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EXPLORING UKRAINIAN CONTRIBUTIONS TO UNDERSTANDING RESEARCH ADMINISTRATION IN THE UNIVERSITIES OF THE USA

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This study examines the contributions of Ukrainian researchers in understanding research administration practices in the United States (US) universities. A non-systematic literature review approach was employed, utilising keyword-based strategies and predefined criteria for source selection. Data extraction and qualitative synthesis were conducted to analyse the findings. The review of research administration practices in US universities by Ukrainian scholars reveals important insights. Firstly, there is a recognised shortage of skilled research managers in US universities. The professionalisation of research management through specialised qualifications and continuous professional development is identified as a significant trend. Secondly, innovation activities, technology transfer centres, and funding sources are found to be crucial in fostering entrepreneurship, optimising resources, and supporting research and development efforts. Thirdly, international cooperation, regulatory mechanisms, and strategic planning play pivotal roles in governing research activities. The reviewed studies encompassed a wide range of themes pertaining to research governance and administration in the United States including higher education management theory, managerial training in US universities with a focus on Masters in Administration programs, the scientific capacity of US universities, technology transfer, research ethics, the legal framework for research, fundraising strategies for research, the dissemination of research findings, grant writing practices, and the restructuring of the educational system to prioritise research. Based on these findings, the study recommends that Ukrainian universities enhance their research administration practices. Incorporating courses on transferable skills, research ethics, project management, and leadership within Ph.D. programs is suggested. Adopting best practices from US universities, particularly in areas such as technology, management, finance, and legal aspects, can contribute to improving research administration practices and fostering international cooperation in Ukrainian universities. An untapped research area involves assessing how research administration practices drawn from US universities and the creation of technology transfer centres can enhance research governance in Ukrainian higher education.

Keywords: higher education, non-systematic literature review, research administration practices, US universities, Ukrainian researchers.

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ДОСЛІДЖЕННЯ ПИТАННЯ УПРАВЛІННЯ НАУКОВОЮ РОБОТОЮ В УНІВЕРСИТЕТАХ США У ПРАЦЯХ УКРАЇНСЬКИХ ВЧЕНИХ

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У статті розглядається внесок українських учених у вивчення практики організації та управління науковою роботою в університетах США. Застосовано несистематичний підхід до огляду літератури з використанням стратегій на основі ключових слів і заздалегідь визначених критеріїв для відбору джерел. Для аналізу результатів було проведено виділення даних та їх якісний синтез. Аналіз українськими науковцями практик управління науковою роботою в університетах США дозволив дійти висновків про те, що, по-перше, існує визнана нестача кваліфікованих адміністраторів наукових досліджень, а компетенції дослідників не завжди відповідають вимогам ринку. В цьому контексті важливою тенденцією розвитку американських університетів визначено професіоналізацію управління науковими дослідженнями через підготовку фахівців за спеціальними програмами та їх постійний професійний розвиток. По-друге, інноваційна діяльність, центри трансферу технологій і джерела фінансування вирішально сприяють розвитку підприємництва, оптимізації ресурсів і підтримки наукових досліджень в університетах США. По-третє, міжнародне співробітництво, механізми регулювання та стратегічне планування відіграють ключову роль в практиці управління науковою роботою. Встановлено широкий спектр тем, що проаналізовано в наукових розвідках українських учених, зокрема, теоретичні засади управління вищою освітою, підготовка управлінців та менеджерів в університетах США з акцентом на магістерських програмах з адміністрування, наукова спроможність університетів США, трансфер технологій, дослідницька етика, правова база для проведення досліджень, стратегії фандрайзингу, поширення результатів досліджень, практика написання грантів та реформування освітньої системи з метою встановлення пріоритетності наукової діяльності. Надано рекомендації українським університетам щодо покращення управління науковою роботою. Включення курсів з розвитку універсальних навичок, питань дослідницької етики, управління проектами та лідерства в Ph.D. програми, а також вивчення й впровадження кращого досвіду університетів США, зокрема в таких сферах, як технології, менеджмент, фінанси та право, може посприяти вдосконаленню практики управління науковою роботою та розвитку міжнародної співпраці в українських університетах. Залишається недостатньо дослідженим питання оцінки, як практика адміністрування наукових досліджень, запозичена в університетах США, та створення центрів трансферу технологій сприяють покращенню управління науковими дослідженнями в українській вищій освіті.

Ключові слова: вища освіта, несистематичний огляд літератури, управління науковими дослідженнями, університети США, українські вчені.

Introduction of the issue. The field of research administration within higher education institutions has gained considerable attention due to its pivotal role in cultivating research excellence and fostering innovation [15; 23]. With research endeavours becoming increasingly intricate and interdisciplinary, it is imperative to examine a diverse range of perspectives and insights from scholars worldwide [32; 34]. Since, there is a growing recognition of the value brought forth by international scholars, it is relevant to investigate the contributions made by Ukrainian researchers to the understanding of research administration and

management practices in United States universities. The mission of modern Ukrainian universities in society and the role of research in the context of innovation in higher education have recently been extensively studied in Ukrainian educational and educational-management science. Therefore, drawing from the United States' long-term and positive experience in creating a workable system of organising research and its development in universities proves to be useful for studying and adapting such practices. While research administration within U.S. universities has been extensively explored internationally, Ukrainian researchers have made

valuable contributions to the discourse on research administration and management, offering distinctive viewpoints shaped by their academic backgrounds, cultural contexts, and institutional experiences [1; 8; 14; 24]. The presence of Ukrainian scholars in the field of research administration has highlighted a research gap that needs to be addressed. To bridge this gap, we will conduct a non-systematic literature review that aims to shed light on their valuable contributions and foster a more inclusive and comprehensive understanding of research administration practices in U.S. universities.

Current state of the issue. Before delving into the analysis of scientific developments, it is important to establish a clear understanding of the concept of research administration and management and its importance in the context of higher education. Research administration and management encompasses a range of activities and processes aimed at supporting and overseeing the entire research life cycle, from proposal development to project implementation and dissemination of results [13]. It includes strategic planning, resource allocation, financial management, ethical and regulatory compliance, and facilitation of cooperation [27; 28]. In the dynamic environment of higher education, research administration and management play a key role in promoting excellence, innovation, and knowledge creation. It ensures the efficient use of resources, fosters interdisciplinary cooperation, and enhances the impact of research results [6]. In addition, research governance practices help to strengthen institutional reputation, attract funding opportunities, and promote a culture of research integrity and ethical behaviour. By effectively managing research activities, higher education institutions can develop a dynamic research environment that contributes to intellectual growth, addresses societal challenges, and advances scientific knowledge for the benefit of society.

The literature has already revealed the themes, domains, or aspects studied by Ukrainian researchers in the context of research administration and management in U.S. universities. These studies have contributed to the understanding of various key areas within research administration and have provided valuable insights for improving administrative practices. The following themes have been extensively explored by Ukrainian scholars:

a) *mission and vision of research administration for the American university research development.* Ukrainian researchers have examined the mission and vision statements of research administration offices in U.S. universities [25]. They have analysed how these statements align with institutional goals and how they shape the strategic direction of research administration activities. These studies have emphasised the importance of a clear mission and vision in guiding research administration practices and fostering a research culture within universities;

b) *organisational structures and governance.* Several studies have focused on the organisational structures and governance models in U.S. universities [7; 9]. Ukrainian scholars have explored the advantages and disadvantages of centralised versus decentralized structures, as well as the role of governance mechanisms in ensuring effective decision-making and accountability. These studies have provided insights into the optimal organisational structures that can facilitate efficient research administration processes;

c) *funding mechanisms and resource allocation.* Ukrainian researchers have examined the funding mechanisms and resource allocation strategies employed by research administration offices in U.S. universities [7; 17]. They have investigated how funding decisions are made, the criteria used for funding allocation, and the impact of different funding models on research outcomes. These studies have shed light on the importance of strategic resource

allocation in supporting research activities and enhancing research productivity;

d) compliance and ethics in research. Several studies have focused on the compliance and ethics aspects of research administration in U.S. universities [21; 29]. Ukrainian scholars have explored the regulatory frameworks, ethical guidelines, and compliance procedures that govern research activities. They have investigated the challenges faced by researchers in complying with regulations and have proposed strategies for ensuring ethical conduct and adherence to institutional policies;

e) internationalisation of research. Ukrainian researchers have examined the internationalisation efforts of research administration offices in U.S. universities [9]. They have explored the strategies employed to attract international researchers, foster cooperation with foreign institutions, and enhance the global impact of research outputs. These studies have highlighted the importance of international partnerships and cooperation in advancing research agendas and promoting knowledge exchange.

These studies have significantly contributed to the understanding of research administration and management practices in U.S. universities and have provided valuable insights for enhancing administrative processes [7; 9; 21]. The findings from these studies have informed best practices and policy recommendations that can be applied in the context of research administration and management in U.S. universities and beyond.

In summary, this literature review reveals that research administration and management is a rapidly expanding field of research that encompasses a wide range of topics. These include, but are not limited to, mission and vision of research administration, organisational structures, funding mechanisms, compliance and regulatory frameworks, and internationalisation of research. However, it is evident that the

understanding of research administration practices in U.S. universities requires revision and updating in order to serve as a valuable resource for researchers, policymakers, and practitioners seeking a comprehensive understanding of research administration practices and the promotion of international cooperation within the field.

The *purpose* of the study is to explore the contributions of Ukrainian researchers to the understanding of research administration practices in U.S. universities. Based on the above purpose of the study, the following research questions were formulated:

1) What are the specific contributions made by Ukrainian researchers to the understanding of research administration and management practices in U.S. universities?

2) What unique insights and perspectives do Ukrainian researchers bring to the discourse on research administration and management in U.S. universities?

3) In what key areas or themes of research administration and management have Ukrainian researchers made notable contributions?

4) What gaps or research areas within the field of research administration do the contributions of Ukrainian researchers help address?

Research methods. This article employed a non-systematic literature review methodology to explore the contributions of Ukrainian researchers to the understanding of research administration practices in U.S. universities. The non-systematic literature review approach allows for a comprehensive examination of relevant literature on the topic while acknowledging that it may not cover the entire scope of available research [4]. The methodology employed a keyword-based strategy and encompassed the defined search procedure, predetermined criteria for source inclusion and exclusion, extraction of raw data, assessment of selected sources based on specific criteria, and synthesis of data using a qualitative approach [16].

Aim of research. In conducting this non-systematic literature review, a search strategy aimed at gathering relevant scholarly articles, conference papers, book chapters, and reports was employed. The search process encompassed a range of reputable academic databases, including Scopus, Web of Science, and Google Scholar, in addition to a direct Google search. The search strings were carefully designed to incorporate key terms relevant to the research topic, ensuring a comprehensive exploration of the available literature. The search terms included English and Ukrainian languages-based variations such as "управління дослідженнями" (*upravlinnia doslidzhenniamy*) OR "research administration", "research governance", "research management", "моделювання наукової роботи в університеті" (*modeliuvannia naukovoii roboty v universyteti*) OR "modelling of scientific activity in university", "інноваційна діяльність університету" (*innovatsiina diialnist universytetu*), OR "innovation activity of university", "управління інноваційною діяльністю університетів" (*upravlinnia innovatsiinoiu diialnistiu universytetu*), OR "governance of innovation activity of university", "міжнародна діяльність" (*mizhnarodna diialnist*), OR "international activity", "грантова діяльність" (*hrantova diialnist*), OR "grant obtaining activity", "центри трансферу технологій" (*tsembly tranferu tekhnologii*), OR "knowledge transfer centres", "США" (*SShA*) OR "US", "американські університети" (*amerykanski universytety*) OR "U.S. universities", "контекст/середовище американського університету" (*kontekst amerykanskooho universytetu*), OR "US university context", "американські коледжі" (*amerykanski koledzhi*) OR "United States colleges", and "дослідницький компонент місії американського університету" (*doslidnytskyi component missii amerykanskooho universytetu*) OR "US university mission research component". Additionally, the search terms encompassed "науковці / дослідники /

вчені України" (*naukovtsi / doslidnyky / vcheni Ukrainy*) OR "Ukrainian researchers" and "Україна" (*Ukraina*) OR "Ukraine". It is important to acknowledge that this search was focused on publications in both the Ukrainian and English languages, acknowledging the limitation posed by language barriers in producing English literature. This approach was chosen to maintain consistency and to maximise the accessibility of relevant sources for the review.

To ensure the relevance and quality of the selected literature, specific inclusion and exclusion criteria were applied. The following criteria guided the inclusion of studies: a) focus on the contributions of Ukrainian researchers to the study of research administration practices in U.S. universities; b) publication date of the article should not be earlier than 25 years; c) description and/or purpose of the approach or best practice under study should be provided; d) identification of practice(s) in research administration at U.S. higher educational institutions; e) providing feasibility of applying or adopting the identified best practice(s) in Ukrainian universities to foster international cooperation and enhance research administration practices; f) alignment with one of the domains of research administration practices, including technology, management, finance, economy contribution, instruction, legal aspects, or multiple domains; g) covering one or multiple themes pertaining to research governance and administration in the United States, including but not limited to higher education management theory, training of managers in U.S. universities (particularly in administration with a focus on master's programs), scientific potential of U.S. universities, technology transfer, research ethics, legal research framework, research funding acquisition, dissemination of research results, grant writing practices, and the transformation of the educational system to prioritize research. Studies that did not directly pertain to the research administration context or did not involve Ukrainian

researchers as authors were excluded from the analysis.

Screening and Selection

The screening and selection process spanned from January 2023 to the end of May 2023. Three colleagues generously volunteered to assist the author in searching, screening, and selecting the relevant sources. Initially, the search results were screened based on their title and abstract to evaluate their potential relevance. The selected articles then

underwent a thorough full-text review to determine their suitability for inclusion in the literature review. The final selection was based on the extent to which the articles aligned with the research objectives and contributed significantly to the understanding of research administration in U.S. universities. Figure 1 illustrates the PRISMA-based approach employed for searching relevant sources.

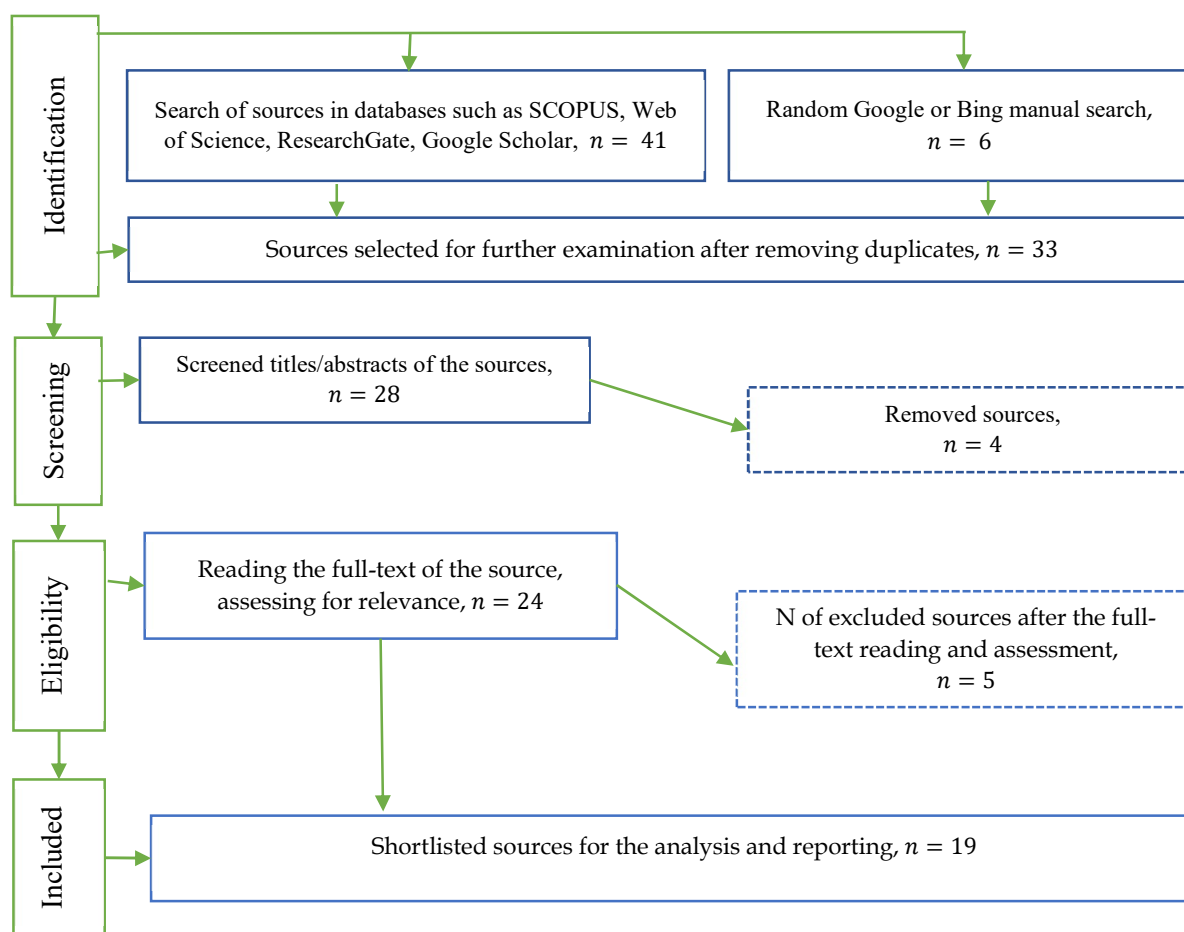


Fig. 1. PRISMA-based Flow of the Search Process for Relevant Sources

While the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines provided a helpful structure for reporting the findings derived from a non-systematic review, they were not strictly followed as in the case of a systematic review [19]. The selection process encompassed four distinct phases: identification, screening, assessment of source eligibility, and inclusion [19].

The identification phase employed a 4-point relevance scale to assess the level of relevance for each source: 1 denoting 'insufficient relevance', 2 representing 'average relevance', 3 indicating 'sufficient relevance', and 4 signifying 'excellent relevance'. This scale was utilised to gather comprehensive data. The screening, eligibility, and inclusion phases of the search process utilised the Critical Appraisal Checklist (see Table 1) to carefully evaluate and select the

sources. During these phases, the checklist was employed to assess the relevance and quality of each source based on the criteria established. The

checklist employed a categorical response system consisting of 'Yes', 'No', 'Unclear', and 'N/A' to facilitate the assessment process.

Table 1.

Critical Appraisal Checklist (adapted from Greenhalgh et al. [11])

Source number _____					
Date of retrieval _____					
Author(s) _____					
Year of publication _____					
#	Question	Yes	No	Unclear	N/A
1	Does the study specifically address the contributions of Ukrainian researchers to research administration practices in U.S. universities?				
2	Is the publication date of the article within the last 25 years?				
3	Does the study provide a clear description and/or purpose of the approach or best practice under study?				
4	Does the study identify and discuss best practice(s) in research governance or administration at U.S. higher educational institutions?				
5	Does the study examine the feasibility of applying or adopting the identified best practice(s) in Ukrainian universities to foster international cooperation and enhance research administration practices?				
6	Does the study align with one or more domains of research administration practices, such as technological, managerial, instructional, legal, or combined?				
7	Does the study explicitly report the data gathered and analysed in the research?				
Exclude <input type="checkbox"/> Include for scan-reading <input type="checkbox"/> Include for final review <input type="checkbox"/>					
Reviewer's comment _____					

Relevant data from the selected articles were extracted and organised according to the identified themes, domains, or aspects of research administration and management. Key information, such as author names, publication year, research objectives, methodologies, and main findings, was extracted for each study. A

qualitative analysis approach was employed to identify patterns, commonalities, and unique contributions across the selected literature.

The extracted data were synthesised and interpreted to provide a comprehensive overview of the contributions made by Ukrainian

researchers to research administration practices in U.S. universities. The findings were analysed, and connections between different studies were established to identify emerging themes and highlight the valuable insights provided by Ukrainian scholars.

Results and discussion. The research identified 19 relevant findings from Ukrainian researchers regarding research administration and management practices in U.S. universities. These findings highlight practices in research governance or administration in U.S. higher educational institutions and demonstrate the potential for their application or adoption in Ukrainian universities to promote international cooperation and improve research administration practices. These findings align with various domains of research administration practices, such as technology, management, finance, economy contribution, instruction, legal aspects, or multiple domains. An exhaustive examination of the selected sources demonstrates their coverage of diverse themes within research administration and management, each serving distinct purposes such as theoretical analysis, feasibility assessment, evaluation, comparison, and description. These themes related to research governance and administration in the United States are the theory of higher education management, the training of managers in US universities (particularly Masters in Administration), the scientific potential of US universities, technology transfer, research ethics, the legal research framework, fundraising for research, the dissemination of research results, grant writing practices, and reshaping the educational system to prioritise research.

Kalashnikova [14] delves into the theoretical analysis of public higher education management in the US, revealing a pyramidal structure with decentralised management at the federal level and diverse governance models at the state level. Internal governance within institutions depends on the state-level model, involving boards of regents or

trustees. Decentralised management at the federal level focuses on strategic planning and fund allocation. States employ either centralised or decentralised governance models, overseeing development or coordinating without interfering in institutional activities. Positive aspects include democratic participation, flexibility, minimal bureaucracy, and inclusive accreditation processes. Understanding this higher education management system provides valuable context for studying research administration practices in US universities.

Burdina [3], in her comprehensive research states that the development of the master's degree in educational administration within US universities reflects the evolution of pedagogical training and the influence of socio-economic factors and professional unions. These factors have contributed to improved and professionalised training programs for educational management emphasising corporate management approaches, theoretical foundations of social sciences, and clearer professional criteria for educational leaders. The increasing emphasis on professional training for educational institution managers signifies society's growing expectations for the education sector. Master's programmes in educational administration are typically offered in master's colleges and research universities providing students with a curriculum that aligns with the goals of the program. The curriculum structure and course offerings reflect the objectives of master's training, which include the development of communication and leadership skills, fostering innovative thinking, applying research findings to practice, and cultivating a comprehensive understanding of the educational system.

Elbrekht [10], through a meticulous analysis, highlights the pivotal role of competency-based approaches and experiential learning in the realm of managerial training within universities. Management programmes cover subjects like operations, marketing, human resources, finance, information systems,

and strategic management, with a focus on economics and legislation. Psychological and pedagogical training is valued for teamwork, relationships, and self-education. Some universities offer psychology and ethics courses, while others propose integrative disciplines like "Management Pedagogy". Curricula often include ecology, leadership, responsibility, and social programme design to foster social awareness. Experiential learning is key, utilising experiments, simulations, case studies, and projects. Universities aim to transform education models by integrating practical activities such as field training, organisational assignments, and projects to provide hands-on experience.

Turning to broader perspectives, Sovershenna [31] casts a spotlight on the importance of science parks and technology transfer centers in nurturing the "knowledge triangle" encompassing education, science, and innovation. It concerns management of those science parks and technology transfer centres. The US national technology transfer system is the world's most powerful, generating over \$100 billion in annual revenue. The Association of University Technology Managers (AUTM) plays a significant role in this system. However, most universities do not immediately profit greatly from their innovation activities. Technology transfer centers aim to facilitate the growth of projects from ideas to successful enterprises, maximising the value of commercialised technologies. The strategic goal is to create a permanent system for commercializing intellectual property based on cooperation between universities, industry, and regions supported by modern information technologies.

Sbruiev [24; 25], from an instructional standpoint, sheds light on the multifaceted roles that university researchers assume, while also underlining the process of professionalising research management through tailored Master's programmes. The study by Sbruiev [24] highlights that

university researchers in the US have multiple roles, including researcher, educator, entrepreneur, and research supporter. However, there is a shortage of skilled research managers, and the competencies of researchers are not meeting market demands. Sbruiev [25] discusses that the professionalisation of research management in the United States has been a strong trend and achieved consistency through two primary means. Firstly, universities grant a Master's degree in Research Administration (MRA) providing a specialised qualification. Secondly, continuous professional development plays a vital role, with a particular emphasis on organisations like NCURA (National Association of Research Administrators). Concurrently, Sbruieva [26] examines the organisational framework and operational responsibilities of research administration offices, highlighting avenues for improvement and future investigation.

Romanovsky [22] explores management and regulatory perspective of the integration of university innovation activities and entrepreneurial endeavours within the context of research administration in US universities that can involve different international perspectives, underlying principles, and theoretical framework for fostering entrepreneurial models in higher education institutions. Additionally, the accomplishments of research-driven entrepreneurial universities in the United States in terms of their innovative academic entrepreneurship can be feasible for Ukraine.

Continuing this exploration, Lugovy et al. [17] discuss the increasing funding for research in US universities, primarily from the federal budget. The research identifies specific fields experiencing significant growth in the USA and highlights the importance of financial support for research and development in the fields such as social work, bioengineering and biomedical engineering, visual and performing arts, communication, journalism, and library

science, humanities, business and management, mechanical engineering, chemical engineering, and education. Harashchuk & Kutsenko [12] analyse the role of technology parks in US universities, emphasising their contribution to training, infrastructure, and financial support. Technology parks are seen as a means to optimise resources, commercialise intellectual property, and enhance capital efficiency. They offer an effective approach for universities to leverage surplus resources and commercialise intellectual property.

Lysenko et al. [18], through meticulous scrutiny, provide an in-depth evaluation of the operational efficiency of technology transfer centres within American universities shedding light on their effective functioning and future sustainability. They propose establishing similar centres in Ukrainian higher education institutions to manage scientific outcomes, commercialise them successfully, and foster cooperation between university science and industry based on market principles and national economic needs. Meanwhile, the study by Chmutova & Andriichenko [5] highlights the market-oriented model in US universities, which promotes competition, excellence, and innovation. While this model is considered highly effective, it has limitations. The focus on market forces can lead to the elimination of less popular or less profitable areas of study. Additionally, the high cost of higher education in the United States undermines the goal of social mobility that education should provide. Despite its innovative nature, the market-oriented system falls short in ensuring broad access and social equity. This section offers an evaluation of the market-oriented model in the context of research administration and management, touching upon both management and financial aspects.

Sliusarenko [30] discusses the optimal model for US universities, focusing on consolidated institutions with concentrated resources in higher education. This fosters a university environment that promotes research and

innovation. The primary focus of universities is to generate new knowledge and ensure its effective integration into education. This knowledge contributes to the economy through the cultivation of highly skilled and competitive human capital. While supporting research and innovation in cooperation with businesses is valuable, it is not the primary objective.

Taking a theoretical lens, Bratko [2] studies interdisciplinary approaches in educational management, meticulously dissecting key concepts and trends in various management paradigms including classical, human relations, systemic, situational, functional, project, and process management. The research in education management is centred around three main areas: educational process management, institutional management, and management of educational systems. The theoretical and methodological foundations of managing professional training in this context involve principles, approaches, concepts, methods, and diagnostic measures, with the environmental approach and the resource-based management concept being prominent.

Within the scope of research administration in US universities Donchenko [9] examines international engagements of US public universities, covering political, economic, cultural, and academic domains. The study emphasises the role of regulatory and financial mechanisms in governing these international activities. These undertakings have diverse objectives, ranging from advancing national interests and safeguarding state security to facilitating education, promoting scientific progress, fostering innovation, and offering services. International engagements encompass external and internal initiatives through cooperation, programs, and projects. Regulatory and financial mechanisms play important roles in governing the international activities of public universities.

Miziuk & Shmarovoz [20] investigate innovation activities in US universities, driven by basic and applied science,

research and development, and commercialisation. The study emphasises the importance of corporate finance funding for these endeavours and their contribution to the national economy and global competitiveness. These research activities are driven by the goal of bolstering the national economy, enhancing the country's leadership and competitiveness globally, and generating a high return on investment for stakeholders. A notable aspect of this process is the continuous increase in corporate finance funding for innovative endeavours.

Within the context of research administration in US universities, Shykhnenko & Sbruieva [28] focus on strategies for organising and managing research activities. They emphasise growth and corporate strategies, institutional strategic research management, project management communities, financial considerations, and demand-oriented reforms at the state level. Institutional strategic research management policies promote cooperation in research endeavours. Establishing project management communities is a key approach. Financial considerations hold significant importance. At the state level, research stimulation in universities can be achieved through demand-oriented reforms that aim to reshape personnel management, talent selection systems, and personnel assessment practices.

Sych [33] delves into Master's programmes in Educational Administration within the US educational landscape. This study intricately examines the development of leadership skills, cultivation of innovative thinking, exploration of research processes, and the pedagogical practices that underpin these programmes.

Finally, Shykhnenko & Sbruieva [29] navigate the terrain of research integrity through a comparative lens, analysing the transition from an emphasis on individual researchers' responsibilities to a robust framework of regulatory and legal mechanisms that ensure ethical research

practices in both US and Ukrainian educational and research organisations.

The above implies that the research conducted by Ukrainian scholars regarding research administration practices in US universities is somewhat limited in its depth and scope. The majority of the studies adopt a theoretical, comparative, or descriptive approach, indicating the need for further exploration, particularly in the domain of technology. The analysed sources provide valuable insights into various aspects of research governance and administration. The findings highlight the shortage of skilled research managers in US universities, as researchers' competencies often do not align with the demands of the market. A noteworthy trend observed is the growing professionalisation of research management, which emphasises the importance of specialised qualifications and continuous professional development. The studies also delve into topics such as innovation activities, technology transfer centres, and funding sources, underscoring their roles in fostering entrepreneurship, optimising resource utilization, and supporting research and development endeavours. Additionally, the significance of international cooperation, regulatory mechanisms, and strategic planning in governing research activities is emphasised.

The analysis suggests that incorporating courses on transferable skills, research ethics, project management, and leadership within Ph.D programs can greatly enhance research administration practices in Ukrainian universities. The findings underscore the importance of addressing research administration practices in US universities. It is clear that there is a need to enhance researchers' competencies, promote professionalisation, and establish effective organisational frameworks. Financial support, technology transfer centres, and innovation activities emerge as crucial elements of research administration. International cooperation, regulatory mechanisms, and strategic planning are

identified as key factors influencing research governance. Ukrainian universities can significantly improve their research administration practices and foster international cooperation by incorporating best practices from US universities, with a specific focus on areas such as technology, management, finance, and legal aspects.

The present analysis reveals a significant opportunity for further research in the domain of research administration and management practices, particularly in the context of technology integration, within Ukrainian universities. While the existing studies primarily adopt a theoretical, comparative, or descriptive approach, there is a clear need for more in-depth exploration of how research administration and management practices can be implemented and adapted in Ukrainian higher education institutions. This gap presents a novel avenue for investigation, focusing on the challenges, strategies, and outcomes of incorporating technology-driven research administration practices in Ukrainian universities.

By bridging this gap, researchers can shed light on the effectiveness and impact of technology transfer centres, innovation activities, and funding mechanisms in the Ukrainian context. The study can explore how these practices can optimize resource utilisation, foster cooperation between academia and industry, and contribute to research and development efforts. Additionally, investigating the integration of technology-driven practices within research administration can provide valuable insights into enhancing research productivity, funding acquisition, and international cooperation in Ukrainian universities.

Limitations

It is important to acknowledge the limitations of this non-systematic literature review. The review's scope may not encompass all relevant publications, as it relies on the availability and accessibility of literature. Furthermore, the review's findings are dependent on the quality and depth of the included studies.

Conclusion and research perspectives. The findings from the analysis of research administration practices in US universities by Ukrainian scholars highlight several important aspects. Firstly, there is a clear need for skilled research managers in US universities, as the competencies of researchers do not align with market demands. Professionalisation of research management through specialised qualifications and continuous professional development is identified as a notable trend. Secondly, innovation activities, technology transfer centres, and funding sources play a significant role in fostering entrepreneurship, optimising resources, and supporting research and development. Thirdly, international engagements, regulatory mechanisms, and strategic planning are crucial factors in governing research activities. The reviewed studies encompassed a wide range of themes pertaining to research governance and administration in the United States. These topics included higher education management theory, managerial training in US universities with a focus on Masters in Administration programs, the scientific capacity of US universities, technology transfer, research ethics, the legal framework for research, fundraising strategies for research, the dissemination of research findings, grant writing practices, and the restructuring of the educational system to prioritise research. These studies collectively contribute to a comprehensive understanding of research administration and highlight the multifaceted aspects involved in fostering a thriving research environment.

Based on these findings, it is recommended that Ukrainian universities focus on enhancing research administration practices. This can be achieved by incorporating courses on transferable skills, research ethics, project management, and leadership within Ph.D. programs. Learning from the innovative academic entrepreneurship in US research-driven universities can provide valuable insights. Additionally, adopting best practices from US

universities in areas such as technology, management, finance, and legal aspects can contribute to improving research administration practices and fostering international cooperation in Ukrainian universities.

Overall, the analysis emphasises the importance of addressing research administration practices and highlights key areas for improvement in Ukrainian universities based on the insights gained from research conducted in US universities. By implementing these recommendations, Ukrainian universities can strengthen their research administration practices and promote effective research governance.

The potential gap for further studies lies in examining the implementation and

effectiveness of research administration practices in Ukrainian universities, including the adaptation of practices from US universities and the establishment of technology transfer centres. Such research would contribute to enhancing research administration practices and promoting effective research governance in the Ukrainian higher education system.

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REFERENCES (TRANSLATED & TRANSLITERATED)

1. Alimpiev, A.M., Grib, D.A., Demidov, B.A., Olizarenko, S.A., & Naumenko, M.V. (2014). Modeli i metody planuvannia ta upravlinnia naukovymy doslidzhenniamy [Models and methods of planning and management science research]. *Nauka i tekhnika Povitrianykh Syl Zbroynykh Syl Ukraïny – Science and technology of the Air Force of the Armed Forces of Ukraine*, 2 (15), 173-176. Retrieved from: <http://bitly.ws/Ferw> [in Ukrainian].
2. Bratko, M.V. (2018). Teorytychni i metodychni zasady upravlinnia profesiinoiu pidhotovkoiu fahivtsiv v osvitnomu seredovyshchi universytetskoho koledzhu [The theoretical and methodical foundations of management of professional specialists training in the educational environment of the university college]. *Doctor's thesis*. Kyiv: Repository for Kyiv Borys Grinchenko University. Retrieved from: <http://bitly.ws/IvRo> [in Ukrainian].
3. Burdina, S. (2008). Systema pidhotovky mahistriv upravlinnia osvitoiu u vyshchykh navchalnykh zakladakh SShA [The system of preparing Master's students in Educational Administration in the US higher educational institutions]. *Candidate's thesis*. Repository for Taras Shevchenko Luhansk National University. Retrieved from: <http://bitly.ws/IvUM> [in Ukrainian].
4. Cook, D.A. (2019). Systematic and non-systematic reviews: Choosing an approach. In D. Nestel, J. Hui, K. Kunkler, M. Scerbo, & A. Calhoun (eds), *Healthcare Simulation Research*, 55-60. Springer. Retrieved from: https://doi.org/10.1007/978-3-030-26837-4_8 [in English].
5. Chmutova, I.M., & Andriichenko, Z.O. (2017). Analiz svitovykh modelei upravlinnia vyshchoiu osvitoiu v konteksti zabezpechennia avtonomii VNZ [Analysis of world models of higher education governance in the context of ensuring autonomy of higher education institutions]. *Bulletin for Kyiv National University of Technologies and Design*, 4(113), 14-23. Retrieved from: <http://bitly.ws/IvSX> [in Ukrainian].
6. Dahm, R., Byrne, J.R., Rogers, D., & Wride, M.A. (2021). How research institutions can foster innovation. *BioEssays*, 43. Retrieved from: <https://doi.org/10.1002/bies.202100107> [in English].
7. Drach, I. (2018). Dosvid upravlinnia doslidnytskoiu diialnistiu v universytetakh Spoluchenoho Korolivstva: filozofsko-analitychnyi pidkhid [Experience in research management in the United Kingdom universities: philosophical and analytical approach]. *Mizhnarodnyi Naukovyi Zhurnal "Universytety i Liderstvo" – International Scientific Journal*

of Universities and Leadership, (5), 13-25. Retrieved from: <https://doi.org/10.31874/2520-6702-2018-5-1-13-25> [in Ukrainian].

8. Drach, I.I. & Lytvynova, S.H. (2020). Doslidnytske vriaduvannia v suchasnomu universyteti v umovakh vidkrytoii nauky [Research governance in a modern university in the conditions of open science]. *Informatsiini Tekhnologii i Zasoby Navchannia – Information Technologies and Learning Tools*, 80(6), 326-345. Retrieved from: <https://doi.org/10.33407/itlt.v80i6.4094> [in Ukrainian].

9. Donchenko, V.M. (2018). Orhanizatsiino-pedahohichni zasady mizhnarodnoii diya'nosti derzhavnykh universytetiv USA [Organisational and pedagogical principles of international activities of state universities of the USA]. *Candidate's thesis*. Repository for Sumy State Pedagogical University named after A.S. Makarenka. Retrieved from: <http://bitly.ws/Gfs7> [in Ukrainian].

10. Elbrekht, O.M. (2010). Pidhotovka menedzheriv u vyshchyykh navchalnykh zakladakh Velykoi Brytanii, Kanady, SSHA [Preparation of managers in higher educational establishments of Britain, Canada, the USA]. *Doctor's thesis*. Repository for Dragomanov National Pedagogical University. Retrieved from: <http://bitly.ws/IvZ2> [in Ukrainian].

11. Greenhalgh, T., Robert, G., Bate, P., Macfarlane, F. & Kyriakidou, O. (2005). Critical appraisal checklists: Appendix 2. In T. Greenhalgh, G. Robert, P. Bate, F. Macfarlane & O. Kyriakidou (eds.), *Diffusion of Innovations in Health Service Organisations: A Systematic Literature Review. The Milbank Quarterly*, 82 (4), 581-629. Retrieved from: <https://doi.org/10.1002/9780470987407.app2> [in English].

12. Harashchuk, O., & Kutsenko, V. (2015). Innovatyka v osviti – shliakh do ii yakosti, dosvid SSHA [Innovation in education – the path to its quality, the US case study]. *Informatisation of a higher education institution*, 831. Retrieved from: <http://bitly.ws/HVK3> [in Ukrainian].

13. Huang, J.S., & Hung, W.L. (2018). Building the science of research management: What can research management learn from education research? *Journal of Research Administration*, 49(1), 11-30. Retrieved from: <https://files.eric.ed.gov/fulltext/EJ1181994.pdf> [in English].

14. Kalashnikova, S.A. (1999). Upravlinnia derzhavnym sektorom vyshchoi osvity Spoluchenykh Shtativ Ameryky [Governance of the public sector of higher education in the USA]. *Candidate's thesis*. Repository of the Ukrainian Academy of Public Administration Under the President of Ukraine. Retrieved from: <http://bitly.ws/HJI8> [in Ukrainian].

15. Kerridge, S., & Scott, S.F. (2018). Research administration around the world. *Research Management Review*, 23(1), 1-34. Retrieved from: <http://bitly.ws/BHaH> [in English].

16. Kraus, S., Breier, M., Lim, W.M., Dabić, M., Kumar, S., Kanbach, D., Mukherjee, D., Corvello, V., Piñeiro-Chousa, J., Liguori, E., Palacios-Marqués, D., Schiavone, F., Ferraris, A., Fernandes, C., & Ferreira, J.J. (2022). Literature reviews as independent studies: guidelines for academic practice. *Review of Managerial Science*, 16, 2577-2595. Retrieved from: <https://doi.org/10.1007/s11846-022-00588-8> [in English].

17. Lugovy, V., Sliusarenko, O., Talanova, Z. (2014). Pryntsyipy i priorityty finansuvannia doslidzhen i rozrobok v universytetakh USA [Principles and priorities for research and development funding in the universities of the United States]. *Vyshcha osvita Ukrainy: teoretychnyi ta naukovo-metodychnyi chasopys: Nauka i vyshcha osvita – Higher education of Ukraine: theoretical and scientific-methodical journal, appendix 1: Science and higher education*, 2, 100-116. Retrieved from: <http://bitly.ws/Gff9> [in Ukrainian].

18. Lysenko, V.S., Yehorov, S.O., & Diatchyk, D.I. (2015). International experience of the establishing technology transfer centers at the universities. *Science and Innovation*, 11(1), 34-39. Retrieved from: <http://dx.doi.org/10.15407/scin11.01.034> [in English].

19. McKenzie, J.E., Bossuyt, P.M., Boutron, I., Hoffmann, T.C., Mulrow, C.D., Shamseer, L., Tetzlaff, J.M., Akl, E.A., Brennan, S.E., Chou, R., Glanville, J., Grimshaw, J.M., Hróbjartsson, A., Lalu, M.M., Li, T., Loder, E.W., Mayo-Wilson, E., McDonald, S., McGuinness, L.A., Stewart, L.A., Thomas, J., Tricco, A.C., Welch, V.A.,

Whiting, P., & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *Systematic Reviews*, 10(89), 1-11. Retrieved from: <https://doi.org/10.1186/s13643-021-01626-4> [in English].

20. Miziuk, S., & Shmarovoz, D. (2020). Innovatsiina systema SShA: Derzhavna polityka ta tendentsii liderstva [Innovation system of the USA: Government policy and world leadership trends]. *Pryazovskyyi Ekonomichnyi Visnyk – Pryazovskyyi Economic Bulletin*, 3(20), 25-28. Retrieved from: <https://doi.org/10.32840/2522-4263/2020-3-4> [in Ukrainian].

21. Reheilo, I. (2019). Instytutysiini ta profesiini tsinnosti akademichnoho personalu universytetiv SShA [Institutional and professional values of the US universities' academic staff]. *Mizhnarodnyi Naukovyi Zhurnal "Universytety i Liderstvo" – International Scientific Journal of Universities and Leadership*, 2(8), 63-77. Retrieved from: <https://doi.org/10.31874/2520-6702-2019-8-2-63-77> [in Ukrainian].

22. Romanovsky, O.O. (2012). *Innovatsiina diyalnist doslidnytskykh pidpnyemnytskykh universytetiv SShA [Innovative activity of research entrepreneurial universities in the USA]: monohrafia*. Drahomanov National Pedagogical University Publishing House. Retrieved from: <http://bitly.ws/HVCT> [in Ukrainian].

23. Rosowsky, D. (2022). *The role of research at universities: Why it matters*. Forbes. Retrieved from: <http://bitly.ws/EV47> [in English].

24. Sbruiev, M. (2012). Upravlinnia naukovoju robotoju v universytetakh SShA: Kharakterystyka stanu rozrobenosti problemy [Scientific research management in the US universities: Overview of the studied and developed issues]. *Pedahohichni Nauky: Teoriia, Istorii, Innovatsiini Technolohii – Pedagogical Sciences: Theory, History, Innovative Technologies*, 8(26), 121-131. Retrieved from: <https://repository.sspu.edu.ua/bitstream/123456789/4581/1/Sbruev.pdf> [in Ukrainian].

25. Sbruiev, M. (2013). Matrytsia kompetentsii administratoriv naukovykh doslidzhen v amerykanskykh universytetakh [Competencies Matrix of Research Administrators in U.S. Universities]. *Comparative Vocational Pedagogics*, 1(5), 181-188. Retrieved from: <http://bitly.ws/HXp5> [in Ukrainian].

26. Sbruieva, A. (2013). Upravlinnya naukovoju robotoju v derzhavnykh universytetakh SSHA: strukturno-funktsionalni aspekty [Management of scientific work in US public universities: structural and functional aspects]. *Studies in Comparative Education*, (1-2). Retrieved from: <http://bitly.ws/HXTu> [in Ukrainian].

27. Schützenmeister, F. (2010). *University Research Management: An Exploratory Literature Review*, 1-32. Retrieved from: <http://bitly.ws/GewL> [in English].

28. Shykhnenko, K., & Sbruieva, A. (2021). Strategies for organising and managing research at universities: Systemic review. *Advanced Education*, 18, 42-52. Retrieved from: <https://doi.org/10.20535/2410-8286.227831> [in English].

29. Shykhnenko, K., & Sbruieva, A. (2022). The code of conduct for research integrity, governance, and ethics in education in the USA, Europe, and Ukraine: Comparative analysis. *European Journal of Educational Research*, 11(4), 2195-2207. Retrieved from: <https://doi.org/10.12973/eu-jer.11.4.2195> [in English].

30. Sliusarenko, O.M. (2015). Rozvytok naivysshchoho universytetskoho potentsialu v umovakh hlobalizatsii: Analiz svitovoho dosvidu [Development of the highest university potential in the conditions of globalization: Analysis of the world's experience]. *Doctor's thesis*. Repository of the State Higher Educational Institution "University of Education Management" for the National Academy of Pedagogical Sciences of Ukraine. Retrieved from: <http://bitly.ws/HJE2> [in Ukrainian].

31. Sovershenna, I.O. (2010). Universytetski tsentry transferu technolohii – vazhlyva lanka innovatsiinoi infrastruktury [University centres of technology transfer - an important component of innovation infrastructure]. *Visnyk Natsionalnoho universytetu "Lvivska politehnika": Problemy ekonomiky ta upravlinnia – Bulletin of the National University "Lviv*

Polytechnic": Problems of Economics and Management, 684, 71-75. Retrieved from: <https://ena.lpnu.ua/handle/ntb/18760> [in Ukrainian].

32. Sun, Y., Livan, G., Ma, A., & Latora, V. (2021). Interdisciplinary researchers attain better long-term funding performance. *Communication Physics*, 4, 263. Retrieved from: <https://doi.org/10.1038/s42005-021-00769-z> [in English].

33. Sych, T. (2022). Porivnialnyi analiz osvitnikh prohram pidhotovky mahistriv spetsialnosti menedzhment v osvitnii haluzi v universytetakh SShA ta Ukrainy [Comparative analysis of educational programs for masters in management in the field of education at universities in the USA and Ukraine]. *Mizhnarodnyi Naukovyi Zhurnal "Universytety i Liderstvo" – International scientific journal "Universities and Leadership"*, 14, 103-115. Retrieved from: <https://doi.org/10.31874/2520-6702-2022-14-103-115> [in Ukrainian].

34. Wedekind, G.K., & Philbin, S.P. (2018). Research and grant management: The role of the project management office (PMO) in a European research consortium context. *The Journal of Research Administration*, (49)1, 43-62. Retrieved from: <http://bitly.ws/BGCh> [in English].

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