

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
WEST UKRAINIAN NATIONAL UNIVERSITY

APPROVED

Director of B. Havrylyshyn Education
and Research Institute of International
Relations

Iryna IVASHCHUK

« 31 » 2023



APPROVED

Interim Vice-Rector
for Academic Affairs and Research
Viktor OSTROVERKHOV

« 31 » 2023



COURSE OUTLINE

«Innovative technologies in management»

The degree of higher education – Master

Field of knowledge – 07 "Management and administration"

Specialty – 073 "Management"

Educational and scientific program – "International Management"

Department of International Economic Relations

Form of study	Year	Semester	Lectures (hours)	Practicals (hours)	Individual student work (hours)	Training, CPIT (hours)	Students self-work (hours)	Total	Credit
Full-time	II	III	26	26	5	8	85	150	III

Ternopil – WUNU

2023

The course outline was compiled by PhD, Associate Professor of the Department of International Economic Relations **Tetiana DLUHOPOLSKA** 

The course outline was approved at the Department of International Economic Relations, Protocol №1 from 29.08.2023

Head of the Department of International Economic Relations
Dr. Sc. (Economics), Prof.



Roman ZVARYCH

Reviewed and approved by the assurance group of specialty 073 "Management",
Protocol №1 from 31.08.2023

Head of the specialty support group
Dr. Sc. (Economics), Prof.



Mykhailo SHKILNIAK

Guarantee of educational and scientific program



Tetiana DLUHOPOLSKA

STRUCTURE OF THE COURSE “Innovative technologies in management”

1. Description of the discipline “Innovative technologies in management”

Discipline «Innovative technologies in management»	Field of knowledge, specialty	Characteristics of the academic discipline
Number of credits ECTS – 5	Field of knowledge - 07 Management and administration	Elective discipline The language of study is English
The number of credit modules – 3	Specialty – 073 "Management"	Year of study - 2 Semester - 3
Number of content modules – 2	The degree of higher education – Master	Lectures - 26 hours Seminars - 26 hours
Total hours – 150		Student's self-work - 85 hours Training, CPIT - 8 hours Individual student work - 5 hours
Weekly hours – 11 hours, of which 4 hours classrooms		Type of final control – credit

2. The purpose and tasks of studying the discipline «Innovative technologies in management»

2.1. Purpose of studying the discipline

Purpose of the course «Innovative technologies in management» is the formation of theoretical knowledge and practical skills in the use of innovative technologies in management, assimilation of the mechanisms of innovative management of business processes, research of foreign practice in the use of innovative technologies in management for adaptive use in Ukraine.

2.2. Tasks of studying the discipline

The tasks of studying the discipline consists in forming the skills and abilities of the future manager in order to increase the efficiency of management of organizations due to the use of innovative management technologies, in particular:

- formation of a scientific outlook and economic thinking based on the study of the theoretical and legal foundations of innovative technologies in management;
- formation of students' sustainable knowledge on the theory of innovative technologies in management;
- acquisition by students of skills and abilities to independently solve practical tasks and develop a set of specific innovative management tools taking into account their features, situational characteristics of the internal and external environment of the organization;
- assimilation of theoretical material and acquisition of practical skills and abilities to apply special innovative management technologies in the management of organizations based on the study of theoretical foundations and foreign experience of innovative management technologies.

3. Program of academic discipline «Innovative technologies in management»

Content module 1. Theoretical and methodological foundations of the application of innovative technologies in management

Topic 1. Modern management technologies.

The content and practical significance of management technology. Technological diversity of management. Basic requirements for effective management technology. Elements of management technology. Types of modern technologies in management.

Topic 2. Key management innovations.

The concept and essence of managerial innovations. Types of management innovations. Business Processes Reengineering (BPR). Management by Objectives (MBO – Management by Objectives). Total Quality Management (TQM) system. Balanced Scorecard System (BSC). Enterprise resource planning system (ERP – Enterprise Resource Planning). Customer relationship management system (CRM – Customer Relationship Management). A system for rationalising activities based on comparisons (Benchmarking). System of effective time management (TBM – Time Based Management). Knowledge Management. Lean management system (LM – Lean Management). Customer relationship management (CRM – Customer Relations Management). Change management system (CM – Change Management).

Topic 3. Information systems and technologies in business management.

Інформаційна система. Особливості використання інформаційних систем і технологій в управлінні підприємствами. Автоматизовані інформаційні системи. Корпоративні інформаційні системи: Scala, BAAN, Oracle Applications, System Aurora (Business/400), Infor SyteLine ERP, Microsoft Dynamics AX, Microsoft Dynamics NAV, Business Control, Global ERP.

Topic 4. Innovative management technologies in the process of improving product quality at the enterprise.

Quality management based on TQM (Total Quality Management). The Six Sigma defect reduction system. The 5S workplace organisation system (Sorting, Straightening, Systematic cleaning, Standardising, and Sustaining). Business Processes Reengineering (BPR). Organisation of total service management (TSM – Total Service Management). Lean management system (LM – Lean Management).

Topic 5. Benchmarking in the system of managing competitive advantages of enterprises.

Benchmarking and competitive analysis. Types of benchmarking: internal benchmarking; competitor-oriented benchmarking; functional benchmarking. Stages of benchmarking. Reasons for using benchmarking. Mechanism of benchmarking research. Strategic analysis of competitors. SWOT-analysis as a basis for the formation of competitiveness.

Content module 2. Innovative management technologies in business process management

Topic 6. Modern technologies in enterprise resource management.

ERP system for production management (ERP – Enterprise Resource Planning). ERP functions: combining business processes and resources, simplification, acceleration, optimization. ERP system as a single (integrated) database. Examples of ERP systems: sales analysis of retail chains, delivery from online stores, automation of business processes in production.

Topic 7. Reengineering and business process engineering.

Technology of business process reengineering. Prerequisites for the emergence, essence, key concepts, objectives, goals and properties of reengineering. Main approaches to business process reengineering. Stages of reengineering implementation. Organisational structure of the reengineering project. Features of application, prospects and threats of business process reengineering.

Topic 8. Innovations in human resources management.

Modern technologies for searching for, forming and recruiting staff: recruiting, applicant tracking systems (ATS), gamification, online interviews, online sourcing, headhunting, etc. Staff training and development technologies: coaching, mentoring, e-learning, buddying, shadowing, etc. Modern technologies for staff motivation: remuneration, gifts, individual development programmes, health insurance, free or reduced-price meals for employees, etc. Staff release technologies: staff leasing, outsourcing, outstaffing, outplacement. Grading – assessment and ranking of positions.

Topic 9. Innovative technologies for supply chain management and planning.

Key performance indicators (KPIs) in supply chains. SCOR models in supply chains. The Internet of Things and RFID in logistics. The main provisions and advantages of using CPFR technology. Real-time supply chain (SCV). Algorithm of logistics technology VMI. Blockchain technologies, 3D printing, radio frequency identification, driverless cars, augmented reality, CargoON, etc. Robotisation of warehouse operations.

Topic 10. Modern technologies in financial management at the enterprise.

Modern financial management technologies as a key to improving the efficiency of financial management at enterprises. Technologies of enterprise asset management. Technologies of enterprise capital management. Technology of management decision-making in the financial management system. Organisation of information technologies in the management of the financial and credit system. Technology of financial risk management at the enterprise. Financial controlling.

Topic 11. Scientific and technical cooperation: competition and cooperation in the field of modern innovative technologies.

Analysing the effect of competition laws in the innovation sphere. Forecasting the competitive advantage of innovation. Types of competitive advantages of the organisation. Competitive advantages of goods and services of the organisation. The relationship between innovation, research and production. Forms of technological cooperation. Scientific and technological parks. The structure of the technology park. The basic scheme of the founders of the technology park and the tasks they solve. Scientific and industrial consortia. Technopolises. Incubator firms. Strategic alliances. Possible corporate strategies of an organisation in the innovation sphere.

4. The structure of the course credit “Innovative technologies in management”

№	Topic	Number of hours					
		Lecti ons	Seminar s	Student's self-work	Individ ual student work	Training , CPIT	Control
Content module 1. Theoretical and methodological foundations of the application of innovative technologies in management							
1.	Modern management technologies	2	2	8	1	4	Surveys, tests
2.	Key management innovations	2	2	8	-		Surveys, tests
3.	Information systems and technologies in business management	2	2	8	1		Surveys, tests, tasks
4.	Innovative management technologies in the process of improving product quality at the enterprise	4	4	7	-		Surveys, tests, cases
5.	Benchmarking in the system of managing competitive advantages of enterprises	2	2	8	1		Surveys, tests, cases
Content module 2. Innovative management technologies in business process management							
6.	Modern technologies in enterprise resource management	2	2	8	1	4	Surveys, tests, tasks
7.	Reengineering and business process engineering	4	4	8	-		Surveys, tests
8.	Innovations in human resources management	2	2	7	-		Surveys, tests, tasks
9.	Innovative technologies for supply chain management and planning	2	2	8	-		Surveys, tests, tasks
10.	Modern technologies in financial management at the enterprise	2	2	7	1		Surveys, tests, tasks
11.	Scientific and technical cooperation: competition and cooperation in the field of modern innovative technologies	2	2	8	-		Surveys, tests
Total:		26	26	85	5	8	

5. Topics for the practical sessions

Practical session №1

Topic: Modern management technologies.

Aim: To acquaint students with the technologies of modern management.

Questions for discussion:

1. Content and practical significance of management technology.
2. Technological diversity of management.
3. Basic requirements for effective management technology.
4. Elements of management technology.
5. Types of modern technologies in management.

Practical session №2

Topic: Key management innovations.

Aim: To introduce students to modern management innovations.

Questions for discussion:

1. The concept and essence of managerial innovations. Types of managerial innovations.
2. Management by Objectives (MBO – Management by Objectives).
3. Balanced Scorecard System (BSC).
4. Enterprise resource planning system (ERP – Enterprise Resource Planning).
5. Customer relationship management system (CRM – Customer Relationship Management).
6. System of effective time management (TBM – Time Based Management).

Practical session №3

Topic: Information systems and technologies in business management.

Aim: To acquaint students with the peculiarities of the use of information systems and technologies in the management of enterprise activities.

Questions for discussion:

1. Features of the use of information systems and technologies in enterprise management.
2. Automated information systems.
3. Corporate information systems: Scala, BAAN, Oracle Applications, System Aurora (Business/400), Infor SyteLine ERP, Microsoft Dynamics AX, Microsoft Dynamics NAV, Business Control, Global ERP.

Practical session №4-5

Topic: Innovative management technologies in the process of improving product quality at the enterprise.

Aim: To acquaint students with the peculiarities of applying innovative management technologies in the process of improving product quality at the enterprise.

Questions for discussion:

1. Quality management based on TQM (Total Quality Management).
2. Six Sigma defect reduction system.
3. 5S workplace organisation system (Sorting, Straightening, Systematic cleaning, Standardising, and Sustaining).
4. Organisation of the general management of auxiliary services (TSM – Total Service Management).
5. Lean management system (LM – Lean Management).

Practical session №6

Topic: Benchmarking in the system of managing competitive advantages of enterprises.

Aim: To acquaint students with benchmarking as one of the modern tools of business management at the enterprise.

Questions for discussion:

1. Benchmarking and competitive analysis. Types of benchmarking: internal benchmarking; competitor-oriented benchmarking; functional benchmarking.
2. Stages of benchmarking.
3. Reasons for using benchmarking.
4. The mechanism of benchmarking research.

5. Strategic analysis of competitors. SWOT-analysis as a basis for the formation of competitiveness.

Practical session №7

Topic: Modern technologies in enterprise resource management.

Aim: To familiarise students with modern technologies in enterprise resource management.

Questions for discussion:

1. ERP system for production management (ERP - Enterprise Resource Planning).
2. ERP functions.
3. ERP system as a single (integrated) database.
4. Examples of ERP systems: sales analysis of retail chains, delivery from online stores, automation of business processes in production.

Practical session №8-9

Topic: Reengineering and business process engineering.

Aim: To acquaint students with reengineering and business process engineering as innovative management technologies and ways to improve management efficiency.

Questions for discussion:

1. Background, essence, key concepts, objectives, goals and properties of reengineering.
2. The main approaches to business process reengineering.
3. Stages of reengineering implementation.
4. Organisational structure of the reengineering project.
5. Features of application, prospects and threats of business process reengineering.

Practical session №10

Topic: Innovations in human resources management.

Aim: To acquaint students with innovative technologies in human resources management.

Questions for discussion:

1. Modern technologies of search, formation and staffing: recruitment, applicant tracking systems (ATS), gamification, online interview, online sourcing, headhunting, etc.
2. Staff training and development technologies: coaching, mentoring, e-learning, buddying, shadowing, etc.
3. Modern technologies for staff motivation: remuneration, gifts, individual development programmes, health insurance, free or reduced-price meals for employees, etc.
4. Staff release technologies: staff leasing, outsourcing, outstaffing, outplacement.
5. Grading – assessment and ranking of positions.

Practical session №11

Topic: Innovative technologies for supply chain management and planning.

Aim: To introduce students to innovative technologies in supply chain management and planning.

Questions for discussion:

1. Real-time supply chain (SCV).
2. Internet of Things and RFID in logistics.
3. Main provisions and advantages of using CPFR technology.
4. Algorithm of logistics technology VMI.
5. SCOR models in supply chains.
6. Blockchain technologies, 3D printing, radio frequency identification, driverless cars, augmented reality, CargoON, cargo delivery by unmanned drones and other unmanned vehicles, etc.

Practical session №12

Topic: Modern technologies in financial management at the enterprise.

Aim: To familiarise students with innovative technologies in enterprise financial management.

Questions for discussion:

1. Modern financial management technologies as a key to improving the efficiency of financial management at enterprises.
2. Technologies of enterprise asset management.
3. Technologies of enterprise capital management.
4. Technology of management decision-making in the financial management system.
5. Organisation of information technology in the management of the financial and credit system.
6. Technology of financial risk management at the enterprise. Financial controlling.

Practical session №13**Topic: Scientific and technical cooperation: competition and cooperation in the field of modern innovative technologies.**

Aim: To familiarise students with the peculiarities of competition and cooperation in the innovation sector.

Questions for discussion:

1. Analysis of the competitiveness of the organisation and its competitors in innovation management.
2. Forecasting the competitive advantage of innovation.
3. Competitive advantages of goods and services of the organisation.
4. The relationship between innovation, research and production.
5. Science and technology parks. Structure of a technology park.
6. Corporate strategies of the organisation in the innovation sphere.

6. Complex practical individual task (CPIT)

A complex practical individual task is carried out under the guidance of a teacher in extracurricular time according to a separate schedule, taking into account the needs and capabilities of the student and involves active and creative activity to master the material and acquire the skills of independent thinking and self-control.

CPIT from “Innovative technologies in management” is in the form of case studies covering all topics. The purpose of the case study is to demonstrate the ability to conduct a proper search, the ability to critically evaluate the main innovative technologies in management. The CPIT is carried out in accordance with the requirements and rules communicated to students in advance and is one of the mandatory components of the credit. Students receive the assignment for the CPIT in the first two weeks of study and complete it during the semester.

The implementation of the CPIT involves the study and analysis of innovative technologies in company management (at the student's choice), which includes the following stages and sequence of actions:

1. Selecting a company for research.
2. Formation of an information base for monitoring innovative technologies in company management.
3. Systematisation and generalisation of the results of the analysis of the system of innovative technologies in the company.
4. Formation of proposals for improving the efficiency of management in the company based on the implementation of innovative management tools.

The results of the assignment shall be documented in the form of an analytical and reporting note, which shall contain

1. Introduction (defines the purpose and objectives of the study).
2. Theoretical substantiation and generalisation.
3. Methodological approaches.
4. Main results.

5. Conclusions, generalisations and recommendations.

6. List of references (information sources).

A prerequisite for completing an individual assignment is the use of practical management experience in a particular company.

7. Students' self-work

The student's independent work is the main means of mastering the material in the time free from compulsory classes without the participation of the teacher. When studying the discipline, it is recommended to conduct independent work in the following areas:

- 1) mastering theoretical material (involves studying lecture material, educational literature, special sources of information, analytical and factual materials);
- 2) mastering special economic tools and acquiring skills of practical use of the acquired knowledge (to perform individual tasks on the topics of the discipline);
- 3) studying the effectiveness of the application of innovative technologies in management in a particular organisation based on the formation of a database of analytical and factual information and the calculation of relevant indicators;
- 4) completion of solving management situations started in the classroom.

№	Topics
1.	Technologies of modern management.
2.	Key management innovations.
3.	Information systems and technologies in enterprise management.
4.	Innovative management technologies in the process of improving the quality of products at the enterprise.
5.	Benchmarking in the system of managing the competitive advantages of enterprises.
6.	Modern technologies in enterprise resource management.
7.	Reengineering and business process engineering.
8.	Innovations in human resource management of the organisation.
9.	Innovative technologies for supply chain management and planning.
10.	Modern technologies in enterprise financial management.
11.	Scientific and technical cooperation: competition and cooperation in the field of modern innovative technologies

8. Training

The training is conducted using the case method. Students analyse business situations using interactive methods, including the case method, which is based on the use of specific cases for joint analysis, discussion or decision-making by students. The learning objectives of the case method are as follows:

- Acquiring skills in using theoretical material to analyse practical problems;
- developing skills in assessing the situation, selecting and organising the search for basic information;
- developing the ability to formulate questions and queries;
- developing skills to develop multivariate approaches to the implementation of an action plan;
- developing the ability to make decisions independently in conditions of uncertainty;
- development of skills and techniques for comprehensive analysis of situations, forecasting ways of developing situations;
- developing skills and abilities of constructive criticism.

The case method has certain advantages, as it is not only educational, but also has a great educational potential in terms of personal qualities:

- development of hard work and creativity;
- developing a willingness to take responsibility for the results of one's own analysis of the situation and for the work of the whole group;
- building self-confidence;
- formation of the need for achievement;
- development of volitional qualities, determination;
- development of group work skills;
- formation of a socially active and life competent personality capable of self-development, self-improvement and self-realisation.

Case. Restaurant and museum “Old Mill”

The Old Mill Restaurant and Museum was opened by Mykhailo Grosulyak in Ternopil on the site of an old mill that operated there until 1939. The restaurant features photographic reproductions of the old town, archival documents about people who lived and worked in the Ternopil region, and household items from the early twentieth century. According to the owner's idea, a real old mill was installed in the hall, which was found during the Great Patriotic War, and every visitor can grind flour, which is poured into small souvenir bags and given as a souvenir.

The restaurant has a capacity of 200 seats. Here, food is cooked on a real fire. The restaurant staff is dressed in different national costumes. Special offer of the restaurant is business lunch for 50 UAH. The chefs' motto is "Food should be charming to everything". The list of hot dishes includes many interesting and national dishes: kumplyky, Ternopil-style mutton, green borsch in bread, etc. Despite all the originality of the restaurant and the high level of service, the restaurant maintains a price level that is affordable for a large number of Ternopil residents. The owner of the restaurant refuses to advertise on principle, as he believes that "the restaurant speaks for itself and those who have been there once will definitely come back with their friends".

Questions and tasks:

1. What management tools are used by the restaurant management?
2. How do you assess the refusal of the management of the "Old Mill" from advertising?
3. What additional services should be offered for use in the restaurant "Old Mill"?
4. Suggest a name for the business lunch, in accordance with the style of the restaurant. Suggest innovative tools to promote this service.
5. What factors ensure a high level of service quality in this restaurant?

9. Assessment tools and methods for demonstrating learning outcomes

In the process of studying the discipline "Innovative Technologies in Management" the following assessment tools and methods of demonstrating learning outcomes are used:

- current survey and testing;
- final testing and surveys for each content module;
- team projects;
- essays;
- presentations of the results of completed tasks and research;
- module works;
- evaluation of the results of the CPIT.

10. Assessment criteria

The final score (on a 100-point scale) in the discipline is determined as a weighted average, depending on the proportion of each component of the credit.

<i>Credit module 1</i>	<i>Credit module 2</i>	<i>Credit module 3</i>
30%	40%	30%
1. Oral questioning (testing) in class (1-4 topics) - 5 points per topic - max. 20 points 2. Written test - max. 80 points	1. Oral questioning (testing) in class (topics 5-11) - 5 points per topic - max. 35 points 2. Written test - max. 65 points	1. Preparation of a complex individual task - max. 40 points. 2. Defense of a complex individual task - max. 40 points. 3. Participation in trainings - max. 20 points

Evaluation scale:

ECTS	Scores	Content
A	90-100	excellent
B	85-89	good
C	75-84	good
D	65-74	satisfactory
E	60-64	enough
FX	35-59	unsatisfactory with the possibility of reassembly
F	1-34	unsatisfactory with a mandatory repeat course

11. Tools, equipment and software, the use of which involves the discipline

№	Title	Title number
1	Multimedia equipment for presentations (multimedia projector, laptop)	1-11
2	Personal computers with Internet connection	1-11
3	Software (MS Word, MS Excel, PowerPoint)	1-11
4	Input data for processing on the PC	1-11

Literature

1. Ayerbe, C., Dubouloz, S., Mignon, S., Robert, M. (2020). Management Innovation and Open Innovation: For and Towards Dialogue. *Journal of Innovation Economics & Management*, 32(2), 13-41.
2. Duczmal, M., Nestorenko, T. (2021). *Modern Management: Theories, Concepts, Implementation (Monograph)*. Opole: The Academy of Management and Administration in Opole. 394 p. <https://www.wszia.opole.pl/wp-content/uploads/2020/05/7.pdf>
3. Lappalainen, L., Aleem, M., Sandberg, B. (2023). How to manage open innovation projects? An integrative framework. *Project Leadership and Society*, 4, 100095. <https://doi.org/10.1016/j.plas.2023.100095>

4. Leković, B., Strugar Jelača, M., Marić, S. (2019). Importance of innovative management practice: solution for challenges in business environment and organization performance. *Business Administration and Management*, 4(22). <https://doi.org/10.15240/tul/001/2019-4-005>
5. Padilla, J., Zartha, J.W., Ocampo-Lopez, C., Ramírez Carmona, M.E. (2023). Open Innovation: A Technology Transfer Alternative from Universities. A Systematic Literature Review. *Journal of Open Innovation: Technology, Market, and Complexity*. <https://doi.org/10.1016/j.joitmc.2023.100090>
6. Portuguese-Castro, M. (2023). Exploring the Potential of Open Innovation for Co-Creation in Entrepreneurship: A Systematic Literature Review. *Administrative Sciences*, 13(9), 198. <https://doi.org/10.3390/admsci13090198>
7. Radziwon, A., Chesbrough, H., West, J., Vanhaverbeke, W. (2023). The Future of Open Innovation. *The Oxford Handbook of Open Innovation*. Oxford University Press.
8. Resler, M. (2020). Innovative technologies in management. *MEST Journal*, 8(2), 151-156. <https://doi.org/10.12709/mest.08.08.02.17>
9. Srisathan, W. A., Ketkaew, C., Naruetharadhol, P. (2023). Assessing the effectiveness of open innovation implementation strategies in the promotion of ambidextrous innovation in Thai small and medium-sized enterprises. *Journal of Innovation & Knowledge*, 8(4), 100418. <https://doi.org/10.1016/j.jik.2023.100418>
10. Trofymenko, O., Ilyash, O., Voitko, S., Dluhopolska, T., Kozlovskiy, S., Hrynkevych, S. (2022). Impact of energy innovations on Ukraine's economy: Strategic direction and managerial practices. *Economics – Innovative and Economics Research Journal*, 10(2), 27-44.
11. Zatonatskiy, D., Dluhopolska, T., Rozhko, O., Stechyshyn, T., Metlushko, O. (2019). Modern Information Technologies in HRM: Concept of Personnel Security. 2019 IEEE International Conference on Advanced Trends in Information Theory, ATIT 2019 Proceedings, 313-316. <https://doi.org/10.1109/ATIT.2019.9030433>
12. Гайкова Т.В., Загорянський В.Г., Леонтович А.О. (2023). Впровадження цифрових технологій в управління ланцюгами постачань. *Центральноукраїнський науковий вісник. Технічні науки*, 7(38), 222-228.
13. Горова К., Длугопольський О., Длугопольська Т. (2019). Entering in the global manufacturing outsourcing market and innovative development of the Ukrainian industrial enterprises. *Economy and Sociology: Theoretical and Scientific Journal*, Category "B", 2, 20-31. Retrieved from <https://ideas.repec.org/a/nos/ycriat/352.html>
14. Длугопольська Т., Катола Т., Хропонюк Д. (2023). Вплив факторів зовнішнього середовища на стратегічну поведінку компанії: кейс АТ «А-банк». *Innovation and Sustainability*, 2, 60-69.
15. Длугопольська Т., Сентик М. (2022). Успішні кейси міжнародних компаній у сфері корпоративної соціальної відповідальності. *Socio-economic relations in the digital society*, 4(46), 49-57.
16. Длугопольський О., Длугопольська Т. (2023). Бібліометричний аналіз дослідження застосування інноваційних технологій в управлінні. Ціннісні орієнтири в сучасному світі: теоретичний аналіз та практичний досвід: Збірник тез V Міжнародної науково-практичної конференції (11-12 травня 2023 р.). Тернопіль, 2023, 110-112.
17. Наконечна Т.В., Гринів Н.Т. (2021). Застосування новітніх технологій у логістичній діяльності підприємств. *Вчені записки ТНУ імені В. І. Вернадського. Серія: Економіка і управління*, 32(71), 16-21.
18. Пурій Г.М. (2019). Інформаційні системи і технології в управлінні діяльністю підприємства. *Ефективна економіка*, 6.