

S. SLAVA, Chr. KALANTARIDIS, O. SAVCHENKO, R. POBEREZHYI
OPEN AND SUSTAINABLE INNOVATION IN THE MODERN CONTEXT OF BUSINESS-STRATEGY DEVELOPMENT

It is noted that one of the main factors that complicates the current situation is the quarantine restrictions caused by the Covid-19 pandemic. New conditions require new approaches and understanding of both the organization of the country's international policy and business. Global processes demonstrate a constant growth in the importance of the impact of innovation. The intensification of scientific and technological progress and trends inherent in the current stage of economic development indicate that the type of innovation for enterprises will be decisive, and the economy will become even more innovative.

The problem statement is to consider corporate strategies aimed at studying and understanding the sources of types of knowledge for creating and promoting innovations in Ukraine. The article is aimed at researching the current state of open and sustainable innovation, the characteristics of the origin and use of external knowledge, which are key in the innovation process. The article focuses on the consideration of open and sustainable innovation. The modern business environment creates completely different conditions for the creation of innovations in enterprises than those that formed the basis for the formation of an open innovation space. The aim of the article is to study the origin of external knowledge used in the innovation process. Innovative enterprises successfully use the innovation process, despite the negative consequences of the external environment, they need to learn how to adapt to new markets, new rules for organizing their activities, and radical innovators in such conditions require special attention. Empirical studies in Ukraine are considered, which have shown that the challenges of the external business environment do not limit enterprises in

Keywords: open innovation; sustainable innovation; innovative enterprise; development; economic crisis

С.С. СЛАВА, К. КАЛАНТАРИДИС, О.І. САВЧЕНКО, Р.О. ПОБЕРЕЖНИЙ
ВІДКРИТІ ТА СТІЙКІ ІННОВАЦІЇ У СУЧАСНОМУ КОНТЕКСТІ РОЗВИТКУ БІСНЕС-СТРАТЕГІЙ

Зазначається, що одним з основних факторів, який ускладнює ситуацію, є карантинні обмеження, спричинені пандемією Covid-19. Нові умови вимагають нових підходів та розуміння як організації міжнародної політики країни, так і підприємницької діяльності. Глобальні процеси демонструють постійне зростання важливості впливу інновацій. Інтенсифікація науково-технічного прогресу та тенденцій, властивих нинішньому етапу економічного розвитку, свідчить про те, що тип інновацій для підприємств буде визначальним, а економіка стане ще більш інноваційною.

Постановка завдання полягає у розгляді корпоративних стратегій, спрямованих на вивчення та розуміння джерел типів знань для створення та просування інновацій в Україні. Стаття спрямована на дослідження сучасного стану відкритих та стійких інновацій, особливостей походження та використання зовнішніх знань, які є ключовими в інноваційному процесі. У статті особлива роль відводиться розгляду відкритих та стійких інновацій. Сучасне бізнес-середовище формує зовсім інші умови для створення інновацій на підприємствах, ніж ті, які лежали в основі формування відкритого інноваційного простору. Мета статті полягає у вивченні джерел походження зовнішніх знань, які використовуються у інноваційному процесі. Інноваційні підприємства успішно використовують інноваційний процес, незважаючи на негативні наслідки зовнішнього середовища, їм необхідно навчитися пристосовуватися до нових ринків, нових правил організації своєї діяльності та радикальні новатори в таких умовах потребують особливої уваги. Розглянуто емпіричні дослідження в Україні, які показали, що виклики зовнішнього бізнес-середовища не обмежують підприємства в їх інноваційній активності, також наголошується, що в довгостроковій перспективі, без неї неможливий подальший економічний та культурний розвиток.

Ключові слова: відкриті інновації; стійкі інновації; інноваційне підприємство; розвиток; економічна криза

С.С. СЛАВА, К. КАЛАНТАРИДИС, О.І. САВЧЕНКО, Р.О. ПОБЕРЕЖНИЙ
ОТКРЫТЫЕ И УСТОЙЧИВЫЕ ИННОВАЦИИ В СОВРЕМЕННОМ КОНТЕКСТЕ РАЗВИТИЯ БИЗНЕС – СТРАТЕГИЙ

Отмечается, что одним из основных факторов, который усложняет происходящую ситуацию, являются карантинные ограничения, вызванные пандемией Covid-19. Новые условия требуют новых подходов и понимания как организации международной политики страны, так и предпринимательской деятельности. Глобальные процессы демонстрируют постоянный рост важности влияния инноваций. Интенсификация научно-технического прогресса и тенденций, свойственных нынешнему этапу экономического развития, свидетельствует о том, что тип инноваций для предприятий будет определяющим, а экономика станет еще более инновационной.

Постановка задачи заключается в рассмотрении корпоративных стратегий направленных на изучение и понимание источников типов знаний для создания и продвижения инноваций в Украине. Статья направлена на исследование современного состояния открытых и устойчивых инноваций, особенностей происхождения и использования внешних знаний, которые являются ключевыми в инновационном процессе. В статье особая роль отводится рассмотрению открытых и устойчивых инновации. Современная бизнес среда формирует совершенно другие условия для создания инноваций на предприятиях, чем те, которые лежали в основе формирования открытого инновационного пространства. Задача статьи состоит в изучении происхождения внешних знаний, используемых в инновационном процессе. Инновационные предприятия успешно используют инновационный процесс, несмотря на негативные последствия внешней среды, им необходимо научиться приспособливаться к новым рынкам, новым правилам организации своей деятельности и радикальные новаторы в таких условиях требуют особого внимания. Рассмотрены эмпирические исследования в Украине, которые показали, что вызовы внешней бизнес-среды не ограничивают предприятия в их инновационной активности, также подчеркивается, что в долгосрочной перспективе, без нее невозможно дальнейшее экономическое и культурное развитие.

Ключевые слова: открытые инновации; устойчивые инновации; инновационное предприятие; развитие; экономический кризис

Introduction. Chesbrough's concept of open innovation in innovation management studies, originally aimed at a managerial audience, has attracted considerable interest among researchers in the field of innovation studies. For practitioners this was viewed as a means of spanning the

boundaries of control in the creation and commercialization of innovation beyond the enterprise [1]. For researchers it signaled the advance of a 'new paradigm', leading to numerous books, journal articles and conferences (for details about the expansion of this body of

literature please see Chesbrough and Bogers [2]. Ultimately this could be viewed as the emergence of a distinct academic community.

Acknowledging the developmental potential of the approach, policy makers regionally, nationally and transnationally sought to re-align actions towards open innovation.

The basic premise of this new approach is opening up the innovation process [3]. One of the most commonly used conceptualizations defines open innovation as 'the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation respectively' [4]. For purposes of analytical convenience, rather than an accurate reflection of a preceding empirical reality, it is contrasted with closed innovation, where enterprises internalize the process in its entirety (from idea generation to commercial exploitation).

As a result of the narrowness of empirical settings, there is no research exploring the implications of specific types of institutional setting, in the same manner as industrial sector [5] for open innovation. This is despite the fact that the institutional context may influence open innovation in two ways. Firstly, by determining, through existing regulations and existing norms, how well (or not) markets operate, and the scope afforded to competitive forces [6]. Secondly, and more importantly for the purposes of our research, it may influence the flow of resources, such as (but not only) labour, capital and knowledge.

Paper sets out to explore the opening up of the innovation process (particularly regarding accessing knowledge) in a dynamic business environment. Thus, our aim is to explore enterprise strategies regarding the how, from where and what type of knowledge is accessed.

The purpose of the article is to study the peculiarities of opening an innovation process (especially in relation to access to knowledge) in a dynamic business environment. Thus, corporate strategies need to be examined as to how, where and what type of knowledge is to be accessed..

Innovation, though readily acknowledged as a contributor to enterprise competitiveness and regional and national economic advancement remains ill-defined and measured. In a rather narrow definition Schmookler associates innovation with the first enterprise to produce a good or service, or use a new method or input, whilst all subsequent firms that do the same thing are deemed as imitators. In a much broader definition, Brown-Kamn identifies innovation with the process of generating ideas that are new to their source and making decisions about these ideas that result in something useful. The main difference between these two definitions, that occupy the two extremes of the spectrum, revolves around the understanding of novelty: i.e. how new is new. In the case of the former definition novelty is ascribed by an objective observer, whilst in the case of the latter novelty is ascribed by the actors involved in the process of its development [7]. In both instances however, it is actors who assign meaning to innovation on the basis of their previous experience – either as observers or innovators.

Open innovation poses the simple but intellectually attractive notion that innovation takes place within an open system rather than a vertically integrated organization. Openness is captured through two distinct processes: an

inbound one, referring to the internal use of externally generated knowledge, and an outbound one, involving the external exploitation of internally generated knowledge [3].

Our research in the Ukrainian context focuses squarely on inbound knowledge flows on account of two reasons. Firstly, empirical studies have consistently found that enterprises perform inbound than outbound activities al, [4, 5]. Secondly, the logic of the empirical problem explored here, i.e. how enterprises respond to innovation constraints regarding knowledge use in innovation. Inbound open innovation processes requires the focal enterprises to open-up its innovation processes to external knowledge [2].

At the same time, research by scientists demonstrates a strong relationship between the sustainability of innovation and growth in profitability, sales and productivity. Larry Schmidt proposed to consider the innovative activity of an enterprise as sustainable if it includes the implementation of a number of measures aimed at the long-term development of the enterprise. Moreover, they must be effective, not belong to the so-called "theater of innovation", characterized only by visual changes, without having tangible efficiency [8]. Tommy Clausen considers this term in terms of strategic planning. In his opinion, the introduction of innovations is of strategic importance at the enterprise, and this process must be constant. He also believes that the enterprise, which has successfully introduced innovation at least once, has a much greater innovation potential and the chances that it will happen again, and, as a result, will ensure itself sustainable innovation processes [9].

The bulk of open innovation research centres on the question of 'how do they do it', i.e. how managers make decisions about co-operating with outside parties. The external knowledge may come from customers, suppliers, competitors, research institutions and universities, through formal (licensing, alliances, or purchasing of services) and informal (network related) practices [3]. These are brought together by the focal enterprise either in vertical supply chains (with customers, suppliers and sub-contractors) or horizontal relationships (with other businesses in the same sector, universities etc). Vertical ones (unlike their horizontal counterparts) invariably involve the commitment of relationships specific assets: providing participants with a common technological and knowledge base [10]. More importantly, strong vertical relationships viewed as having a positive impact on innovative performance [11].

An important element of open innovation research is the exploration of the role of internal characteristics of the firm. This involves considerations about the firm size [12]. More specifically a global perspective, and particularly involvement in global networks, is viewed as conducive to the adoption of an open innovation approach [13].

Strong relationships and alignment with output and input markets are viewed here as influences of cognitive proximity (defined here as the ability of the participants to similarly perceive, interpret and understand knowledge [14].

Research that places open innovation within a spatial context is still rare. As point out no research field explicitly focuses on 'how the firm's organizational characteristics

relate to the firm's fundamental geographical characteristics[14]. In a recent contribution argue that open innovation and the spatial perspective are linked through the increasing globalization of innovation, therefore promoting access to the knowledge and competencies of the best talents worldwide[15].

However, there is precious little research exploring the strategies adopted by the, admittedly, minority of innovative enterprises, particularly regarding the use of knowledge despite the obvious potential benefits for business practice and policy decision-making.

This is because entrepreneurs may be reluctant to engage with external actors, concerned either about the potential of divulging information that is important for market success or their ability to appropriate returns, opting instead for closed innovation practices.

Theoretical constructs (including the open innovation approach) argue that vertical, supply-chain relationships invariably involve investment in assets specific to the relationship [9]. This is because technological proximity may underpin the effective transfer of knowledge between enterprises belonging to the chain. In contrast, horizontal relationships there may not be a common technological and knowledge base. This disparity enables us to develop the paper's research question. How (in terms of vertical or horizontal relationships) innovative enterprises draw external knowledge for innovations?

Within the open innovation literature there is the view that the management of open innovation becomes more complex if the enterprise has to source knowledge in different parts of the world [16].

This has raised new questions about what factors influence the economic resilience, probing of ongoing fresh empirical perspectives on unresolved dilemmas in innovation studies. It analyses recent developments in territorial systems of production, networks of innovation and innovative milieus, with regard to the issue of sustainable development.

The transferring knowledge within Ukraine may be viewed by enterprises as more challenging than having to deal with the complexity of cross-border flows.

The financial results of large and medium-sized enterprises in the first half of 2020 clearly reflect the impact of the crisis in the world economy.

The situation was complicated by quarantine restrictions in the spring of 2020, when almost all industrial enterprises were shut down and suffered huge losses.

Ukrainian enterprises need to find ways of development that can ensure rapid adaptation to new circumstances. That is why the introduction of sustainable innovation has crucial in overcoming the crisis both within the enterprise and for the country as a whole.

Methodology. The aim was to achieve representativeness of the innovative enterprises in Ukraine, in terms of sector, and ensure the inclusion of relatively diverse settings.

Collectively they are also representative of the industrial distribution of innovative enterprises across Ukraine (as shown in Table 1).

Table 1 - The Sectoral Composition of Enterprises Surveyed and Population of Innovative Enterprises in Ukraine

	Sample	Population
Manufacturing	44	46
Other secondary	5	3
Trade	28	29
Transport	4	9
Business services	19	13
Total	100	100

The interviewees were owners and/or managing directors of the enterprises. There were differences in the response rates between the regions: the highest being in Kharkiv where it reached two thirds (67%) and the lowest in Zakarpattia (32%). However, even this is viewed as satisfactory by national and international standards.

The main issues covered were: the characteristics of enterprise, product/service innovation, process innovation, markets, characteristics of the entrepreneur, linkages with universities, and enterprise performance. This produced a dataset of 131 variables for each case.

Following on from this we use entrepreneurial responses, captured through six variables, alongside patents in order to measure product/service and process innovation. The former type of measure was operationalised as follows: a dichotomous response on the incidence of innovation, a variable capturing the entrepreneur's view on the degree of innovativeness (regional, national, international), and the number of innovations introduced since 2009. These were asked separately for product/service and process innovation. The latter measure captured, in one variable the number of patents granted to the organization between 2009 and 2019.

According to the considered statistical data, even with increase in volumes of financing at the expense of means of the state budget, in Ukraine there is no sharp increase in level of innovative activity. The number of innovative enterprises has halved in the last six years.

Interviewees were asked to focus upon knowledge that was used in a specific process of product/service or process innovation. This prompted respondents to draw upon real events, and limited the scope for misinterpretation. An analytical divide between knowledge used in idea generation and the implementation of the idea was deployed in both instances. Information about the type of source (for example customer, supplier, university etc.) was captured, alongside data regarding the frequency of interactions as well as the durability of relationships.

There are some limitations that must be taken into account when interpreting the findings of this study. Firstly, the data used are self-reported answers to the questions of the survey, which, in turn, raises two important considerations: self-report bias and self-selection bias. Secondly, the data used for the stratification of the sample was based on official statistics: therefore, it may be influenced by the decision of enterprises to report (or not) the incidence of innovative activities. Lastly, the

datasets used for the purposes of identifying innovative enterprises include only those operating in the formal sector.

As far as radical innovators are concerned, they appear to rely more on externally generated knowledge in product/service innovation (four out of every five cases) than idea generation (two thirds of the total). In most cases this knowledge is transmitted to the enterprise through vertical relationships. Regarding idea generation, in around a third (32%) of cases this involves knowledge coming from (passive) compliance with customer requirements (often taking the form of tender specifications). Even in instances where the knowledge used is the result of pro-active engagement this comes from customers (30%). Horizontal knowledge flows (i.e. from enterprises in the same sector) is reported by just 3% of such firms. A similar though less pronounced pattern emerges regarding product/service innovation implementation: which comes primarily from customers (55%). In terms of the geography of externally generated knowledge, this is infrequently originating from within the regional setting. Instead, in most instances externally generated knowledge comes from across the national boundaries. Indeed, international knowledge flows are reported by nearly nine out of every ten cases regarding idea generation, and some 59% concerning innovation implementation (see Table 2).

Table 2 - The geographical Origin of Knowledge Sources used in Product/Service Innovation Implementation

Type of innovation	Regional	National	International
Radical Innovators	15	53	59
Incremental Innovators	32	33	54
Incremental product/service innovators	30	42	45

The importance of international customers is not unexpected given the geographical distribution of output markets among radical innovators. They appear possess the underlying tacit knowledge to manage international knowledge transfer: some 70% of those also direct outputs in these geographical markets (at the beginning of the reporting period). This is reinforced by the durability of the relationships with international knowledge sources: which go back some 11.1 (mean) years.

Externally generated knowledge is used by four fifths of incremental innovators in both idea generation and product/service innovation implementation. In more than half of the cases the origin of this knowledge is beyond the national boundaries, whilst in one third of the cases (each) nationally and regionally.

The origin of the externally generated knowledge aligns poorly the geography of output markets: indeed, only 46% of those using knowledge from across boundaries actually sell in these markets. Incremental product/service innovators often (in two thirds of cases) tap

into externally generated knowledge for idea generation. Moreover, 95% of them use some external knowledge in the implementation of innovation. Vertical relationships are by far the most important means of accessing knowledge for product/service innovation. As far idea generation is concerned, in most instances (30%) knowledge flows involve pro-active engagement with customers. Customers are also by far the most important source of knowledge, reported by all enterprises of this cluster, followed by suppliers (38%). In most instances the sources of knowledge are located internationally.

Marginal innovators also rely very heavily on externally generated in process innovation. This is the case for three quarters of these enterprises in idea generation, and all of them in innovation implementation. This comes from both vertical and horizontal linkages. The former is particularly the case regarding idea generation, in some 33% of cases external knowledge comes from customers. However, in two third of cases of external knowledge used in process innovation implementation this comes from other businesses in the same sector (64%). The geography of knowledge sources used differs significantly from all other types of innovative enterprises, as marginal innovators in nearly three quarters of cases access knowledge from within their regional context. This helps them overcome problems of alignment with input markets. However, relationships are not particularly durable: standing at just 2.8 years.

Synergy of innovative activity has a cumulative effect of interaction of two or more innovation, characterized by a result that significantly exceeds the effect of each individual component through their mathematical sum. Sources of innovation synergy are integration processes. Their synergy contributes to the development of innovative potential in such directions such as: scientific and technical, technological, production, investment and personnel potential, as well as growth in labor productivity, improving the structure and competitiveness of production.

Summarizing all of the above, we offer a generalized definition of the studied concept "Sustainable innovation" - a complex of innovations that make up an innovation strategy long-term development of the enterprise, having tangible independent efficiency and synergistic effect, as well as provide sustainable financial and competitive enterprise position [17].

Conclusions. Drawing on the findings of empirical research in Ukraine, we argue that innovative enterprises are successful in opening up the innovation process to external knowledge flows, despite the adverse attributes of the dynamical institutional setting. They are able to do so through strategies involving diverging configurations of proximity. At the one end of the spectrum, for radical innovators open innovation is underpinned by technological and cognitive proximity. The combined effect of these two types of proximity is high absorptive capacity, which in turn enables them to manage relationships across institutional and (often) far distance. However, this type of innovative enterprise appears to seek ideas from a very narrow base (internally or customer demands) posing questions for long-term success. At the other end of the spectrum, marginal innovators remain attached to knowledge sources that are geographically and

institutionally proximate. This is combined with considerable technological and cognitive distance, posing questions about their absorptive capacity.

Thus, innovative enterprises in Ukraine engage extensively in inbound open innovation activities particularly in innovation implementation. This is less so in idea generation, particularly for the most innovative enterprises (the radical innovators) who appear very narrow in their approach (if internal knowledge sources and mere compliance with customer requirements are taken together). However, they are linked with distant (institutionally and often distance) sources of knowledge: building upon technological and cognitive proximity. Less innovative enterprises (for example marginal innovators) appear less well equipped (in terms of technological and cognitive distance) to doing so, remaining attached to networking and institutionally proximate knowledge sources.

Study paves the way for further open innovation research: highlighting the relevance of the approach whilst stressing the importance of its contextual embeddedness.

Further research can fruitfully explore the processes at work both from the point of view of enterprises operating in conditions of openness to changes, and from the perspective of the international actors engaging in outbound open innovation activities.

Studies of European business show strong relationship between the sustainability of innovation and the growth of profitability, volume sales and productivity. Sustainable development in Ukraine at the state level is seen as a political and practical model focused on achieving the optimal balance between the three components of development: economic, social and environmental. In these most of the funding is provided from the state budget, and the amount of funding has increased significantly.

There should be a willingness to introduce new programs (technologies), to study the progressive experience of other countries.

Research goes some way into providing an illustration of the differences in the strategies adopted by Ukrainian innovative enterprises (by type of innovation introduced). In terms of international assessments of innovation in 2019, Ukraine is in the group of countries that are slow innovators. Innovative competitiveness has high indicators in such parameters as: human capital and research, knowledge and research results. Their effective implementation is the main competitive advantage.

List of references

1. West, J. Salter, A. Vanhaverbeke, W. and Chesbrough, H. 2014. Open innovation: The next decade' *Research Policy*, 43: 805-811.
2. Chesbrough, H. and Bogers, M. 2014. Explicating open innovation: clarifying an emerging paradigm for understanding innovation. In Chesbrough, H. Vanhaverbeke, W. and West, J (eds) *New Frontiers in Open Innovation*, Oxford: Oxford University Press.
3. Huizingh, E. K. R. H. 2011. 'Open innovation: State of the art and future perspective.' *Technovation*, 31, 2-9
4. Chesbrough, H. 2006. 'Open innovation: a new paradigm for understanding industrial innovation' in Chesbrough, H. Vanhaverbeke, W. and West, J. (eds) *Open Innovation: Research a New Paradigm*, Oxford: Oxford University Press, 1-12.
5. Bianchi, M. Cavaliere, A. Chiaroni, D. Frattini, F. and Chiesa, V. 2011. 'Organisational modes for open innovation in the biopharmaceutical industry: An exploratory analysis.' *Technovation*, 31: 22-33.

6. Barbosa, N. And Faria, A. P. 2011. 'Innovation across Europe: how important are institutional differences?' *Research Policy*, 40: 1157-1169.
7. Johannessen, J. Olsen, B. and Lumpkin, G.T. 2001. 'Innovation as newness: what is new, how new, and new to whom?' *European Journal of Innovation Management* 4 (1): 20-31.
8. Л. Шмідт Значення стійкості: побудова довгострокової інноваційної системи. ЕннАрбор (штат Мічиган, США), 2019. URL: <https://www.theinovogroup.com/persistent-innovation>.
9. Т. Клаузен, М. Подзола, К. Саппрасерт, Б. Верспаген Інноваційні стратегії як джерело стійких інновацій. н.-д. робота. Осло (Норвегія). 2010. – 34 с. URL: <https://ideas.repec.org/p/tik/inowpp/20100617>
10. Greunz, L. 2003. 'Geographically and technologically mediated knowledge spillovers between European regions.' *Annals of Regional Science*, 37(4): 657–680.
11. Tomlinson, P. R. 2010. 'Co-operative ties and innovation: some evidence from UK manufacturing' *Research Policy*, 39: 762-775.
12. Lee, S. Park, G. Yoon, B. and Park J. 2010. 'Open innovation in SMEs – an intermediated network model.' *Research Policy*, 39: 290-300.
13. Gassmann, O. 2006. 'Opening up the innovation process: towards a research agenda' *R&D Management*, 36 (3): 223-228.
14. Wuyts, S., Colomb, M.G., Dutta, S. and Nooteboom, B. (2005). 'Empirical tests of optimal cognitive distance.' *Journal of Economic Behavior & Organization*, 58(2): 277–302.
15. Gassmann, O., Enkel, E., Chesbrough, H. 2010. 'The future of open innovation' *R&D Management*, 40: 213-221.
16. Vanhaverbeke, W. West, J. and Chesbrough, H. 2014. Surfing the new wave of open innovation research. In Chesbrough, H. Vanhaverbeke, W. and West, J (eds) *New Frontiers in Open Innovation*, Oxford: Oxford University Press
17. Лук'яниця А. Ю. «Стійкі інновації» як засіб подолання економічної кризи 2020 року / А. Ю. Лук'яниця, О. І. Савченко// Колективна монографія наукових робіт міжнародної наукової конференції. – Катівце: Вища технічна школа Катівце, 2020.
18. *Innovative entrepreneurship: textbook* authors: O. Savchenko, A. Tavkhelidze, A. Sokolov, E. Hakobyan at all/Edited by Olga Savchenko. – Kharkiv: LL — Planeta-Print Ltdl, 2016. – 200 c

References (transliterated)

1. West, J. Salter, A. Vanhaverbeke, W. and Chesbrough, H. 2014. Open innovation: The next decade' *Research Policy*, 43: 805-811
2. Chesbrough, H. and Bogers, M. 2014. Explicating open innovation: clarifying an emerging paradigm for understanding innovation. In Chesbrough, H. Vanhaverbeke, W. and West, J (eds) *New Frontiers in Open Innovation*, Oxford: Oxford University Press.
3. Huizingh, E. K. R. H. 2011. 'Open innovation: State of the art and future perspective.' *Technovation*, 31, 2-9
4. Chesbrough, H. 2006. 'Open innovation: a new paradigm for understanding industrial innovation' in Chesbrough, H. Vanhaverbeke, W. and West, J. (eds) *Open Innovation: Research a New Paradigm*, Oxford: Oxford University Press, 1-12.
5. Bianchi, M. Cavaliere, A. Chiaroni, D. Frattini, F. and Chiesa, V. 2011. 'Organisational modes for open innovation in the biopharmaceutical industry: An exploratory analysis.' *Technovation*, 31: 22-33.
6. Barbosa, N. And Faria, A. P. 2011. 'Innovation across Europe: how important are institutional differences?' *Research Policy*, 40: 1157-1169.
7. Johannessen, J. Olsen, B. and Lumpkin, G.T. 2001. 'Innovation as newness: what is new, how new, and new to whom?' *European Journal of Innovation Management* 4 (1): 20-31.
8. L. Shmidt Znachennia stiiikosti: pobudova dovhostrokovoї innovatsiinoї systemy [The value of sustainability: building a long-term innovation system] EnnArbor (shtat Michigan, SSHA), 2019. <https://www.theinovogroup.com/persistent-innovation>.
9. T. Klauzen, M. Podzhola, K. Sapprasert, B. Verspahn Innovatsiini strategii yak dzherelelo stiiykhh innovatsii n.-d. robota. [Innovation strategies as a source of sustainable innovation. n.-d. work] Oslo (Norvehiia). 2010. – 34 s. URL: <https://ideas.repec.org/p/tik/inowpp/20100617>
10. Greunz, L. 2003. 'Geographically and technologically mediated knowledge spillovers between European regions.' *Annals of Regional Science*, 37(4): 657–680.
11. Tomlinson, P. R. 2010. 'Co-operative ties and innovation: some evidence from UK manufacturing' *Research Policy*, 39: 762-775.

12. Lee, S. Park, G. Yoon, B. and Park J. 2010. 'Open innovation in SMEs – an intermediated network model.' *Research Policy*, 39: 290-300.
13. Gassmann, O. 2006. 'Opening up the innovation process: towards a research agenda' *R&D Management*, 36 (3): 223-228.
14. Wuyts, S., Colomb, M.G., Dutta, S. and Nooteboom, B. (2005). 'Empirical tests of optimal cognitive distance.' *Journal of Economic Behavior & Organization*, 58(2): 277–302.
15. Gassmann, O., Enkel, E., Chesbrough, H. 2010. 'The future of open innovation' *R&D Management*, 40: 213-221.
16. Vanhaverbeke, W. West, J. and Chesbrough, H. 2014. Surfing the new wave of open innovation research. In Chesbrough, H. Vanhaverbeke, W. and West, J. (eds) *New Frontiers in Open Innovation*, Oxford: Oxford University Press
17. Luk'ianytsia A. Yu. «Stiiki innovatsii» yak zasib podolannia ekonomichnoi kryzy 2020 roku ["Sustainable innovation" as a means of overcoming the economic crisis of 2020] / A. Yu. Luk'ianytsia, O. I. Savchenko // Kolektyvna monohrafiia naukovykh robit mizhnarodnoi naukovoï konferentsii. – Katovitse: Vyscha tekhnichna shkola Katovitse, 2020.
18. Innovative entrepreneurship: textbook/ authors: O. Savchenko, A. Tavkhelidze, A. Sokolov, E. Hakobyan at all Edited by Olga Savchenko. – Kharkiv: LL —Planeta-Print Ltdl, 2016. – 200 p..

Надійшла (received) 30.08.2021

Відомості про авторів / Сведения об авторах / About the Authors

Слава Світлана Степанівна (Слава Светлана Степановна, Slava Svetlana Stepanovna) - професор каф. економіки і підприємництва, ДВНЗ «Ужгородський національний університет»; (0974753090); e-mail svitlanasl@gmail.com

Калантарідіс Кристос (Калантаридис Кристос, Kalantaridis Christos) - професор каф. підприємництва и инноваций, Лондонський університет Метрополітен (Велика Британія); ORCID ID, 0000-0002-3781-9461 e-mail: C.kalantaridis@londonmet.ac.uk

Савченко Ольга Ігорівна (Савченко Ольга Игоревна, Savchenko Olga Igorevna Savchenko Olga Igorevna) - професор каф. менеджменту інноваційного підприємництва та міжнародних економічних відносин Національний технічний університет «Харківський політехнічний інститут»; (0679738165); ORCID: 0000-0002-4407-6387 e-mail savchenko.khpi@gmail.com

Побережний Роман Олегович (Побережный Роман Олегович, Poberezhnyi Roman Olegovich) – доцент каф. менеджменту інноваційного підприємництва та міжнародних економічних відносин Національний технічний університет «Харківський політехнічний інститут»; (0505615691); ORCID:0000-0001-9844-1004; e-mail robrom@gmail.com