sales agreements.

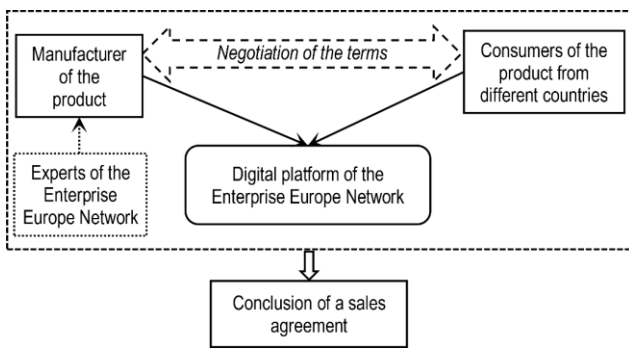


Figure 3 – System of information and organizational relations for manufacturing or distributing products internationally based on the Enterprise Europe Network (developed by the authors)

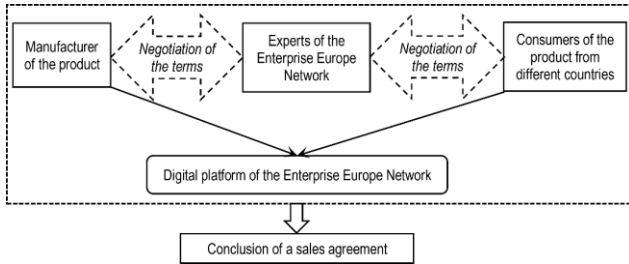


Figure 4 – System of information and organizational relations for gaining access to new international markets based on the Enterprise Europe Network (developed by the authors)

3. *Finding the technology needed to drive innovation* (Figure 5). The transfer of technologies and knowledge is a specific field of activity in which developers of innovative technologies act as applicants, while manufacturers that implement this technology act as consumers. Engaging an expert from the Enterprise Europe Network will allow the developer to find their consumer and the product manufacturer to receive innovation for the development of their activities. With this type of transaction, experts can use the data of digital platforms and the business capabilities of their organization.

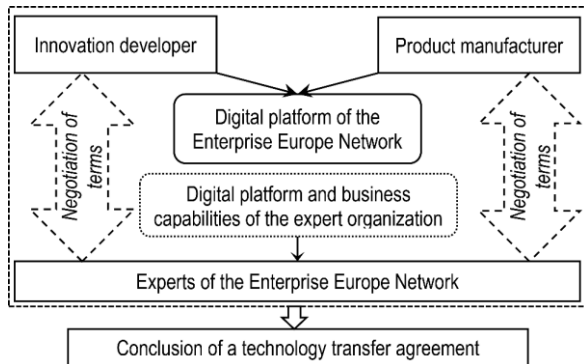


Figure 5 – System of information and organizational relations for finding the technology needed to drive innovation based on the Enterprise Europe Network (developed by the authors)

4. *Along with outside entrepreneurs, EEN experts from around the world can collaborate on research and development projects* (Figure 6). With this type of transaction, an innovation ecosystem is created. A research project involves activities associated with scientific inquiry, background research and experiments, intended to expand existing and acquire new knowledge, test scientific hypotheses, establish patterns, carry out scientific generalizations and justifications. Thus, each of the transactions presented above has its own specific features and the scale of the results obtained, however, they are all aimed at the development of international innovative entrepreneurship.

Subsequently, the schematic representation of operational interactions (Figures 3–6) can also be presented in the form of a frame network. The authors have already begun developing the concept for such a network for use in consulting work (Gontareva et al., 2020).

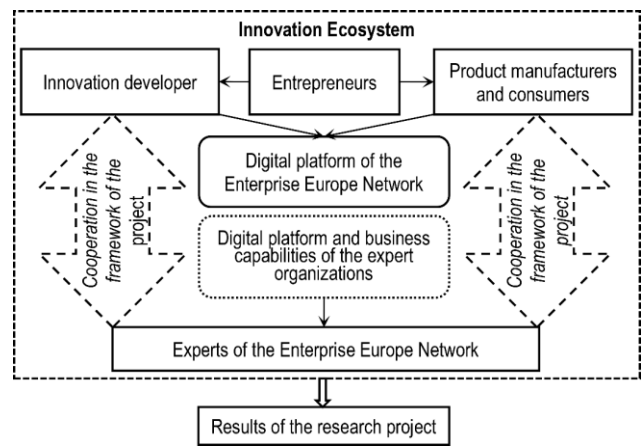


Figure 6 – System of information and organizational relations for cooperation in research and development projects based on the Enterprise Europe Network (developed by the authors)

2 Directions of expanding the international system of information and organizational relations based on the Enterprise Europe Network

EEN active in over 60 countries, involving more than 600-member organizations like chambers of commerce and research institutes (European Union, 2025). However, the formation of subsidiaries or other alliances outside Europe is currently only at the consideration stage. When forming an international system of information and organizational relations, it is necessary to consider the uneven pace of innovative development of countries. According to the Global Innovation Index, the top five ranking countries included Switzerland (65.5), Sweden (63.1), USA (61.3), UK (59.8), South Korea (59.3). Spain (45.4) ranked 30th among 132 countries covered by the GII, Slovenia (44.1) occupied the 32nd place, Poland (39.9) – 40th place, and Ukraine (35.6) ranked 49th. The world’s least innovative economies included Benin (18.0), Niger (17.8), Guinea (16.7), Yemen (15.4), and Angola (15.0), which placed 132nd.

The ranking showed significant cross-country differences in the propensity of firms to innovate. The EEN operates in different countries and should consider both country risks and its level of innovation culture. For example, Korea was the second most R&D intensive OECD country, but less than 20% of its firms reported innovation. South Africa was at the other extreme. The United States and China reported similar shares of innovative firms at around 40%, well below Canada’s nearly 80%. The observed differences appeared to be due to methodological and cultural differences, highlighting a high sensitivity of international comparisons of innovation statistics to differences in research and practice. Since respondents themselves assess the importance of novelty and improvements for their products and business processes, it is necessary to control potential biases that may lead entrepreneurs to understate or overstate the innovation activity and its results.

At the same time, one should take into consideration the novelty of innovations, investment and joint activities with various entities in the framework of the development of international entrepreneurship, and the relationship between innovations and markets. Entrepreneurial innovation is viewed by the novelty of the technologies or procedures used in an area, country, or the world (by individual countries). The starting of a new business with innovative products or services that are new to the world prevails in Chile (2.4%), United States (1.6%), Turkey (1.5%), United Arab Emirates and Canada (1.3% each), Netherlands and United Kingdom (1.2% each), Switzerland and Latvia (1.1% each).

The largest proportion of entrepreneurs who start or develop entrepreneurial activities using innovative technologies or processes that are new to the world is accounted for by Uruguay (1.3%), Chile and United Arab Emirates (1.2% each), United States (1.1%), Luxembourg (1.0%), Canada, Switzerland and Guatemala (0.9% each).

Thus, the greatest innovative capabilities for creating a new and developing an existing business was realized by entrepreneurs from Chile, United States, United Arab Emirates, Canada, and Switzerland.

The largest number of innovations was implemented in the following industries: manufacture of basic pharmaceutical products & preparations (74%); scientific research and development (71%); manufacture of computer, electronic & optical products (68%); manufacture of coke, refined petroleum & chemical products

(65%); manufacture of machinery & equipment n.e.s (64%); ICT services (64%); manufacture of electrical equipment (62%); ICT services (62%). The number of innovation-active firms, as a percentage of the total number, by industry and country is shown in Figure 7.

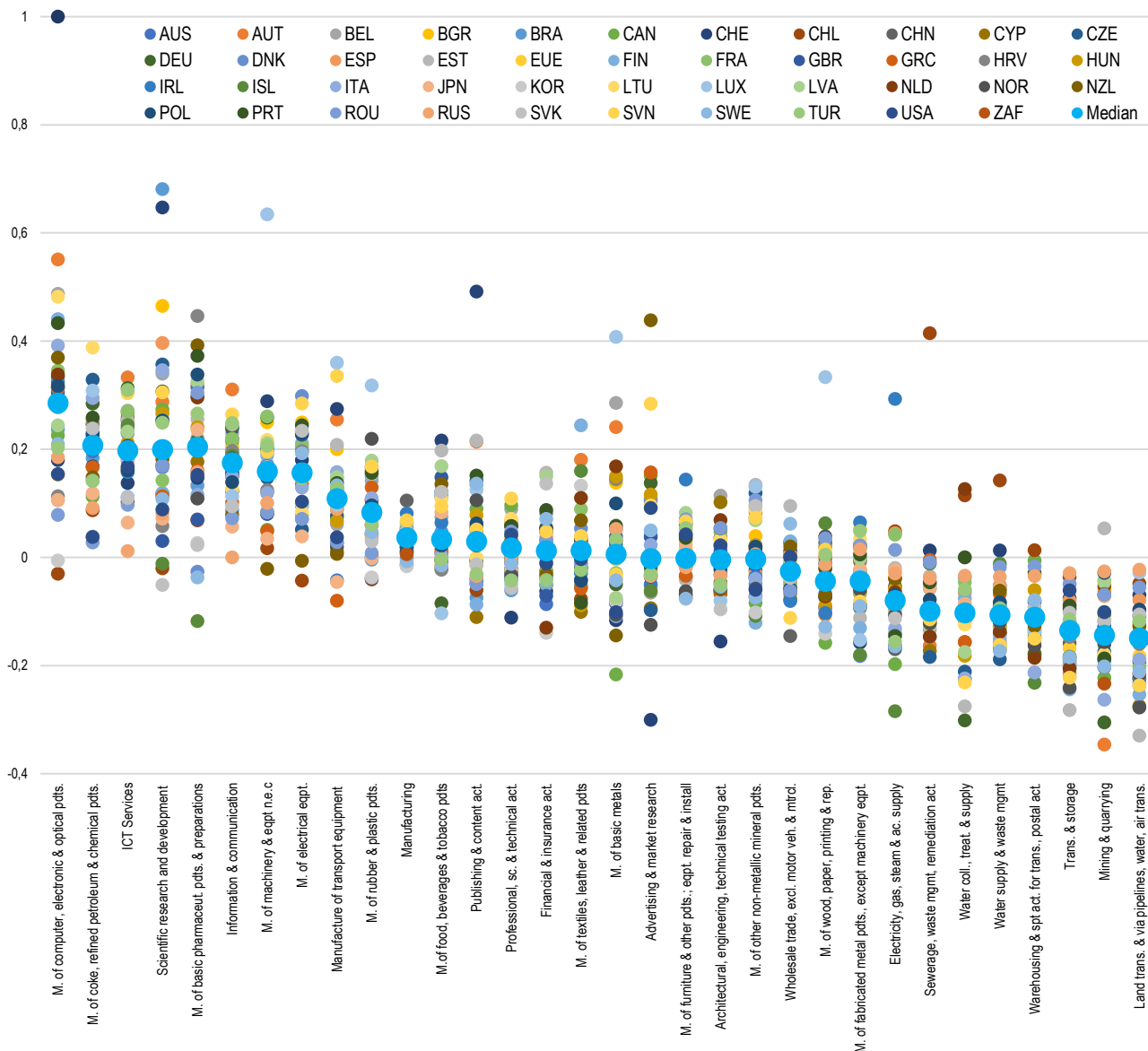


Figure 7 – Innovative firms that re-reported at least one innovative product or business process during the reporting period (OECD, 2022)

Innovation-active firms include not only those that introduced innovation but all business entities that were engaged in innovation activities during the study period.

While the manufacture of basic pharmaceutical products & preparations, manufacture of machinery & equipment, and ICT services were among the fastest-growing industries, innovation was not limited to the manufacturing sector or industries known to have higher levels of R&D intensity. The professional and financial services sector shows an above-average level of innovation. The scientific R&D sector is the second most innovative one after the pharmaceutical industry and is very heterogeneous across countries as it caters to different industries. Industries can implement and ultimately claim the obtained innovations. Product and process innovations complement each other. Industries also have different innovation profiles, some focusing more on product innovation and others – on new or improved business processes. In general, business process innovations are more common than product innovations that relate to both goods and services. With few exceptions, the most innovative industries in terms of business process innovations are among those with the highest rates of product innovations, indicating significant synergies between different types of innovations. In the wholesale trade industry, the rate of process innovations is

higher than average, which is generally comparable to the manufacturing industry as a whole but is much lower than the rate of product (service) innovations. The results of studies at the country level provide a complete picture of the innovation activities of entrepreneurs at the international level.

The innovation rates show that a high proportion of reported innovations do not require firms to conduct R&D themselves or get others to perform R&D on their behalf. For example, entrepreneurs can rely on the adoption and adaptation of existing technologies to make deep transformations to their business processes and offer to customers. Such changes may require intangible investments other than R&D. Although, in most countries, a considerable share of innovative firms are not R&D active, countries differ significantly in the way innovation is driven by R&D. In some countries, innovation appears to be almost exclusively driven by R&D; while, in others, less than 40 % of innovative firms are R&D active. The propensity of firms in an individual country to enter international markets depends on many factors, however, innovative firms are more likely to operate in international markets.

The research shows that innovative firms more often expand internationally than their non-innovative counterparts (Figure 8).

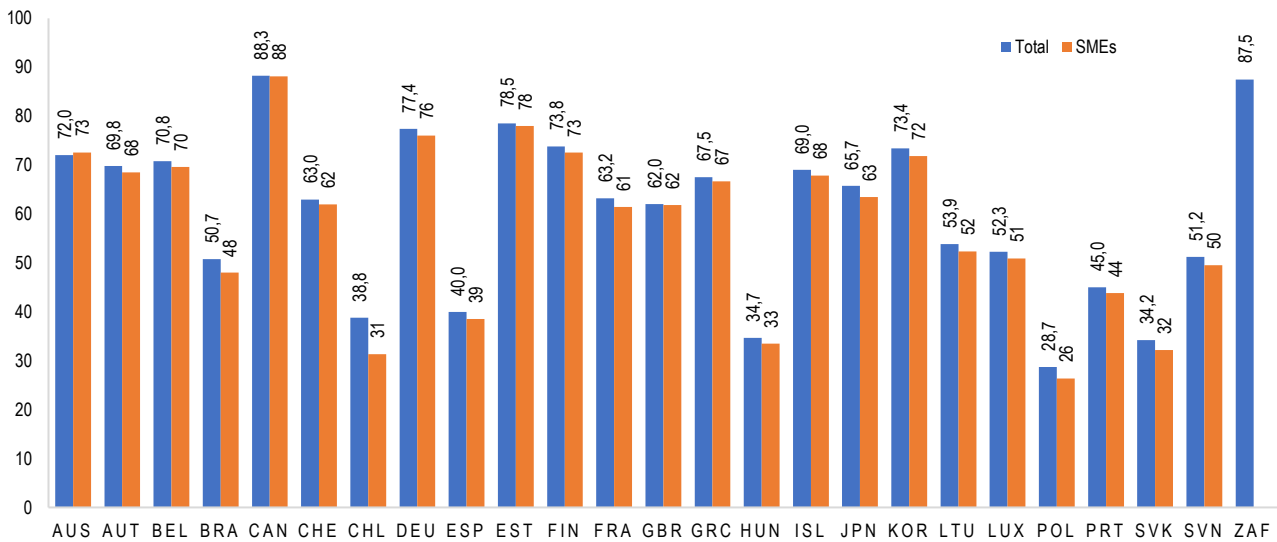


Figure 8 – Innovation active firms operating in international markets, as a percentage of total firms in international markets (OECD, 2022)

The largest share of innovation-active firms that enter international markets is accounted for by SMEs. This study proposes using the Enterprise Europe Network for the development of international innovative entrepreneurship. Specifically, this involves the formation of a full-fledged alliance with the U.S. government-affiliated organization dedicated to supporting entrepreneurs: the SBDC (Small Business Development Centers). SBDCs constitute the U.S. Small Business Administration's (SBA) largest resource partner program; the network comprises 63 members and nearly 1,000 local (SBDC, 2025). It assists with international trade, technology transfer, and grant applications. Establishing an alliance with the EEN will serve to expand the capabilities of these two major infrastructure networks.

Conclusions

Innovative entrepreneurship is one of the priority areas of international development in the world. Digital platforms are modern tools that allow entrepreneurs to promote their own business ideas, including new innovations, and put them into practice. Each digital platform should have a consulting network to enhance its use and expansion. Such a consulting network expands the field of study for entrepreneurs and provides the information required to further develop their business ideas, integrates additional resources, and exerts a wide impact on the innovative development of entrepreneurship. Moreover, a competitive and orderly platform innovation ecosystem should aim to mitigate risks for its users and internationalize business.

The Enterprise Europe Network is a network comprising a digital platform and international experts known for their achievements in the creation and development of innovative entrepreneurship both in Europe and beyond. The main components of the Enterprise Europe Network are: (i) a digital platform, which contains thousands of requests and proposals for business, technology and research cooperation from companies and research institutions; (ii) experts from the EEN member organizations, namely, technology

poles, innovation support organizations, universities and research institutes, regional development organizations, chambers of commerce and industry; (iii) applicants and consumers – individual entrepreneurs who cannot become members of the Network but can use many services offered, receive advice and training at their request. The research has justified the business model of the Enterprise Europe Network that allows entrepreneurs to carry out innovative development and enter international markets using the Network digital platform, as well as the digital platforms and the capabilities of the EEN expert organizations involved, including international ones.

The proposed directions for expanding the international system of information and organizational relations for the development of international innovative entrepreneurship based on the Enterprise Europe Network for such transactions: (i) manufacturing or distributing products; (ii) gaining access to new international markets; (iii) finding the technology needed to drive innovations; (iv) collaborating on research and development projects. Each of the transactions has its own specific features and the scale of the results obtained, however, all of them are aimed at the development of international innovative entrepreneurship.

Digital platforms take on many different forms depending on the business model they use and the specific goals they serve. Innovation indicators show significant cross-country differences in the propensity of firms to innovate. The observed differences are due to methodological and cultural differences, highlighting a high sensitivity of international comparisons of innovation statistics to differences in research and practice.

The research demonstrates that innovative firms are more likely to operate in international markets than their non-innovative counterparts. The largest share of innovation-active firms that enter international markets is accounted for by SMEs.

Future research may focus on the relationship between the European Entrepreneurship Network and Small Business Development Centers (SBDCs) in the USA.

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