







“Sumy State University: Adaptation of management to wartime conditions”

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ARTICLE INFO	Vasyl Karpusha, Inna Shkolnyk, Anatoliy Chornous and Tetyana Mayboroda (2023). Sumy State University: Adaptation of management to wartime conditions. <i>Problems and Perspectives in Management</i> , 21(2-si), 140-152. doi: 10.21511/ppm.21(2-si).2023.17
DOI	http://dx.doi.org/10.21511/ppm.21(2-si).2023.17
RELEASED ON	Monday, 10 April 2023
RECEIVED ON	Friday, 24 March 2023
ACCEPTED ON	Thursday, 06 April 2023
LICENSE	 This work is licensed under a Creative Commons Attribution 4.0 International License
JOURNAL	"Problems and Perspectives in Management"
ISSN PRINT	1727-7051
ISSN ONLINE	1810-5467
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

15



NUMBER OF FIGURES

6



NUMBER OF TABLES

0

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BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

Received on: 24th of March, 2023

Accepted on: 6th of April, 2023

Published on: 10th of April, 2023

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Conflict of interest statement:

Author(s) reported no conflict of interest

SPECIAL ISSUE: ACADEMIC MANAGEMENT IN THE CONDITIONS OF WAR

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SUMY STATE UNIVERSITY: ADAPTATION OF MANAGEMENT TO WARTIME CONDITIONS

Abstract

Ensuring a high quality of educational and scientific activity is one of the main tasks for university management, which becomes especially significant in wartime conditions. The results of scientific research and mechanisms worked out in practice to ensure the effectiveness of the university functioning and anti-crisis management techniques in wartime may become impractical, as they are usually considered relatively stable and even predictable in the short term by the external environment and regular internal communications. Therefore, the study aims to systematize managerial decisions and measures and conduct a SWOT analysis of the university's functioning in war conditions when external risks are at their maximum level.

Based on the accumulated experience of Sumy State University management, which continued its activities even when Russian invaders surrounded the city, it demonstrated effective work in 2022 and 2023. It became possible thanks to the pre-war management system, coordination of the work of all structural divisions, and constant information of all participants in the educational process through an internal information system and electronic document management. The critical threats to the university's functioning in the future have been determined based on the conducted SWOT analysis.

The developed methods and mechanisms of university management could not be fully applied in war conditions; the management's ability to make non-standard decisions is essential; the state of the university depends on the distance to the war zone, as well as the institutional conditions developed in the pre-war period; the university's presence in international rankings expanded cooperation with international partners and provided many significant advantages in supporting the university's educational and scientific activities; the prerequisites for the university's financial stability in wartime are careful analysis and strict control of the economic situation.

Keywords

SWOT analysis, students, professors, educational process, scientific staff, martial law

JEL Classification

I20, I21, I22

INTRODUCTION

The full-scale war started by Russia on February 24, 2022, forced the management of universities, primarily those located in the territories where hostilities took place and are still taking place, to look for non-standard solutions regarding the organization of their activities. The external environment in specific periods was uncontrollable and changed quite quickly, but the state of the university itself, i.e., its internal environment, depended entirely on the developed management approaches. The state of its development and the quality of educational activity largely depend on the coherence and efficiency of decisions made by the university management. After a year of a full-scale war in Ukraine, it is possible to make the first generalizations about managerial decisions and their effectiveness, particularly on the example of

Sumy State University. The University is located in the Sumy city on the border with Russia. The city was surrounded by Russian invaders on the first day of the war. The paper aims to systematize critical managerial decisions in the university operating under martial law, conduct a SWOT analysis, and identify the most significant threats to its further functioning.

1. LITERATURE REVIEW

The universities' management has been changing significantly in recent years. Moreover, as Acevedo-Duque et al. (2023) noted, the world faces challenges that significantly change the possibilities of achieving sustainable development goals, including educational expectations. The most significant is the COVID-19 pandemic, and the war in Ukraine has exacerbated the food, energy, humanitarian, and refugee crises, all against an unfolding climate emergency. Many scientific studies devoted to the transformation of university management, both public and private, have significantly increased during 2019–2023, which is primarily related to the pandemic impact not only on the educational process organization but also on the financial condition of universities and the development of their prospects. Thus, Hi and Ismail (2023) studied the impact of the COVID-19 pandemic on the effectiveness of the public universities functioning in China under the influence of a constant reduction in funding and increasing attention from the state of the efficacy of the funds use. Based on the multimethod approach combining partial least squares-structural equation modelling (PLS-SEM), the PROCESS macro, and necessary condition analysis (NCA), the authors defined the significant influence of personnel potential and budgeting procedures on the effectiveness of the functioning of public universities in China. Iivari et al. (2020), like many other authors, emphasize the role of digital technologies. Geryk (2023), using the example of private universities in Poland, noted that, unlike many activities that received state support, the priority sectors of support did not include the field of education.

As Ruben (2020) noted, in the context of a global pandemic, the role of university management has been profoundly changed. Significant attention was paid to anti-crisis management during this period. One can also fully agree with Rudolph et al. (2023), who defined that four themes in the quality management of the educational process during the pandemic were key: (1) the governmental approach to COVID-19

and its effects on delivery and assessment; (2) managerial and academic leadership approaches; (3) EdTech; and (4) well-being. Also, the triad “pedagogical skill-technological capabilities-quality mastery of the content of the taught discipline” is crucial in the educational process.

At the same time, if many countries felt the impact of the pandemic on the functioning of universities, the war unleashed by Russia in Ukraine primarily affected Ukrainian universities. Kolodiziev et al. (2023) note that in wartime, educational approaches depend on the university's proximity to the war zone. And to evaluate the quality of the organization of the educational process, it is worth using indicators such as the availability of the Internet, compliance of information and communication technologies with the necessary level of quality of higher education provision, loyalty and trust of stakeholders to the university; the ability to provide a living wage for university employees; the need to evacuate the university; the possibility of obtaining grant support for applicants.

Chystiakova et al. (2022) highlighted the following features of the preparation of doctors of philosophy in the war conditions in Ukraine:

1. Factors affecting the educational and scientific process in postgraduate studies (social climate in society, economic, political, socio-psychological, and ethical).
2. Problems that arose during the implementation of the individual plan of the postgraduate (Ph.D.) student's educational and scientific work (deterioration of the emotional state, difficulties in communication, problems with the organization of scientific work, impossibility of conducting an experiment, destruction of archives, material, etc.).
3. Support of students of the third (educational and scientific) level of higher education (educational, organizational, informational, advisory, social).

Konovalchuk et al. (2022) conducted an empirical study of the state of distance learning in pedagogical universities in Ukraine. They noted that in war conditions, the presence and quality of feedback between students and lecturers and the technical possibilities of connecting to the Internet are essential. The impact of the war is manifested not only in the organization of the training of recruits but also in the process of professional development for lecturers. It is also essential for corporate training and staff development. Varis et al. (2022) stated that most companies in wartime conditions in Ukraine aim to preserve personnel and maintain a high level of qualifications, ensuring companies' survival and effective operations. Online courses and interactive technologies can be the most effective methods.

Even though the impact of the war is felt by Ukrainian universities today, with a specific time lag, this impact will manifest itself in the state of development of European universities, particularly Polish universities, since this country accepted the most significant number of refugees from Ukraine. According to the United Nations High Commissioner for Refugees, as of January 31, 2023, more than 4,800,000 people were registered in Europe, including more than 1,560,000 people in Poland (UNHCR, 2023). In the pandemic, the role of distance learning has significantly increased, and in the war, its importance has become even more significant.

2. RESULTS

2.1. Sumy State University in pre-war times

Sumy State University is located in the border city of Sumy. It was a leader in the region in providing educational services before the start of the war. Sumy was included in the top 10 best universities of Ukraine and had many international rankings, including Times Higher Education, QS, Webometrics, UI Greenmetric, U-Multirank and others. As of the end of 2021, more than 12,000 applicants studied at the university, including more than 2,000 foreign applicants from over 50 countries. The training was carried out in more than 150 educational programs at the bachelor's, mas-

ter's, and doctor of philosophy levels. The university has formed a robust staff of scientific and pedagogical workers (more than 800 people), which allows it to provide both educational and scientific activities at a high level. In 2021 Sumy State University passed the state certification for scientific training, according to the results of which 4 out of 5 declared directions were evaluated at the highest level, which became the best indicator among all Ukrainian universities. The financial condition of the university before the start of the war was stable thanks to the implementation of educational and scientific services, and the plan for 2022 provided for significant amounts of investment in the development of the material and technical base, which would significantly improve the quality of the implementation of educational programs in the future and attract substantially more not only domestic and foreign applicants.

2.2. The educational process in conditions of shelling and energy crisis

The state of universities after a year of the war is primarily defined by the location of the university (occupied territory, occupied and liberated, border); in particular, it is one of the defining risks of its further development for Sumy State University as it is located at a distance of about 40 km to the aggressor's country. Sumy city was not under occupation. Still, on the first day, it was surrounded by invaders, which also influenced the adoption of several important decisions, including the preservation of the material base and essential documents, ensuring communication with applicants and employees, and creating conditions for work when transport and other communications in the city practically did not work. The state of the university is also determined by the institutional conditions that were developed in the pre-war period. An effective and efficient management system, which is based on the use of an internal information system and the possibilities of using electronic document management, made it possible in the first days of the war not only to make quick and effective management decisions but also to bring them quickly to the attention of all participants in the educational process. Sumy State University was not an exception; the main institutional foundations of its functioning are high positions

among domestic universities in world rankings; an effective system of internal quality assurance of educational activities; implementation of the educational process in close connection with scientific activity; strong support from international partners; powerful infrastructural support for educational and scientific activities; modern university library as an informational, client-oriented service system; own digital eco-system (own digital eco-system or digital eco-system of the university).

In 2022, despite the war, it was possible to maintain and even improve the university's position in most international and national university rankings. Sumy State University remained the sole leader among higher education institutions in Ukraine for the second consecutive year. It significantly improved its position in the international ranking of Times Higher Education (position 401-500 in the world). The university positions in specific fields of knowledge of this rating have also improved. Sumy State University was the first in Ukraine to pass the independent external audit QS Stars, conducted by the international company QS (London, Great Britain). According to the results of the audit, the university received the highest marks in the following categories: Teaching – quantitative and qualitative composition of lecturers, student satisfaction with the quality of education; Inclusiveness – identical conditions and access to education; Social Responsibility – social orientation of activity; E-learning is the development of electronic learning technologies.

Management decisions in the first days fully justified themselves and allowed them to maintain a qualitatively organized educational process. Thus, on February 24, an order was issued for the University to suspend the educational process, to introduce vacations for two weeks first, and then to extend them until April 1, and at the same time, an order was issued to send all scientific and pedagogical workers and service personnel on vacation. It turned out to be physically and psychologically impossible when the city was surrounded, and battles raged on its outskirts. At this time, almost all the channels in which lecturers and applicants communicated turned into channels for volunteering and helping the city's defenders. A territorial defence unit was located in one of the buildings of the University. The bread was baked,

and food was prepared for the defenders of the city of Sumy in the canteen of the University. The basements of the University were set up as bomb shelters, in which the applicants, university employees and city residents were located. At present, eight such buildings continue to function at the University, in which classes and various events are held during air alarms, including meetings of the academic council, the scientific committee, and the board to ensure the University's higher education quality and others. From April 1, the educational process resumed by conducting video conferences and asynchronous training during air raids. The University was generally ready for this format of teaching classes, as it had developed its online training system during the Covid-19 pandemic and a distance learning platform.

The support of international organizations was and remains especially important during the war. The Research4Life Community provided free access to its resources for Ukrainian institutions in March. Such influential publishers as Royal Society of Chemistry, Nature, Wiley, Elsevier, Wolters Kluwer, Oxford University Press, Taylor & Francis, De Gruyter, IOP, SAGE, and Cambridge University Press. Open access to EBSCO BMJ Publishing Group Ltd medical resources was provided through the university library. Emerald, BioOne, IOS Press, etc., expressed a desire to support Ukraine in this difficult time.

The university library received free remote access to the RapidILL interlibrary loan system thanks to the initiative of the Clarivate company in May. In the war conditions, when the library building was damaged by bombing, it was essential for both students and lecturers to get access through this system from their new remote locations to the collections of more than 500 leading libraries worldwide.

The war contributed to the opening of access for students and lecturers of Ukrainian universities to educational materials on the best international educational platforms. Students and lecturers of Ukrainian universities received free access to 6,000 courses on the Coursera educational platform, to educational materials from more than 50 of the world's best higher education institutions on the Emeritus educational platform, to Udemy, Labster, and edX resources in April. A lecturer

at Sumy State University administered access to these platforms at the national level. Such support made it possible to resume and qualitatively continue the education of students and conduct scientific research.

It was challenging to organize the educational process in the fall semester when the aggressor carried out massive attacks on the entire energy infrastructure of Ukraine. In Sumy, as in many other cities, strict restrictions were introduced in the form of scheduled power outage schedules. The university was forced to work in the -4/+2 mode when there is no light for 4 hours and access to the Internet is also limited, and then the light appears for 2 hours. To solve this challenging task, so-called “educational and scientific unbreakable points” were created at the university, which had light and Internet throughout the day and were in significant demand from lecturers and students.

The best practice, which was implemented and will be continued under normal conditions of the educational process organization, was the introduction of qualification papers in electronic form with the imposition of digital signatures. Similarly, the electronic document flow of examination commissions work was implemented. A significant role in the educational process organization was played by the in-house development of the “system of personal electronic cabinets”, to which all applicants and lecturers are connected and by which the document circulation system and communication channels are established.

Regarding the applicants contingent, mainly due to the university image and the coordinated work of the admissions committee, in a situation where the conditions of admission to study have changed radically, the university enrolled 12.2% more students for the 1st year of the bachelor's degree compared to 2021, while this increase occurred, both at the expense of the state order and on the terms of payment for the funds of individuals and legal entities (Appendix A). A significant increase in applicants also took place at the master's level (+93.5%) and at the doctor of philosophy level (+61%). In addition, many new educational programs were launched for both bachelors and masters. It is clear that the admission of foreigners to study in such conditions practically did not take place.

The total number of applicants in 2022 almost approached the level of 2020; on the one hand, this is due to the growth of the Ukrainian contingent in the 1st year of bachelor, master and doctor of philosophy, and on the other hand, in the conditions of martial law, the university has a reduction of the foreign contingent of applicants by almost 60%, which has a significant impact on the financial situation of the university.

One of the most challenging tasks at the beginning of the war was solving the issue of evacuating about 1,700 international students. From the first days of the war, the safety of international students became one of the university's main priorities. It was not possible to leave Sumy safely for 12 days. During this time, the enemy used the presence of international students in the city for propaganda – spreading fakes and false information. Particular tension increased after a bomb attack on the city's critical infrastructure facilities, when electricity, water, heating and communications were temporarily cut off. The university made every effort to overcome the consequences of the strike – some students were moved from rented apartments to a dormitory, and the amount of water supplied was increased. Sumy State University provided students with food and essential goods and equipped dormitories with safe shelters to accommodate all students in case of bomb attacks. Thanks to the coordinated work of the relevant structural divisions of the university in a 24-hour mode with the embassies of all countries, the Ministry of Foreign Affairs of Ukraine, the Ministry of Education and Science of Ukraine, other relevant state authorities and local authorities, a “green corridor” was organized, along which all foreign students left and successfully reached their countries. The situation was described in detail in many publications, including a Norwegian publication (Løkeland-Stai, 2022).

Regarding the personnel of the educational process, in 2022, there was a tendency to reduce the number of lecturers, compared to 2021 by (-9%). A significant risk since the beginning of the war was the departure of some lecturers who, after leaving Ukraine, found employment abroad. In addition, during 2022, there were practically no dissertation defences, which was caused by a change in approaches at the legislative level regarding de-

fence procedures and martial law. This can lead to a decrease in the share of young scientists in the structure of scientific and pedagogical personnel of the university.

2.3. Development of scientific activity

The university's development as a scientific-educational-production complex continued in 2022, and the increase in volumes and improvement of quality and efficiency of the results and indicators of scientific activity were ensured. But the war made its corrections here as well. Sumy State University became the executor of a component of the research and development work within the framework of the tasks of the State Defense Order of Ukraine for 2022–2023. The scientists also received an international grant under the NATO program "Science for Peace and Security" (research is being conducted coordinated by the University of Valencia, Spain).

According to the results of participation in the projects competition financed at the expense of the European Union "Horizon 2020" external assistance tool, conducted by the Ministry of Education and Culture of Ukraine, four university projects became winners. In conditions when funding for education and science from the state budget is significantly reduced, participation in the implementation of such projects allows updating the material and technical base, in particular, the purchase of analytical equipment for the centre for the collective use of scientific equipment in the field of materials science is provided for. According to the total financing of such projects, UAH 16.65 million, Sumy State University ranked first among all higher education and scientific institutions. System management in scientific activity allowed 2022 to receive the most significant number of winning projects among all higher education institutions of Ukraine due to the competition of projects of young scientists of Sumy State University.

Despite the decline in the indicators of economic development in Ukraine and the decrease in the economic activity of enterprises, which was caused by the military aggression of Russia, the university continued to perform scientific contracts for conducting research, creating scientific

and technical products and providing services in the field of scientific and scientific and technical activities to order from enterprises, institutions and organizations of various forms of ownership, including 174 international treaties (2021 – 232), 51 agreements on the implementation of international grants (2021 – 25) in 2022. At the beginning of the war, there was a high risk of non-fulfilment of the concluded contracts, including the uncertainty regarding the possibility of continuing their funding and the existence of purely technical conditions at the university for conducting such research, but all contracts were fulfilled. The financing of scientific research and development and the provision of scientific services under economic contracts and international grants in 2022, compared to the previous year, increased by 22%. It amounted to more than UAH 67 million (2021 – UAH 55 million, 2020 – UAH 38 million).

International support for Ukraine also manifested itself in the scientific field. Having significant experience in international grant activity, the university significantly intensified its work in this direction as well, which resulted in the implementation of 51 university-wide international scientific grants in 2022 (of which 13 are scientific and 38 with a scientific component) with the amount of funding in 2022 – UAH 19.04 million (2021 – 25 grants, the amount of funding is UAH 4.79 million). The largest international scientific grant programs in terms of funding were the Erasmus+ programs of the European Union and a total of 38 agreements of 12.9 million hryvnias; EU framework program Horizon 2020 – UAH 3.2 million; 4 NATO programs in the amount of UAH 1.1 million; one agreement concluded with the international foundation "Renaissance" – UAH 1.1 million; bilateral projects of the Ministry of Education and Culture of Ukraine: 6 contracts for UAH 0.7 million.

The funding of the National Research Fund for the implementation of 6 projects received on a competitive basis in the amount of UAH 16.5 million was suspended due to the sequestration of the state budget. At the same time, the state budget for 2023 provides funds for financing projects of the National Research Fund, so there is an expectation on the part of university scientists that in 2023 there will be the opportunity to complete the work started before the war.

Despite all the difficulties in 2022, the university continued, through the mediation of DK “Ukrspexexport”, the implementation of the largest international contract in terms of funding on behalf of the Nanjing Research Institute of Electronic Technologies (China) (the amount of revenue in 2022 is UAH 24.6 million).

In general, despite the war in Ukraine, the total indicator of funding of the scientific activity at Sumy State University in 2022 increased compared to the previous year by almost 15%. It amounted to UAH 90.741 million (in 2021 – UAH 79.307 million, in 2020 – UAH 62.787 million). The indicator of the ratio (Special funds/General Funds) “special/general fund” in 2022 at the university increased compared to the previous year and is 2.9 (in 2021 it is 2.3; in 2020 it is 1.58).

2.4. Support from international partners

Long-term systematic work on establishing international partnerships became essential in wartime. The university significantly intensified its international activities, using various foreign media platforms to convey information about the war in Ukraine in 2022 (Strandberg, 2022; BBC Sounds, 2022). The Government of Great Britain, together with the Council of Universities of Great Britain, turned to the Government of Ukraine with a proposal to support Ukrainian universities through solid bilateral cooperation with British universities within the framework of the Twinning Initiative in March 2022. As part of this project, the university became a sister university of the University of Liverpool, recognized worldwide as one of the best universities in Great Britain (Fazackerley, 2022). Many activities were carried out within the framework of this project, the most significant of which were library cooperation, access to scientific and other resources and databases, free access to the University of Liverpool’s “Making an Impact” professional development programs for lecturers and managers; involvement of 78 representatives of Sumy State University (students and lecturers) to the International Summer School of the University of Liverpool. Sumy State University is an active participant in the “Alliances of European Universities” initiative, the main idea of which is to unite European universities in a sustainable network for the reali-

zation of common development goals, effective use of resources, unhindered exchange of best practices, as well as scientists and students. The university implemented the maximum number of international grants – 138 (in 2021 – 101, 2020 – 96) in 2022. The most considerable amount and volume of funding were provided through international grant programs Erasmus+, DAAD, DVV International, with the support of NATO, the United Nations Industrial Development Organization (UNIDO), the Civil Research and Development Fund (CRDF Global) and many other international funds.

A separate complicated issue was the migration of all resources of Sumy State University to secure cloud environments, mainly through contacting and reaching relevant agreements with the international companies Microsoft, Amazon Web Service, Google, and the Ukrainian company Gigacloud LLC. This allows ensuring continuous access and sustainability of the university’s educational platforms.

2.5. Ensuring the university’s financial stability

Wartime decisions are complex and largely determine the university’s financial condition. Due to the uncertainty of the situation at the beginning of the war, a decision was made to terminate the entire bonus system, including budget funding. Bonuses for various activities begin to be partially restored only in July.

Adopted decisions regarding the termination and suspension of labor relations based on a thorough analysis of the employment and workload of the personnel serving the educational and scientific process and the administrative and economical personnel allowed optimizing the costs of personnel maintenance. Similar decisions regarding the material and technical base maintenance contributed to maintaining the university’s financial condition at the appropriate level. Such decisions were significant when the budget sequestration took place, and expenditures from the state budget for education were significantly reduced when additional funding based on the results of activities was cancelled, according to which the university could additionally receive about 70 million hryvnias. More confidence was also needed

regarding the continuation of funding for scientific research and the cancellation of the financing for projects by the National Research Foundation. At the same time, the risks of losing the university's financial stability do not decrease; still, on the contrary, they can increase significantly, including against the background of a significant reduction in the admission of foreign applicants.

To ensure the high-quality and uninterrupted work of all university financial services, non-standard solutions were adopted that needed to be implemented even during the pandemic. Getting to the university and working in the buildings was simply impossible. In these conditions, the IT services of the university organized the work of employees of financial and other services by moving computer equipment to the employees' homes and providing access to all necessary programs and systems.

The analysis of the main areas of the university's activity allowed forming an SWOT analysis matrix (Appendix B), which identifies the strengths and weaknesses of the functioning of Sumy State University, as well as the opportunities that have appeared in the conditions of martial law and

threats, the implementation of which largely depends from the duration of martial law and state policy in the field of higher education.

Since the first day of the war, the university's winners, lecturers, and employees have been active participants in various volunteer projects; it is quite difficult to list them, given the considerable number. In addition, the university team has repeatedly transferred funds to support the Armed Forces of Ukraine. The university administration decided to share the computer class with the Kherson State University, which was significantly damaged during the occupation.

Students, graduates, lecturers and employees of the university, who joined the ranks of the Armed Forces of Ukraine, the units of territorial defence of Sumy city from the first days, should be noted separately. Some of them gave their lives for the independence of our country.

Today, Sumy State University's main thesis reflects its primary mission: "Armed with education; we are approaching victory!" Everything will be Ukraine!

CONCLUSION

This study led to many conclusions. The existing pre-war management system and developed anti-crisis measures that can be applied in peacetime cannot be used in wartime. The functioning of the university depends on two essential conditions: first, the territorial location and possible change of its status (displaced, located in the occupied territory, etc.); and second, from the established institutional conditions of its functioning in the pre-war period, including the level of its financial stability.

The organization of the educational process is subordinated to the primary goal of creating safe conditions for all participants of the educational process. During air alarms, classes are continued in bomb shelters or switched to asynchronous mode. An essential role is played by online learning, which takes place using the university's own platform and the electronic document management system.

In the war conditions, new research directions aimed at fulfilling the defence order appeared in scientific activity, and topics related to the study of national security became especially relevant. Established systematic work on stimulating the preparation of projects for scientific research competitions, and constant monitoring of this work made it possible to obtain better results than before the war.

The university's image in the international educational space, presence in world rankings, activity in global grant scientific and educational projects have made it possible to receive strong support from international partners, including top ones, such as the University of Liverpool, to become a member of the European initiative "Alliances of European universities", etc., and to increase the number of funds raised from international grant activities.

The strict control of financial discipline and careful analysis of the economic situation by the university management ensured its financial stability and allowed for the partially restored employee incentive system.

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APPENDIX A. Statistical data on the educational and scientific activities of Sumy State University

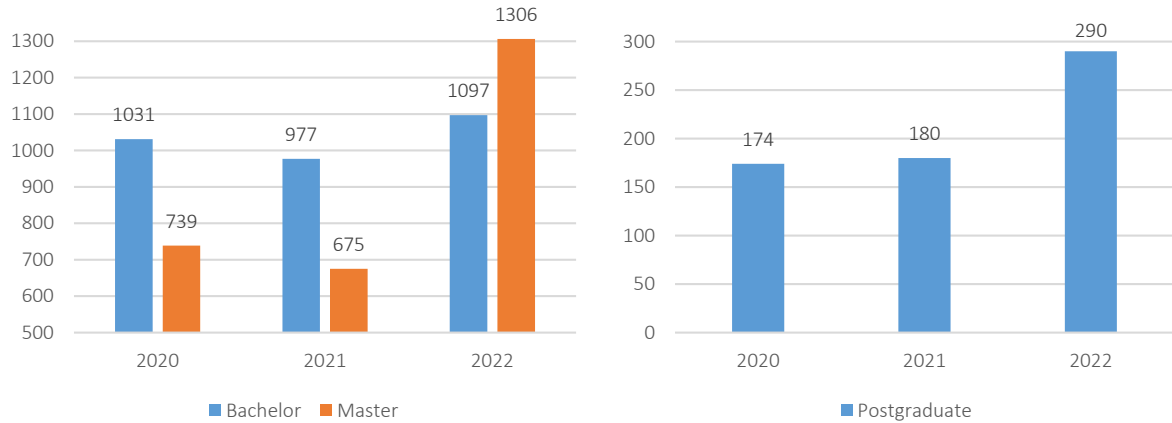


Figure A1. Admission of first year entrants to Sumy State University

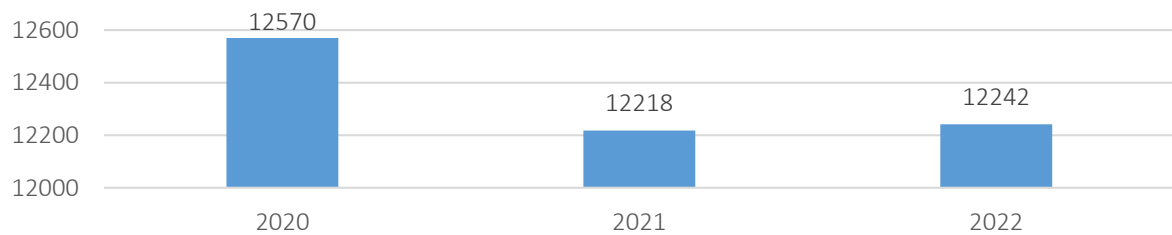


Figure A2. The number of students of Sumy State University at all levels of education

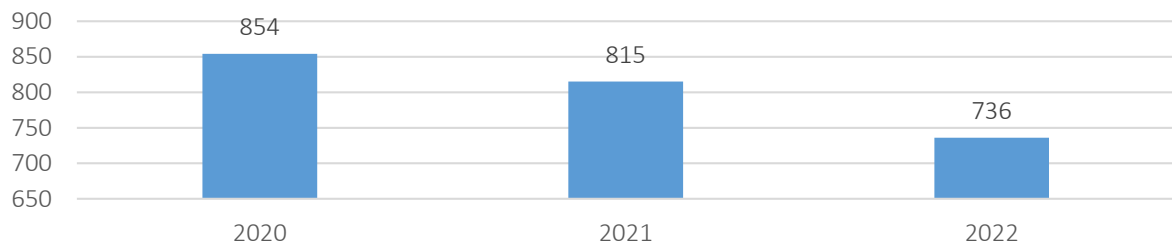


Figure A3. The total number of lecturers at Sumy State University

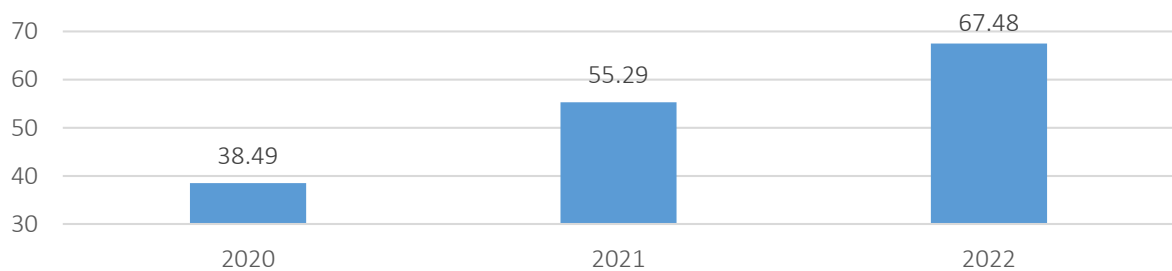


Figure A4. Volumes of completed and funded scientific research works and grants under the special fund, million UAH

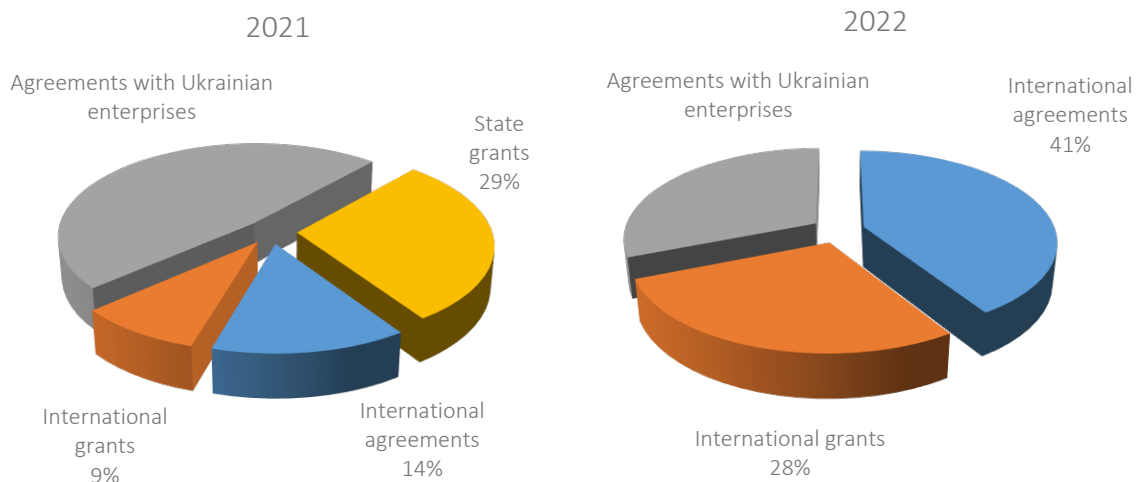


Figure A5. The revenue structure from the scientific activities at Sumy State University

APPENDIX B

Table B1. SWOT-analysis of Sumy State University activities in the conditions of martial law

Source: Compiled by the authors.

STRENGTHS	WEAKNESSES
<p>Educational: The regional leader in the contingent of applicants at all levels of education; significant diversification in the spectrum of fields of knowledge, specialties; a considerable share of accredited programs with the definition of “exemplary”; a substantial contingent of foreign applicants; vast opportunities for international academic mobility of applicants and lecturers; experience of international accreditation.</p> <p>Personnel: A high proportion of lecturers with scientific degrees and scientific titles; a significant proportion of lecturers who speak a foreign language at a level not lower than B2; high research activity; publication activity in high-rated journals included in Scopus, Web of Science databases; training in international educational and scientific projects; extensive incentive system.</p> <p>Scientific: For 4 out of 5 scientific directions included in qualification group A according to the results of the state certification; international grants for scientific research; the most significant number of winning projects among all higher education institutions of Ukraine in the competition of research works of young scientists; a high proportion of research works financed from various sources, including defence order projects.</p> <p>Financial: Income sources diversification by types of activities; availability of primary funding for scientific activity; income from additional paid services.</p>	<p>Educational: A small number of unique educational programs capable of attracting interest, including foreign education applicants; low level of use of immersive technologies in educational activities; low level of involvement of foreign lecturers in the educational process; insufficient level of applicants and lecturers activity in international academic mobility programs; concentration of the majority of foreign applicants within one speciality “Medicine”.</p> <p>Personnel: Decrease in the share of young scientists in the total number of scientific and pedagogical workers; a small percentage of innovative lecturers; lecturers represent a small proportion of participants in international educational and scientific projects.</p> <p>Scientific: Low share of publications in Q1 and Q2 quartile journals; lack of intellectual property objects of the university registered in international patent databases; insufficiently high indicators of scientific activity in certain fields of knowledge; low level of scientific developments commercialization.</p> <p>Financial: Inadequacy of the funding of the flagship university and its material and technical base to the level of the world’s leading universities; a certain dependence of the financial stability of the university on the receipt of tuition fees from foreign applicants.</p>
OPPORTUNITIES	THREATS
<p>Educational: Opportunities to create interdisciplinary educational programs; free access to global online educational platforms like Coursera and others; access to the growth of international support for Ukraine in wartime conditions provides additional opportunities for the educational activities internationalization; significant improvement of educational programs content based on cooperation with international partners; using opportunities provided by Erasmus+ international educational grants and others; long-term cooperation with the leading British university in Liverpool city involving lecturers in the educational process at Sumy State University; passing the international accreditation procedures of educational programs.</p> <p>Personnel: Financial support for scientific and pedagogical personnel training and stimulation of innovative pedagogical and research activities; gaining international experience and implementing the best educational practices in teaching activities due to global mobility.</p> <p>Scientific: Interdisciplinary scientific research performance; robust international infrastructure facilities implementation; scientific developments commercialization; university inventions and patents implementation; use of the capabilities of national and international technology transfer networks, in particular, the Enterprise Europe Network (EEN) platform to post information about attractive commercial developments of Sumy State University and search for partners.</p> <p>Financial: Raising funds under international educational and scientific grants; revenues increase to the special fund, including at the expense of scientific activities.</p>	<p>Educational: High level of danger, which does not allow for to restore of a full-fledged educational process in the university classrooms; forced use of asynchronous learning in conditions of air raids, threats of shelling, blackouts and loss of Internet connection, which can reduce the quality of the educational process; foreign applicants departure due to war and the proximity Sumy city to the border with the Russian aggressor.</p> <p>Personnel: Scientific and pedagogical workers outflow who were forced to go abroad during the war and found employment in other countries; the limited possibility of men participating in international educational and scientific events due to the existing restrictions on crossing the border under martial law.</p> <p>Scientific: Schedules disruption of scientific research works and contracts in connection with power outages.</p> <p>Financial: Reduction of the volumes of state funding as a result of the budget sequestration and a reduction in the volume of funding for educational activities in favour of the “Defense” article; financing cancellation according to the formulaic approach; decrease in the receipt of funds from foreign applicants; limited opportunities of material stimulation of lecturers; narrowing opportunities for improving the material and technical base due to a limited list of operations for which payment is allowed by the State Treasury Service of Ukraine under martial law conditions.</p>