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METHODOLOGY OF SWOT ANALYSIS OF DIGITAL EDUCATIONAL ACTIVITIES OF LNTU

The article substantiates the application of the SWOT analysis method in the digital educational activity of higher education institutions, the main stages of its implementation are given. A strategic analysis of digital educational activities of LNTU in the market of educational services was carried out. The strategy and tactics of LNTU have been formed. In the methodology of the study, a mixed method of SWOT analysis was used, and a method of stratified random sampling was used. The sample of the study consisted of teachers, students of education who study at the educational levels of bachelor, master, Doctor of Philosophy. Survey and interview techniques were used to collect data. Questionnaire data were numerical and interview data were descriptive. Therefore, the research required the use of a mixed method, that is, both quantitative and qualitative methods. Hypotheses about the normal type of distribution of the sample of respondents were tested. At the significance level £=0.95, the null hypothesis H0 was tested – that the general population of the sample is distributed according to the normal law against the competing hypothesis H1 that it is not distributed according to it. Testing of the hypothesis according to the χ2, As and Ex, Pearson criteria confirmed the proof of the hypothesis, the distribution of the sample according to the normal law.

Keywords: *digital management, strategies, methodology of scientific research, SWOT analysis method.*

МЕТОДОЛОГІЯ ПРОВЕДЕННЯ SWOT-АНАЛІЗУ ЦИФРОВОЇ ОСВІТНЬОЇ ДІЯЛЬНОСТІ ЛНТУ

У статті обґрунтовано застосування методу SWOT-аналізу в цифровій освітній діяльності ЗВО, наведено основні етапи його проведення. Проведено стратегічний аналіз цифрової освітньої діяльності ЛНТУ на ринку освітніх послуг. Сформовано стратегію та тактики ЛНТУ. У методології дослідженні використовувався змішаний метод SWOT-аналізу, була використана методика стратифікованої випадкової вибірки. Вибірка дослідження складалась з викладачів, здобувачів освіти, які навчаються за освітніми рівнями бакалавра, магістра, доктора філософії. Для збору даних використовувалася методика опитування та інтерв'ю. Дані анкети були в цифрах і дані інтерв'ю були описовими. Дослідження вимагало використання змішаного методу, тобто як кількісних, так і якісних методів. Здійснено перевірку гіпотез про нормальний вид розподілу вибірки опитуваних. На рівні значущості £=0,95 перевірено нульову гіпотезу Н0 – про те, що генеральна сукупність вибірки розподілена за нормальним законом проти конкуруючої гіпотези Н1 про те, що вона по ньому не розподілена. Перевірка гіпотези за критеріями χ2, As і Ex, Пірсона засвідчила доведення гіпотези, розподіл вибірки за нормальним законом.

Ключові слова: *цифровий менеджмент, стратегії, методологія наукового дослідження, метод* SWOT-аналізу.

Statement of the problem in a general form and its connection with important scientific and practical tasks. Higher education, both basic and higher at the second and third levels, plays an important role in the development of human capital, which increases the economic, social and political status of the country in the world. Higher education is a better investment than any other alternative. Higher education plays an important role in the economic and social development of the country. Higher education not only contributes to the socio-economic development of the individual and the country, but at the same time has many advantages for human life and development. Higher education provides greater opportunities for career growth, improves the quality of life, ensures a high social status, the development of knowledge and skills, and a decrease in the unemployment rate.

R. Balamuralikrishna, B. Bell, W. D. Guth, S. Dawes, J. C. Dugger, C. Danka, C. R. Andrews, A. Cresswell, D. Connelly, C. R. Christensen, A. Kesten, M. LaVigne, E.P. Laird, S. E. McLaurin, S. Nath, J. Ruda, S. Simon, C. Smith, et al. believe that an effective strategic analysis of an educational institution creates the basis for the formation of a strategy and tactics for the development of higher educational institutions, its structural unit, educational program, etc. The numerous challenges of determining the strengths, weaknesses, opportunities and threats of the activity of HEI require improvement of strategic management.

LNTU has the potential to promote higher education in the country, because more than 150 educational programs are offered, but there is a need for analysis and information to form management decisions for future improvements in the educational activities of LNTU. The main function of strategic planning is to understand the situation with the help of SWOT analysis. SWOT analysis plays a fundamental role in strategic planning.

For the development and progress of the country, the quality of higher education is a basic element. To improve the quality of higher education in Ukraine, it is advisable to carry out educational and scientific activities of higher education institutions on a permanent basis. Each institution has certain strengths and at the same time has weaknesses. Each institution also has certain opportunities and also faces certain threats. This requires a SWOT analysis.

Objectives of the article: conducting a SWOT analysis of higher education and the activities of the Lutsk National Technical University of Ukraine.

SWOT analysis is used for any strategic planning activity that may affect future financial, planning and management decisions of LNTU. That is why SWOT analysis is used with strategic planning and is considered as one of the success factors in the strategic planning process of LNTU. The strategic planning process is a tool in developing a strategic plan and finding a competitive advantage and place in the educational services market.

Therefore, a questionnaire and an interview schedule were developed for this purpose. The most reliable and relevant sources were acquirers and teachers, stakeholders were included in the research population. The research sample was divided into strata groups, that is, applicants, teachers and employees, stakeholders.

Collection and analysis of data, formation of a set of tools in accordance with the needs of the research. The questionnaire consisted of two parts. Part 1 — socio-demographic characteristics of the respondents, such as the gender of the respondent, teachers, departments. These characteristics served as moderating variables. The second part contained answers on a Likert scale about factors about strengths, weaknesses, opportunities and threats of the SWOT analysis of LNTU activities. A Likert scale was used to determine respondents' views as strongly agree (4), agree (3), not sure (2), disagree (1), and strongly disagree (0). An interview was conducted with teachers/employees, stakeholders to learn about the specifics of educational activities for the purpose of SWOT analysis. For data on a five-point Likert scale, results for a mean (M) above 3 were considered significant [1-5].

A stratified random sample was formed from the total sample of N=5758 people, i.e., 5266 applicants and 447 teachers, 45 stakeholders, and then a sample of 4607, i.e., 4212 students and 357 teachers, 42 stakeholders. The estimate of the mean deviation s coincides with the mean squared deviation (δ). The coefficient of variation (υ) is a measure of the relative dispersion of population values: it shows what fraction of the average value of this quantity is its average dispersion. Since $\upsilon \leq 30\%$, the sample population is homogeneous, and the variation is weak. The calculated coefficient of variation is less than 30%, so it allows us to conclude that the studied population of respondents regarding the educational activities of LNTU is homogeneous. Hypotheses about the normal type of distribution of the sample of respondents were tested. At the significance level £=0.95, the null hypothesis H_0 was tested – that the general population of the sample is distributed according to the normal law against the competing hypothesis H_1 that it is not distributed according to it. Testing of the hypothesis according to the χ^2, As and Ex, Pearson criteria confirmed the proof of the hypothesis, the distribution of the sample according to the normal law. The obtained results can be trusted. This shows that the SWOT analysis of the educational activity of LNTU will be reliable based on the results of the survey.

The perceptions of the respondents regarding the strengths, weaknesses, opportunities and threats of the educational activity of LNTU were studied. The percentages, mean and standard deviation values were calculated to help draw a conclusion regarding the evaluation of the educational performance of LNTU. The results of the analysis are given in the tables.

Table 1 presents the analysis of processed data on the assessment of the strengths of LNTU.

Table 1. Internal characteristics of LNTU as strengths

Statement	Mean value	Standard deviation
LNTU is one of the largest number of applicants and has a positive image in the region	3.88	1.27
LNTU provides the educational process through innovative educational materials	3.12	1.14
LNTU provides a favorable environment for digitalization of the teaching and learning process	3.20	1.16
LNTU promotes the development of non-formal and informal education	3.42	1.12
LNTU has a professional teaching staff	3.32	1.27
LNTU provides access to education to everyone who has passed the relevant external examination or test	3.88	1.13
The head and guarantors of educational programs at LNTU are competent and experts in the field of research	3.72	1.05
Buildings of LNTU have a safe and proper environment for learning	3.89	1.03
LNTU interacts with teachers to guide and supervise the educational process and involves stakeholders for this purpose	3.67	1.33
LNTU has proper administration. control and balance of power by levels and links of management	3.14	1.32

Note. Compiled based on the results of a questionnaire.

Sorted factors for assessing the internal strengths of LNTU according to the results of the evaluation of applicants include: growth rate of the number of applicants, positive and recognizable brand (M=3.88, StdDev=1.27), availability of both offline and online training, methodical materials,

re-enrollment of the results of informal education, high-quality content of educational materials, relevant to the requirements of the labor market (teaching aids, including electronic ones, cases, trainings, conferences, debates, seminars and laboratory classes, etc.) (M=3.12, StdDev=1.14), provision of a favorable environment for digitalization of teaching and learning processes (M=3.20, StdDev=1.16). Among the means of learning based on digital technologies, the informational Internet is most often used - resources for implementation - 62%. In second place (48% of respondents) are electronic educational publications. The rest of the respondents (42%) pointed to educational sites; 30% - for educational platforms.

Thanks to the organization of digital educational activities, the flexibility and efficiency of the educational process is ensured, which can be carried out with the help of video or teleconference in the event of increased quarantine requirements or the impossibility of staying at the university due to military operations. Blended learning increases the flexibility of time and place of learning and allows learning from a safe location for the learner and teacher.

LNTU promotes the receipt and recognition of the results of informal and informal education, which is obtained and does not involve the awarding of state-recognized educational qualifications by education level, but can end with the awarding of partial educational qualifications and their re-enrollment in LNTU in accordance with program learning outcomes (M=3.42, StdDev=1.12), the perceived usefulness of high competence of employees and teachers (M=3.32, StdDev=1.27), educational and laboratory buildings of LNTU have a safe and proper environment for learning, the buildings are renovated, well-maintained, have green areas, equipped bicycle paths (M=3.89, StdDev=1.03), interaction with teachers, management, stakeholders, as well as with scientists of other higher education institutions to improve the quality of the educational process is monitored (M=3.67, StdDev=1.33) , proper administration, control and balance of power by levels and levels of management (M=3.94, StdDev =1.32).

Therefore, according to the results of the evaluation, LNTU has high values in terms of the evaluated internal characteristics, as strengths. A slightly lower score was obtained for: provision of the educational process using innovative educational materials, proper administration, control and balance of power by levels and levels of management. And statements about ensuring the safety of the educational environment, the competence of teachers, and the availability of digital learning are highly appreciated by students at all levels of higher education. The average score for other statements also shows that the respondents agreed that LNTU has strengths in terms of providing an environment for research, positive interaction and motivation to study.

Most of the interviewees noted that among the main shortcomings of the educational activities of LNTU is that it is difficult to provide timely access according to the schedule to students who live in remote areas where there is no Internet and who are forced to do so due to the pandemic, etc. reasons for being there, slow connection (M=2.73, StdDev=1.13), respondents also identified available learning facilities regardless of location as an opportunity. Using a single method of teaching, learning, data security limits the number of acquirers who can access the information. If such information can be hosted in a blended learning system, learners can easily access it anytime, anywhere.

Table 2 shows the internal characteristics of LNTU as weaknesses according to the results of the evaluation of applicants.

Most of the students have not sufficiently mastered digital skills and/or they do not have the funds to purchase technical support (M=2.73, StdDev=1.13), the difficulty of understanding the process of organizing distance learning (M=2.78, StdDev=1.17). Not all students have a personal computer or laptop, and not all have access to the Internet through a computer. Therefore, for 76% of respondents, it is the smartphone that provides access to information and replaces other digital devices.

Students of education do not fully understand the educational material, do not pass it through their own consciousness, only superficially review the information that is necessary to answer the questions, voice it, barely running their eyes over the device screen, abuse ready-made answers from the network, depriving themselves of the opportunity to think independently and initiative According to scientific and pedagogical workers, this approach does not ensure the optimal development of

critical thinking, does not allow the realization of mental operations of analysis and synthesis, does not teach students to generalize and draw conclusions.

Regarding the weaknesses of the organization of the educational process, the respondents stated that: blended learning depends on an Internet connection, which makes it difficult to access it, while slow Internet availability makes it difficult to download course materials. Another problem is the insufficient number of computers per collector.

Table 2. Internal characteristics of LNTU as weaknesses

Assertion	Mean value	Standard deviation
Applicants do not have timely access to educational materials, miss deadlines for submitting assignments	2.78	1.34
Most of the applicants do not have enough digital skills and are not technically equipped	2.73	1.13
The difficulty of understanding the process of organizing distance learning for applicants	2.78	1.17
Deterioration of team interaction between teachers and learners during distance learning	3.13	1.16
Lack of experience of teachers in managing digital learning	2.82	1.15
The stress and limited workload of teachers does not allow spending more time with research students	2.36	1.12
High investment costs for digitalization of the educational process	2.96	1,18

Note. Compiled based on the results of a questionnaire.

The process of conducting online tests is completely dependent on technology, which may or may not be available to all students. LNTU applicants need to improve their digital skills, as not all students can access and adapt to online learning components due to a lack of IT skills and knowledge. Other factors include learning environment, ease of use, usefulness, user-friendly interface, slow awareness and adaptation, self-directed learning, and quality content of educational components. Some of the weaknesses identified include: dependence on internet connection, stress when special assignments are given, resistance of some students and teachers to adopt new technologies, lack of awareness about the implementation of blended learning. Educators explained that this happens precisely because with the help of digital technologies they quickly receive the information necessary for the implementation of educational activities, but they are not sure that the information received in such an urgent mode becomes knowledge or contributes to the development of the necessary competencies.

Most learners indicated that the relationship between teachers and learners might deteriorate offline due to the loss of direct communication and collaboration (M=3.13, StdDev=1.16). There is a high risk of reduced face-to-face social interactions, students may feel isolated from live social interaction.

Lack of experience of teachers in managing digital learning (M=2.82, StdDev=1.15); the stress of workload, attending meetings, seminars, etc., limits the time of teachers and researchers for counseling and effective organization of teaching and research (M=2.36, StdDev=1.12); high investment costs for digitalization of the educational process (M=2.96, StdDev=1.18). And the detection of the intensity of the use of digital technologies in the educational process and the study of the attitude of the students of education showed that a larger share of teachers rarely uses digital technologies in classes, which was noted by almost half of the respondents - 46%. Homework with the use of digital technologies is mainly provided - 37%. Only 11% of respondents indicated that their teachers systematically use digital technologies in the educational process, and the same proportion of students indicated that digital technologies are never used by teachers.

Education seekers recognize that due to the knowledge of their educational component, each teacher better differentiates the necessary information, can recommend interesting sites and sources on the Internet. However, 10% of survey participants indicated that teachers have a low information culture, as they do not use digital learning.

The level of mastery of digital technologies by teachers was mostly assessed by the students of education as average - 64%. Moreover, during the conversation, they noted that teachers are trying to respond to the introduction of innovations in the educational process of LNTU, improving their pedagogical skills considering the interests of digitalization. Regarding the wider use of digital technologies in education, 61% of respondents gave a negative answer, explaining that it would increase their workload, as they already spend a lot of time online and at the computer. In a follow-up interview, research participants expressed doubt that increased use of digital technologies for educational purposes would force them to abandon the use of digital technologies and mobile devices for communication or entertainment.

Successful implementation of blended learning requires key resources, such as the necessary technological infrastructure (hardware and software) and human resources (academic staff), which equipped with the necessary qualifications and skills, as well as constant improvement of their pedagogical skills. Statements regarding the assessment of conditions or situations that, according to the respondents, have a sufficiently positive impact on the creation of a favorable educational digital environment and the provision of opportunities for conducting research at LNTU (data in table 2). At the same time, threats include things that can negatively affect growth from the outside, for example, the introduction and smooth operation of new digital systems, constant training of IT personnel, lack of official accreditation of online courses, staffing of educational components.

The main advantages of digitalization at LNTU: saving time and increasing productivity - automation of educational processes; optimization and improvement of communications - both internal and external; opportunities for cross-selling / upselling – reaching a new level of the quality of the educational process and encouraging higher education seekers to master a greater number of educational products; competitive opportunities due to the improvement of the client experience and general optimization of the work process.

Table 3 summarizes the results of the survey regarding external conditions that have a positive effect on the educational activities of LNTU.

Table 3. Assessment of external conditions that positively affect the digital educational activity of LNTU

Assertion	Mean value	Standard deviation
LNTU adheres to uniform comprehensive criteria for enrolling applicants in educational programs regulated by the admission rules	3.77	1.17
LNTU provides a full training cycle for some educational programs at the bachelors. masters. and Doctor of Philosophy levels	3.87	1.16
Educational programs at LNTU correspond to the educational standards of Ministry of Education and Science of Ukraine	3.73	1.17
The use of information technology is useful for acquirers in conducting research and finding library resources	3.05	1.18
The library of LNTU is equipped and meets the needs of the educational process	3.01	1.12
The development of information technologies. which leads to the need for training and retraining of relevant personnel	3.18	1.2
Teachers teach remotely using digital technologies	3.11	1.19
Innovative laboratories are equipped for research students and scientists at LNTU	3.46	1.45
LNTU invites foreign lecturers to teach on a permanent basis	2.35	1.13
The environment of LNTU motivates the applicant to conduct research	3.45	1.2
The strategy, plans, development policies of LTNU contribute to increasing the efficiency of the work of the university and its structural divisions	3.57	1.34
Strengthening of supervisory functions of NAQA, MESU etc.	3.55	1,12

Note. Compiled based on the results of a questionnaire.

Table 3 describes that survey participants consider external factors that act favorably in LNTU: the university adheres to uniform comprehensive criteria for enrolling students in educational

programs, ensuring the general right of access to education (M = 3.77, StdDev=1.17). Possibilities of special admission conditions refer to situations that can be used by the leadership of LNTU due to changes in the market of educational services (for example, applicants who enter under new conditions, IDPs, combatants, children of combatants, etc.) and digital technologies for better response to new educational needs, improvement of material and technical support, etc.

LNTU provides a full study cycle for some educational programs at the level of bachelor, master, Doctor of Philosophy, which corresponds to the education standards of MONU (M=3.87, StdDev=1.16), respectively, and educational programs meet the education standards of MONU (M=3. 73, StdDev=1.17).

Information technology, finding library resources (M=3.05, Std Dev=1.18) and accessing library resources (M=3.01, StdDev=1.12) at the average level. This indicates the formation of trends in the use of innovative technologies in education (multimedia, photo and video equipment, virtual learning environment, etc.), which allows creating comfortable conditions for students of LNTU. The work of students in the library is becoming an increasingly unpopular type of educational activity. Only a small number of them turn to library funds. 71% of educational respondents indicated that they prefer to search for information on the Internet, rather than "waste time" studying primary sources in reading rooms and libraries.

The development of information technologies using big data, augmented and virtual reality, computer computing, new means of communication, neural networks, artificial intelligence, which leads to the need for training and retraining of relevant personnel (M=3.18, Std Dev= 1.2). The characteristics of an e-facilitator are such that the teacher strives to become a confident user of digital technologies and uses a student-centered learning style that is inclusive and interactive, open to feedback, constantly improving, committed to the creation and use of authentic learning materials and programs (videos, podcasts, VR, e-textbooks, etc.).

Teachers are beginning to teach remotely well, using digital tools such as Moodle, Zoom, GoogleClassroom, etc. (M=3.11, StdDev=1.19). This requires constant improvement of their qualifications in the use of digital learning tools.

The renewal of scientific laboratories of LNTU (M=3.46, StdDev=1.45) is observed, which are important components of the quality organization of the educational process for applicants, employees, and stakeholders interested in conducting research. LNTU invites foreign lecturers to teach on a permanent basis (M=2.35, StdDev =1.13).

LNTU motivates the applicant to conduct research (M=3.45, StdDev=1.2), and digital technologies act as an effective means of motivating learning and improving the quality of the educational process.

The strategy, plans, policies of the development of LTNU contribute to increasing the efficiency of the work of the university and its structural divisions (M=3.57, StdDev=1.34). This indicates that the management applies strategic planning/policy/decisions at the highest level according to the needs of the educational institution/students and especially takes special measures for the development of research activities.

Strengthening the supervisory functions of NAQA and others over the activities of LNTU (M=3.55, StdDev=1.12). It is also noted that there are frequent changes in normative and legislative documents regulating the educational activities of all higher education institutions.

Currently, the creativity and innovation of higher education institutions are under the influence of threats and risks. The impact of the Covid-19 pandemic has required faculty to be creative in how they deliver and offer educational services to applicants, prompting the acceleration of digital transformation plans at LNTU. Access to education is a key ingredient for learners to take advantage of educational services, including digital ones.

To assess the level of external threats to LNTU, we summarize the results in table 4.

The lack of stability in obtaining reliable and acceptable funding from the state, which does not allow to fully develop the training of specialists, to form a highly qualified teaching staff and to gradually raise the level of education (additional courses, auxiliary units of training) (M=3.75, StdDev= 1.09). The persistent trend of state financing of budget places for technical and their reduction in economic,

legal and humanitarian specialties in general deprives the latter of the right to educational activities with state orders.

There is also an increase in competition both between higher education institutions and between structural divisions within LNTU due to the lower level of payment for education compared to higher education institutions by competitors, which creates an unattractive image of the higher education institution among applicants (cheap-low-quality, cheap-unprestigious); the tendency among young people to obtain their first education as a secondary professional rather than a higher one, and applicants with the highest scores in the secondary school entrance examination to enter higher education institutions in Kyiv, Lviv (M=3.85, StdDev=1.18).

Table 4. Assessment of external conditions that negatively affect the digital educational activity of LNTU

Assertion	Mean value	Standard deviation
Lowering the level of financing of higher education institutions	3.75	1.09
An increase in the price of education and a high passing score for the budgetary form of education, competition	3.85	1.18
Other universities and institutions are switching to distance learning	3.12	1.19
Complicated processes of digitalization of higher education management	3,15	1.18
Public attitude to distance learning	2.87	1.15
Absence of a support system for applicants at the state level who are starting their own business	3.62	1.5
Must visit main campus to resolve issues	3.35	1.13
Threats of unreliable power supply, unreliable Internet connection, exchange of usernames and passwords by hackers to perform tasks for others, chat sessions and others	2.9	1.02

Note. Compiled based on the results of a questionnaire.

Other universities and institutions are switching to distance learning (M=3.12, StdDev=1.19). Universities around the world have had to consider the possibility of offering knowledge on the Internet through various e-learning platforms. Recent studies show that most universities offer e-learning degrees or certificates (bachelor's, master's, doctoral, and certificate programs). Every year, universities offer more types of e-learning.

Complicated processes of digitization of higher education management (M=3.15, StdDev=1.18). LNTU has worked out mechanisms for sustainability of partnerships with stakeholders, increasing interested partners in the community, ensuring long-term reforms in the field of education, despite the rapidly changing demands of the external environment.

Unfavorable public attitude towards distance learning (M=2.87, Std Dev=1.15); lack of a comprehensive support system for applicants starting their own business (M=3.62, StdDev=1.5); in conditions of digitization of management, it is necessary to visit the main building to solve organizational issues (M=3.35, Std Dev = 1.13).

Also identified the threats of unreliable power supply of blended learning, unreliable internet connection, exchange of usernames and passwords by recruiters to complete tasks for others, chat sessions and other distractions are likely to cause students' and teachers' knowledge to deteriorate (M=2.9, Std Dev = 1.02).

The attitude and values of the teaching staff are a significant motivating factor in the organization of the educational process at LNTU. Competences of teachers, learners in digital literacy, work with electronic learning systems, online moderation, online mentoring motivates them to improve the organization of the educational process. On the one hand, the scalability and lack of boundaries for participation in online discussions, online lectures, online workshops between facilitators, teachers, trainers and learners, but on the other hand, some problems such as digital illiteracy, the electronic gap can be seen as a negative, and to positively influence the activities of the National Technical University.

The SWOT matrix is the final step in the construction of a SWOT analysis of the activities of LNTU and helps to draw conclusions about the conducted analysis and form strategies and tactics for improving the pedagogical skills of teachers.

The summary of the SWOT analysis of the results of the analysis of the strengths, weaknesses, opportunities and threats of LNTU is presented in table 5.

Table 5. SWOT analysis of strengths, weaknesses, opportunities and threats of LNTU

Internal factors	
Strengths	**Weaknesses**
LNTU is one of the largest number of applicants and has a positive image in the region LNTU has a safe and appropriate environment for learning A favorable environment for digitalization of the educational process and research, development of non-formal and informal education Ensuring equal access to higher education, professional development Interactivity in the learning process Increasing motivation to study LNTU interacts with teachers to guide and supervise the educational process and involves stakeholders for this purpose LNTU has proper administration, control and balance of power by levels and links of management	Applicants do not have timely access to educational materials, miss deadlines for submitting assignments Most of the applicants do not have enough digital skills and are not technically equipped It is possible to reduce the relationship between teachers and students offline, loss of direct communication and cooperation The complexity of understanding the process of distance learning organization Lack of experience of teachers in managing digital learning High costs for digitalization of the educational process
External factors	
Opportunities	**Threats**
ZVO adheres to uniform comprehensive criteria for enrolling applicants in educational programs regulated by the admission rules Educational programs at LNTU correspond to the educational standards of MONU The use of information technology is useful for acquirers in conducting research and finding library resources Increasing market demand for educational services The strategy, plans, development policies of LTNU contribute to increasing the efficiency of the work of the university and its structural divisions Strengthening of supervisory functions of NAQA and Ministry of Education and Science of Ukraine	Lowering the level of financing of higher education institutions Data security, the risk of isolation of acquirers due to the pandemic An increase in the price of education and a high passing score for the budgetary form of education Complicated processes of digitalization of higher education management Formation of dependence on digital technologies All universities and institutions are switching to distance learning, unfavorable public attitude towards distance learning Additional training costs for advanced training

The use of digital technologies in education is growing, offering better opportunities for learning and access to information. The teaching staff, students, and management overcame numerous obstacles in the organization of educational activities at LNTU, found solutions, and adapted to changes in the direction of digitalization of learning and teaching. Teachers can use mixed virtual and physical resources as an alternative approach to teaching and learning at LNTU. This shows the need to change the roles of teachers, the need to update the digital and other professional skills of teachers, to strengthen connections, community and collaboration between students and teachers.

Conclusions. The conducted SWOT analysis of the educational activity of LNTU is a way to understand strengths and weaknesses; opportunities that may be available for quick implementation; and threats you should be prepared to face. Using the results of a SWOT analysis allows you to identify critical problems of LNTU (weaknesses and threats); and learn improvement strategies. The identified strengths make it possible to improve the implementation of the development strategy of LNTU for 2021-2026, which will help to differentiate from other competitors, and the obtained information about weaknesses and threats will help to improve the process of managing the educational process. This refers to a certain set of necessary policies and measures to improve skills and competencies. Identified strengths and weaknesses and made corrections to the curriculum, internships, educational activities, educational policy, etc. are justified if they are based on a SWOT analysis of the activity of the structural unit of the Higher Education Institution. Significant

improvements in the activity of the structural unit of the Higher Education Institution can be a direct result of the use of this analysis, which determines the relevance and applied aspect of the research.

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Reference:

1. Danca, C. (2006). SWOT analysis. URL: http://www.stfrancis.edu/ba/ghkickul/stuwebs/btopics/works/ swot.htm (дата доступу: 1.10.2021 р.)

2. McLaurin, S. E., Bell, B., & Smith, C. (2009). A practical rationale for classroom assessment: The SWOT approach. October 01, 2009. http://0-www.eric.ed.gov.library.uark.edu/PDFS/ED507140.pdf

3. Balamuralikrishna, R., & Dugger, J. C. (1995). SWOT analysis: A management tool for initiating new programs in vocation schools. Journal of Vocational and Technical Education, 12, 1.

4. Cresswell, Anthony & LaVigne, Mark & Simon, Stephanie & Dawes, Sharon & Connelly, David & Nath, Shrilata & Ruda, James. (2000). And Justice for All: Designing Your Business Case for Integrating Justice Information. Center for Technology in Government University at Albany / SUNY.

5. Kesten, A. (2019). Analysis Of The Missions Of Higher Education Institutions Within The Scope Of Third Mission Understanding. *International Journal of Educational Methodology, 5*(3), 387-400. https://doi.org/10.12973/ijem.5.3.387

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