One of the prerequisites for the development of entrepreneurship in a particular country is the existence of an entrepreneurial culture. During the Soviet period in Ukraine, entrepreneurial culture was oppressed. As a result, we have a distorted view of entrepreneurship, which in Ukrainian society is identified with trade, not with innovation. However, according to the definition given by Josef Schumpeter [1] back in 1934, entrepreneurship is precisely the process of creating innovations [2]. Based on the Schumpeterian definition, one of the most influential projects in the world Global Entrepreneurship Monitor (GEM), connects entrepreneurship with the notion of “innovation”, the ability to create new products and technologies. We state that in Ukraine there is an underdevelopment of the entrepreneurial culture and especially on the innovation vector.

According to the current world trends, the function of forming an entrepreneurial culture in a society must be fulfilled, first and foremost, by universities. For this, the very essence of universities is changing, which become entrepreneurial. The focus on the transformation of existing universities into entrepreneurial ones, for example the USA, was chosen back in the 1940s, but this process became especially active after the adoption of the Beich-Dole Act of 1980: within a few years universities created more than 2 thousand companies (260 thousand jobs), which dealt with the commercialization of innovations. Prior to the adoption of the act, all US universities registered less than 250 patents per year. In 1982, there were 1500 of them, and in 2010 — 4,500. If in 1989 — 1990, universities received
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$82 million in licensed revenue, and in 2009 — more than $1.5 billion. J. R. Cole (2010) believes that “a significant part of the leading industries in the US, perhaps more than 80%, came from discoveries made in the US universities “[3].

In Europe, the process of creating entrepreneurial universities is motivated by the need to increase the competitiveness of the European economy and in particular, the universities of Europe (primarily compared with the US higher education system). Since the early 2000s in Europe, the main role in the creation of a knowledge society has been assigned to universities, since they are at the intersection of research, education and innovation [4]. The concept of creating excellence networks is based on the idea of integrating the scientific environment of universities at the global level into network structures that use the strengths of their participants [5]. At the European meeting in Hampton Court (2005), universities, along with R & D, were named the basis of European competitiveness [6]. Thus, Cambridge University has transformed the County of Cambridgeshire into an innovative cluster; of it, along with others, came out ten companies with a billion-dollar capitalization.

For Ukraine, the establishment of entrepreneurial universities is an acute, socially and economically significant problem, as universities must take an active part in modernizing society and transforming the economy. According to the Strategy of Innovative Development of Ukraine for the period up to 2020, the priority in education is the orientation “on the development of the research and development sector in universities, the deepening of cooperation between universities and leading companies in the real sector of the economy and scientific organizations ...” [7]. At the same time, this Strategy states the fact that “universities independently try to establish cooperation with industrial enterprises, but university inventions often do not reach their potential consumers, because the situation in the Ukrainian economy does not stimulate demand for innovative technologies.” The National Report “Innovative Ukraine 2020” states: “It is necessary to follow the world’s best practices and create all the normative conditions for stimulating innovative creativity in Ukrainian universities so that they become powerful entrepreneurial academic centers producing inventions and scientific and educational products that quickly reach the market. … It is also necessary to create special legislative support for forming a “cooperative”
model of the innovation cycle in Ukraine, to develop and adopt laws that promote the processes of self-organization on the territory of innovative cooperation between scientific institutions and universities, on the one hand, and business and government structures on the other.” [8]

In 2017, Ukraine, according to the Global Innovation Index ranking GII joins the top 50 this year at the 50th position, moving up by six [9]. At the same time, Ukraine lags far behind the global leaders in innovative development. On the global map of startups (startupblink.com) in December 2017, only 1739 startups were registered in Ukraine, and in the USA — 31,748.

Meanwhile, the level of the innovative index of Ukraine shows its potential for the development of entrepreneurial universities. GII is calculated as the average value of the input and output indicators (subindexes) of innovations. The first characterizes the opportunities that are available for innovation, the second — its economic results. Among the opportunities or resources of innovative development are the characteristics of the education system [9].

One of the main reasons for Ukraine's innovative lag, is the outdated model of higher education, universities need to be reformed. Moreover, they can become the key source of competitive advantages of Ukraine in the international market in the era of knowledge. It is necessary to increase the economic component of the activities of universities, to develop cooperation with the external environment — the business community. It is important to modernize the university structure to ensure its dynamic development and financial sustainability. It is necessary to strengthen, on an equal basis with the educational and research, the third — the innovative and entrepreneurial function of universities. It is extremely important to increase the efficiency of using the potential of universities as sources of knowledge, a unique combination of highly qualified specialists and intellectual capital. However, the absence of a systematic state program does not allow Ukrainian universities to deal with these transformations effectively.

The concept of an entrepreneurial university is a consequence of the evolution of previous concepts. According to the established point of view, the history of the University includes three generations, differing in their missions. Thus, the mission of the first-generation universities (U 1.0), emerged in the European Middle Ages, was the training of a narrow circle of people. From the beginning of XIX century, the formation of the second
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generation of universities (U 2.0) began: in addition to the educational one, they acquired a second mission — the production of scientific knowledge through research. Theorists and practitioners of higher education interpret U 3.0, the third mission and its components in different ways [10]. The informational metaphor “University 3.0” in its digital designation should not be misleading, it means the number of university missions: University 1.0 — only an educational institution, university 2.0 is aimed at teaching and research; at university 3.0, the commercialization of knowledge is added to the two previous missions. The emergence of the higher education system 3.0 is associated with the development of multi-campus universities in the US [11].

Most of the proposed interpretations are based on the concept of entrepreneurial university, put forward by B. Clark almost twenty years ago [12]. Modern researchers give the recent definition of the entrepreneurial university: “An entrepreneurial university is a higher educational institution that systematically makes efforts to overcome limitations in three areas — generating knowledge, teaching and transforming knowledge into practice — by initiating new activities, transforming the internal environment and modifying the interaction with the external environment “[13].

Modern universities 3.0 are becoming scientific and educational centers, open to the outside community and responsive to its requests for the implementation of the ideas of an innovative economy. In this context, the university’s interaction with key public actors — business and the state — is built on the basis of the “Triple helix” theoretical model, grounded by G. Itskovich and L. Leidesdorff. It describes the process of the phased creation of an innovative product through the interaction of three social institutions: the university as a scientific center, the state and business, which in the innovation economy is essentially non-linear and resembles the cohesion of spiral DNA structures [14].

De facto, now, in the 21st century, higher education in Ukraine continues to live in the industrial culture of the mid-20th century. A significant part of universities operates only as educational institutions that supply personnel (model U 1.0); in other research and development in varying degrees, more often in insignificant, are integrated into the learning process (model 2.0). Universities that have a full-fledged sector of commercialization of knowledge (model 3.0), in Ukrainian higher education are absent.
This is the absence of legal prerequisites for the activities of universities on the model 3.0 in Ukraine. First of all, the issue of financial autonomy of state universities, their ability to act as founders of companies for the commercialization of their own inventions and new technologies, has not been regulated at the legislative level. However, not only the absence of law hinders the formation of entrepreneurial universities: in the academic community, misunderstandings of the functions of universities are common, often the entrepreneurial university is misunderstood — just an entrepreneurial business structure. This false understanding demotivates and postpones the beginning of the necessary reforms in the system of higher education in Ukraine.

Therefore, further, we set forth the arguments as to what functions, from the standpoint of innovative development, a modern university should fulfill and what are the domestic limitations on the performance of these functions in Ukraine. We take for granted educational and research functions as functions of a classical or research university and focus on the consideration of the functions of an entrepreneurial university.

Generally, the main function of an entrepreneurial institution is the function of creating an innovative entrepreneurial environment in society. The creation of the environment, in the opinion of the authors of this study, includes three areas, in which we will dwell in detail below:

– First, the development of entrepreneurial culture,
– Secondly, the improvement of entrepreneurial education,
– Thirdly, the transformation of the university into a key element of the innovation infrastructure of the economy.

First, the function of developing entrepreneurial culture. The authors of this article support the position of B. Clark who proved that one of the key elements in the development of an entrepreneurial university is the creation of a strong entrepreneurial culture [12]. In practice, this is often understood narrowly — as the formation of entrepreneurial culture of university employees and students, etc. It is important that this narrow understanding was only at the initial stage of development of the entrepreneurial university, and then expanded. In a broad sense, the development of entrepreneurial culture as a function of the university in Ukraine should include:

– Popularization of the values of the economy of knowledge and innovations by the university as the basis of modern entrepreneurship, insti-
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tutionalized in the mission and strategy of the university. Then follows the implementation of the above mission through the teaching, research, educational, professional, innovative functions of the university in society. This includes the organization of conferences, the creation of scientific laboratories, research and publications on the topic of innovative entrepreneurship, etc.

- Concentration and use of actual knowledge about innovations and entrepreneurship on the basis of active international interaction, internationalization of activities in terms of education and research. The aspect of academic mobility is important — the exchange of experience with business universities in the world. We need contacts with representatives of the best world experience, partnership with leaders, and participation in joint activities. It is predicted that the development of universities through the internationalization of their activities increasingly become part of the international policy of developed countries. At the same time, international student mobility ceases to be an independent trend and becomes part of the process of international movement of labor, managed by national politicians fighting for talent as a key factor in the competitiveness of countries. These and other macroeconomic trends are changing the microeconomics of the market for educational and other services of universities, their motivations and business strategies of activity. [15]

- Activation of interaction with all persons, groups of persons and organizations interested in the activities of the university (stakeholders). One of the key tasks of the entrepreneurial university is the development of entrepreneurial competencies of all participants in the innovation process. Historically, in Ukrainian universities, students are poorly involved in research. Therefore, it is important to introduce a policy of maximally involving students in research, and then, along the chain, to involve students in the commercialization of research results, including the popularization of start-up movement. Development of links between the education system and business, where participants establish close ties with entrepreneurs for the development of entrepreneurial and business culture at the university level. Thus, the system of university management should be oriented not only to internal, but also to external processes: establishing mutually beneficial relations with the business community and attracting additional funding. Therefore, the vision and values transmitted through the management and leadership system can break down barriers to understanding
and accepting the entrepreneurial culture and mission of the university. Thus, the activation of interaction with stakeholders, naturally, contributes to the following two functions of the entrepreneurial university: improving the quality of entrepreneurial education and turning the university into an element of the country’s innovative infrastructure.

Secondly, the improvement of entrepreneurial education. The aim is to train professional innovators. Universities need to restructure educational programs and plan their activities with the use of foresight, focusing on the profession of the future, including on interdisciplinary professions, training specialists in partnership with organizations, enterprises (companies).

In Ukraine, the improvement of entrepreneurial education can be carried out as follows:

– Establishment innovative entrepreneurship education as part of the educational program and, possibly, as an obligatory subject. The goal is to compensate for the lack of business competencies among students, especially those representing “non-economic” faculties and specialties, which are a priori sources of new knowledge and technologies. The society today needs those market actors who are able to master the opportunities of the innovative economy in a timely manner and benefit.

– Widespread use of innovative teaching methods — informatization of the tuition process. Technology is becoming a central part of the tuition process in higher education, which can provide more access to entrepreneurial education in Ukraine. Massive open online courses (MOOC) have become one of the most important aspects of the use of technology in education in recent years. Ukrainian universities have joined the process of creating their own MOOC, which are presented on their websites and open resources, for example https://prometheus.org.ua.

– Motivation and development of leadership and entrepreneurial qualities of future specialists through involving students in entrepreneurial and innovative activities during the period of study at the university. The relevance of this is determined by the fact that modern students, representatives of the so-called Generation Y and Generation Z, are inclined to search for innovative solutions, knowledge of their abilities, entrepreneurial behavior [16]. Students and university graduates have a huge innovative and entrepreneurial potential, which the university should develop through providing access to entrepreneurial business education and creating an en-
environment conducive to the formation of entrepreneurial culture and the implementation of business ideas through the launch of start-ups.

- To establish “open courses” at the university, for example, in the format of start-up schools for entrepreneurship education. The target audience can be several groups at the same time. First, students and graduates with technical skills and knowledge who have a business idea, but no team and sufficient business competencies. Secondly, researchers who want to build a business based on inventions. Thirdly, students and graduates with economic and business education who have the necessary knowledge of business and the desire to join the startup team. It is the interaction between these groups that fosters the formation of interdisciplinary teams and the maximum development of the participants’ potential. Such a startup school allows the “students” to develop competencies to recognize and use market opportunities, attract resources to solve interdisciplinary tasks, build and manage multifunctional teams, launch innovative projects, and to initiate cooperation between the university and the business sector.

- At the same time, it is impossible to manage only internal resources; universities should find opportunities to attract prominent professionals, business representatives, investors for teaching at the university. It is necessary to systematically train research teams, grow and attract leaders (and “stars” in this professional field). The aim is to create an entrepreneurial ecosystem at the university that is favorable for growing, at the first stage, future entrepreneurs, and at the second stage — teams and even companies (new subjects of the market). One of the tools for forming an entrepreneurial ecosystem is the start-up schools — these are platforms where active students, undergraduates, young scientists with entrepreneurial initiative and vision, talent, leadership can get support from business representatives. As a rule, successful entrepreneurs who have experience in starting a business conduct all classes in start-up schools. They are ready to immerse participants in the business environment, share business experience. The activity of start-up schools implies holding both one-time meetings (meetups) with well-known entrepreneurs, and full-fledged training courses.

- The top of the development of entrepreneurial education should be the preparation by universities of not individual specialists, but ready-made teams and even companies (new subjects of the market). The growing demands on the participants of the modern market are that that they must do
much more than just transformation of an idea into a technical solution, the creation of a prototype and its mass production, more, than the transfer of technology (which allows profit from the commercialization of some technologies). It is necessary to create an innovative infrastructure that will be receptive to mass innovation solutions.

- To increase the degree of correspondence of knowledge of graduates to the needs of employers. A large and growing share of university graduates in Ukraine is suffering from unemployment. So far, none of the Ukrainian universities is not included in the top 150 leaders of employability (The Global University Employability Ranking 2017). [17] The way to solve the problem of employability is to involve employers in the process of creating and filling educational programs in universities.

Improvement of entrepreneurial education in Ukrainian universities can be considered as the first stage of improving the innovation infrastructure of the Ukrainian economy.

Third, the transformation of the university into a key element of the innovation infrastructure of the economy.

Analysis of infrastructure opportunities for an innovative economy in modern conditions allows us to conclude that the most important infrastructure component is the university, which has huge (and so far unrealized) opportunities. Experts conclude that in Ukraine (and in many other countries) there is no other platform that can create and promote innovation (throughout the innovation cycle), except for universities.

In Ukraine, universities can and should become agents of change, agents of the development of regions and industries. As an entrepreneurial university is a public institution that provides the basis for regional and national growth and development through more intensive interaction with the external environment.

The transformation of the university into a key element of the innovation infrastructure of the economy in Ukraine should include:

Firstly, the management’s understanding of the universities’ appointment and the role of the university in the country and region of the deployment, in accordance with this, the formulation of goals and objectives (clearly indicated mission in the university strategy) integration with business. The fact is that entrepreneurial activity accelerates the participation of the university in the development of its region through the creation of a ramified inno-
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Innovative research, educational, and production infrastructure with a view to realizing the competitive potential of the territory. As a result, regional universities are becoming one of the key drivers of socio-economic development in their region.

Secondly, the establishment of the interaction of an entrepreneurial university with a regional infrastructure within the framework of the undertaken mission requires activation of contacts in the triangle “regional authorities — business — university” (regional “triple helix”). The regional university is well aware of the needs of regional business. As a result, the university develops business innovations that are necessary for business. At the regional level, the implementation and commercialization of innovations by university scientists is taking place, they are carrying out orders for R & D from regional companies. It is possible to search for new forms of integration by universities — entry into R & D structures of regional companies, creation of joint research organizations with business, use of the potential of international partnership. That is, one of the most important missions of the university (the leading and authoritative in the region) is the development of entrepreneurial activity. In other words, regional universities-leaders are able to become “locomotives” in revealing the innovative potential of regions, human potential, and development of SME. At the same time, the university has an opportunity to use intellectual, material, infrastructure and other resources of its region to solve its own problems. This is extremely important in the context of limited state support for higher education in Ukraine and the need to attract non-government funding sources for universities.

Thirdly, getting state and public support. Ukrainian universities have no experience of performing entrepreneurial functions. In addition, Ukrainian society is not accustomed to perceive the university as an accelerator of entrepreneurship. Consequently, the university needs to gain credibility and fulfill the role of a key element in the regional innovation cluster. In a society, the attitude towards universities should be changed in accordance with the world practice. Undoubtedly, the corresponding governmental program can promote the role of universities as the center of innovation infrastructure. In the end, the state should endeavor and lead the reform processes that the universities have already begun. Entrepreneurial universities are needed by the state of Ukraine, since they are able to assume a
part of government functions in support of innovative development of the country. Thus, state support could be placed first in the list of necessary actions. Moreover, this support should be not so financial, as regulatory, legislative. Universities need financial autonomy to create their own SMEs and commercialize innovations. Universities need the authority to become centers of regional innovation clusters and to take on some of the government’s functions to stimulate the country’s innovative development.

The transformation of the Ukrainian university into a key element of the innovation infrastructure of the economy requires, respectively, the restructuring of the internal structure of the university and the creation of new units for Ukrainian universities that enable the realization of the entrepreneurial function.

Universities should create supervisory boards consisting of entrepreneurs and strategic experts. The availability of laboratories, places for coworking, business incubators, and technology parks allows bringing together talented students, mentors, researchers, modern technologies, both external and internal financial resources, to increase the level of entrepreneurial business education by bridging the gap between theoretical knowledge and practical activities. With a certain success of such activities in the long term, universities should consider more advanced tools for the development of entrepreneurship, potentially bringing great and financial and image benefits: accelerators, incubators, and technology parks, educational and innovative clusters. Thus, by creating its own infrastructure, universities become full participants of the country’s innovative infrastructure system.

Now the universities of Ukraine, even without the necessary financial autonomy and state support, have begun to apply in practice certain parts of the concept of an entrepreneurial university. Reform “from below” has already begun, as universities seek to maintain their own competitiveness. Undoubtedly, one institution is more active, others are less active in interacting with business and educating students in innovative entrepreneurship. However, this process is progressing. In Table 1, we give examples of the successful implementation in Ukraine’s universities of certain features of the triple-helix concept and the creation of entrepreneurial universities. Studying the same degree, level of development of a university in Ukraine on an entrepreneurial path requires additional research.
## Functions of the entrepreneurial university and their implementation by some universities of Ukraine

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<th>№</th>
<th>Function</th>
<th>Examples of successful implementation by universities of Ukraine</th>
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<tbody>
<tr>
<td>1.1</td>
<td>Popularization of the values of the economy of knowledge and innovations by the university as the basis of entrepreneurship, institutionalized in the mission and strategy of the university</td>
<td>«NaUKMA is a leader in innovations and actively influences the future of Ukrainian society and the state. NaUKMA organically combines scientific activity, educational process and acquisition of practical skills of high quality.»</td>
<td>University of “Kyiv-Mohyla Academy”/ Vision from the strategy of the university: <a href="http://www.ukma.edu.ua/index.php/about-us/sogodennyya/pryznachennia-ta-misiia">http://www.ukma.edu.ua/index.php/about-us/sogodennyya/pryznachennia-ta-misiia</a></td>
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<td>1.2</td>
<td>Concentration and use of actual knowledge about innovations and entrepreneurship on the basis of active international interaction, internationalization of activities in terms of education and research</td>
<td>Strategy of internationalization for 2016 — 2020: «The goal of internationalization of KNEU is the formation of an effective polystructural system of international academic mobility ... Mutual interuniversity transfer of creative competencies of students, post-graduate students, doctoral students and teachers ...»</td>
<td>Kyiv National Economic University named after Vadym Hetman. <a href="https://kneu.edu.ua/userfiles/center_international_relationships/Internationalization_strategy_and_Certificate.pdf">https://kneu.edu.ua/userfiles/center_international_relationships/Internationalization_strategy_and_Certificate.pdf</a></td>
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<td>1.3</td>
<td>Activation of interaction with all persons and organizations interested in the activities of the university (stakeholders)</td>
<td>«Development of cooperation with the business community, public authorities, enterprises, organizations, institutions, as well as other potential participants in cooperation in the scientific and technical sphere and the sphere of technology transfer»</td>
<td>Regulations on the Center for Technology Transfer of the Zaporizhzhia National University: <a href="http://web.znu.edu.ua/ctt/docs/polozhennya-pro-tsentr.pdf">http://web.znu.edu.ua/ctt/docs/polozhennya-pro-tsentr.pdf</a></td>
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<td>2.1</td>
<td>Establishment innovative entrepreneurship education as part of the educational program and, possibly, as an obligatory subject</td>
<td>The course “Innovative development of the enterprise” is taught to students of master’s programs of all forms of training, starting from 2015.</td>
<td>Kyiv National Economic University named after Vadym Hetman <a href="http://feu.kneu.edu.ua/ua/depts4/k_ekonomiky_pidpryjemstv/disciplines_of_masters_degree_level_ekp/">Source</a></td>
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<td>2.2</td>
<td>Widespread use of innovative teaching methods, informatization of the tuition process</td>
<td>“Informatization of the educational activities of the University is directed on the introduction of computer teaching methods ... individualization of training, the organization of systematic knowledge control, the ability to take into account the psychophysiological characteristics of each person, etc.”</td>
<td>Kyiv National Economic University named after Vadym Hetman <a href="http://kneu.edu.ua/userfiles/norm_doc/concept_it2013.pdf">Source</a></td>
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<td>2.3</td>
<td>Motivation and development of leadership and entrepreneurial qualities through involving students in entrepreneurial activities during the period of study at the university</td>
<td>“Inside Out is a project that creates a platform (an incubator of grassroots initiatives) to implement the best ideas of students. The project not only provides mentoring support, but also guarantees the full implementation of the winners’ projects.”</td>
<td>Project of National Technical University of Ukraine “Kiev Polytechnic Institute” <a href="https://www.inside-out.pro">Source</a></td>
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Creating entrepreneurial universities as drivers of innovative development of economy
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<td>2.4.</td>
<td>To establish «open courses» at the university, for example, in the format of startup schools for entrepreneurship education</td>
<td>«For the first time in the history of Ukrainian education, leading educational institutions have joined their efforts in order to make the best education available to everyone... The courses “Economics for All” and “Entrepreneurship. Own business in Ukraine” by the teacher of the Kiev-Mohyla Academy Alexei Gerashchenko.»</td>
<td>KNU named after Taras Shevchenko, NU of “Kyiv-Mohyla Academy”, Ukrainian Catholic University and LITS became partners of the platform of mass free online courses “Prometheus”. [<a href="https://courses.prometheus.org.ua/courses/Prometheus/ENTREPR101/2016_T1/about%5C">https://courses.prometheus.org.ua/courses/Prometheus/ENTREPR101/2016_T1/about\</a>]</td>
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<td>2.5.</td>
<td>At the same time, it is impossible to manage only internal resources; universities should find opportunities to attract prominent professionals, business representatives, investors for teaching at the university.</td>
<td>«Priority directions of the university development: Ensuring the quality of education in accordance with international standards... the maximum focus on the applied application of knowledge received by students; attracting well-known practitioners to the courses.»</td>
<td>Regulations on the quality of educational activities and the quality of higher education at the National University “Ostroh Academy”. [<a href="http://www.oa.edu.ua/publik_info/polozhenya_zabezpechenia_yakosti_vyshchoy_osvitu.pdf%5C">http://www.oa.edu.ua/publik_info/polozhenya_zabezpechenia_yakosti_vyshchoy_osvitu.pdf\</a>]</td>
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<td>2.6.</td>
<td>The top of the development of entrepreneurial education should be the preparation of Tech-projects, social entrepreneurship and creative industries. That provides the necessary knowledge, mentoring support and advice from entrepreneurs of practitioners to implement a successful business project.</td>
<td>«The Center of Entrepreneurship is a platform for the training and development of Tech-projects, social entrepreneurship and creative industries.»</td>
<td>Ukrainian Catholic University. [<a href="https://bigggidea.com/project/csetr-pidpryemnictva-ukranskogo-katolitsko-go-universitetu/#%5C">https://bigggidea.com/project/csetr-pidpryemnictva-ukranskogo-katolitsko-go-universitetu/#\</a>]</td>
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<td>3.1</td>
<td>The transformation of the university into a key element of the innovation infrastructure of the economy</td>
<td>The aim of the creation and functioning of NSSMD SSU is the practical realization of the scientific, professional and intellectual potential of teachers, employees and students of Sumy State University, other higher educational institutions, scientific institutions and organizations for developing and strengthening the market positions of enterprises and institutions of the Sumy region.</td>
<td>Regulations on the Research and Training Center for Marketing (Sumy State University): <a href="http://sumdu.edu.ua/ukr/general/normative-base.html?task=ge&amp;component&amp;id=a0ca-106b-e011-9adcc-04a-4dc-0ea-48d04a&amp;kind=1">http://sumdu.edu.ua/ukr/general/normative-base.html?task=ge&amp;component&amp;id=a0ca-106b-e011-9adcc-04a-4dc-0ea-48d04a&amp;kind=1</a></td>
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<td>3.2</td>
<td>The establishment of the interplay of the entrepreneurial university with a regional infrastructure</td>
<td>The mission of the Innovative Office of the Odessa National University is to serve as a regional center for integrating the innovation activities of research institutes, government agencies and business companies in Southern Ukraine, to provide world-class services in the research, development and commercialization of innovative products at local, national and international markets.</td>
<td>Odessa National University: <a href="http://innocentre.onu.edu.ua/wp-content/uploads/2013/02/SMO-of-ONUInnocentre.pdf">http://innocentre.onu.edu.ua/wp-content/uploads/2013/02/SMO-of-ONUInnocentre.pdf</a></td>
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Before reforming, it is important to realize that Ukrainian universities have high potential, which is confirmed by international ratings. In 2017, Ukraine improved its position in The Human Capital Index (WEF) by 2 points and ranked 24th among 130 countries. This index provides a holistic assessment of the human capital of the country. As the WEF report points out, human capital is people with the knowledge and skills that make it possible to create value in the global economic system. Therefore, Ukraine on the quality of staff — between Britain and Lithuania, Ukraine has outrun all its neighbors, except Russia. Ukraine's performance is particularly high relative to its GDP per capita levels. Within the lower-middle income group (countries with a GNI per capita between US$1,006 and US$3,955), one out of 35 countries covered by the Index—Ukraine—scores above 70%. [18]. It is important, in the process of reforming Ukrainian universities and turning them into entrepreneurial ones, not to destroy universities, but to increase their potential.

Before starting reforming and creating entrepreneurial universities, it is important to get away from extremes, to avoid misunderstanding of the entrepreneurial function.

The false “excessive” understanding of the entrepreneurial function is to turn the university into a business structure that is at least self-financing (thereby removing from the government its obligations to finance the higher education system), and even better — profitable, earning money and paying corporate tax in the state budget.

In practice, the entrepreneurial function should support, and not contradict, the task of developing the scientific and technological structure of universities.

Entrepreneurial universities should not rigidly focus on the prospect of developing selected key areas (branches of knowledge), as this will reduce flexibility and adaptability to the challenges of the future.

When reforming, it is important to avoid an absolute predominance of a pragmatic approach. It is unacceptable that university management is aimed solely at maximum commercialization of scientific / educational products, the search for sources of providing the university with financial, material, human resources, and the development of the business mission.

It is also dangerous to reject fundamental research and concentrate exclusively on applied ones, which are easy to commercialize. This approach can completely emasculate the research function of universities.
The university, being involved in economic-centric trends, is transformed from a classical social institution into an economic entity engaged in the production of scientific and educational services. The renewed university must respond quickly and effectively to society’s requests for university products in which this society is interested. Such a transformation is unusual and painful for the classical university of Ukraine, which traditionally estimated the effectiveness of its activities in the categories of public good, selfless service to society.

Ukrainian universities, which for centuries, until the 90s of the last century, were created, functioned and developed as totally State-funded institutions, the prospect of becoming entrepreneurial is perceived as a challenge that threatens their existence.

Finally, to avoid excesses and extremes, the authors of this study recommend that the process of reforming must be gradual by developing a state program for this purpose with a duration at least 10 years. Proposals for the development of such a program are the direction of future studies of the authors of this publication.

REFERENCES

Chapter 5. Social investments as a contribution to SMEs development


