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«ХАЛЫҚ» ЖҚ

# Х А Б А Р Ш Ы С Ы

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## ВЕСТНИК

РОО «НАЦИОНАЛЬНОЙ  
АКАДЕМИИ НАУК  
РЕСПУБЛИКИ КАЗАХСТАН»  
ЧФ «Халық»

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В 2016 году для развития и улучшения качества жизни казахстанцев был создан частный Благотворительный фонд «Халык». За годы своей деятельности на реализацию благотворительных проектов в областях образования и науки, социальной защиты, культуры, здравоохранения и спорта, Фонд выделил более 45 миллиардов тенге.

Особое внимание Благотворительный фонд «Халык» уделяет образовательным программам, считая это направление одним из ключевых в своей деятельности. Оказывая поддержку отечественному образованию, Фонд вносит свой посильный вклад в развитие качественного образования в Казахстане. Тем самым способствуя росту числа людей, способных менять жизнь в стране к лучшему – профессионалов в различных сферах, потенциальных лидеров и «великих умов». Одной из значимых инициатив фонда «Халык» в образовательной сфере стал проект *Ozgeris powered by Halyk Fund* – первый в стране бизнес-инкубатор для учащихся 9-11 классов, который помогает развивать необходимые в современном мире предпринимательские навыки. Так, на содействие малому бизнесу школьников было выделено более 200 грантов. Для поддержки талантливых и мотивированных детей Фонд неоднократно выделял гранты на обучение в Международной школе «Мирас» и в *Astana IT University*, а также помог казахстанским школьникам принять участие в престижном конкурсе «*USTEM Robotics*» в США. Авторские работы в рамках проекта «Тәлімгер», которому Фонд оказал поддержку, легли в основу учебной программы, учебников и учебно-методических книг по предмету «Основы предпринимательства и бизнеса», преподаваемого в 10-11 классах казахстанских школ и колледжей.

Помимо помощи школьникам, учащимся колледжей и студентам Фонд считает важным внести свой вклад в повышение квалификации педагогов, совершенствование их знаний и навыков, поскольку именно они являются проводниками знаний будущих поколений казахстанцев. При поддержке Фонда «Халык» в южной столице был организован ежегодный городской конкурс педагогов «*Almaty Digital Ustaz*».

Важной инициативой стал реализуемый проект по обучению основам финансовой грамотности преподавателей из восьми областей Казахстана, что должно оказать существенное влияние на воспитание финансовой

грамотности и предпринимательского мышления у нового поколения граждан страны.

Необходимую помощь Фонд «Халык» оказывает и тем, кто особенно остро в ней нуждается. В рамках социальной защиты населения активно проводится работа по поддержке детей, оставшихся без родителей, детей и взрослых из социально уязвимых слоев населения, людей с ограниченными возможностями, а также обеспечению нуждающихся социальным жильем, строительству социально важных объектов, таких как детские сады, детские площадки и физкультурно-оздоровительные комплексы.

В копилку добрых дел Фонда «Халык» можно добавить оказание помощи детскому спорту, куда относится поддержка в развитии детского футбола и карате в нашей стране. Жизненно важную помощь Благотворительный фонд «Халык» оказал нашим соотечественникам во время недавней пандемии COVID-19. Тогда, в разгар тяжелой борьбы с коронавирусной инфекцией Фонд выделил свыше 11 миллиардов тенге на приобретение необходимого медицинского оборудования и дорогостоящих медицинских препаратов, автомобилей скорой медицинской помощи и средств защиты, адресную материальную помощь социально уязвимым слоям населения и денежные выплаты медицинским работникам.

В 2023 году наряду с другими проектами, нацеленными на повышение благосостояния казахстанских граждан Фонд решил уделить особое внимание науке, поскольку она является частью общественной культуры, а уровень ее развития определяет уровень развития государства.

Поддержка Фондом выпуска журналов Национальной Академии наук Республики Казахстан, которые входят в международные фонды Scopus и WoS и в которых публикуются статьи отечественных ученых, докторантов и магистрантов, а также научных сотрудников высших учебных заведений и научно-исследовательских институтов нашей страны является не менее значимым вкладом Фонда в развитие казахстанского общества.

С уважением, Благотворительный Фонд «Халык»!

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L.N. Gumilyov Eurasian National University, Astana, Kazakhstan.

E-mail: [ankon\\_a@mail.ru](mailto:ankon_a@mail.ru)

## RESEARCH OUTPUT EFFECTIVENESS: A PUBLIC AUDIT PERSPECTIVE

**Abdikadirova Anar Adilkhanovna** — PhD in Economics. Senior lecturer. L.N. Gumilyov Eurasian National University. 010000. 2 Saybayev street, Astana, Kazakhstan

E-mail: [ankon\\_a@mail.ru](mailto:ankon_a@mail.ru), <https://orcid.org/0000-0001-9738-2479>;

**Temirkhanov Zharaskhan Temirkhanuly** — PhD student. L.N. Gumilyov Eurasian National University. 010000. 2 Saybayev street, Astana, Kazakhstan

E-mail: [zharas1@mail.ru](mailto:zharas1@mail.ru), <https://orcid.org/0000-0001-8596-2628>.

**Abstract.** In the landscape of higher education institutions (HEIs), research and scientific productivity serve as crucial indicators of institutional effectiveness. This research article examines the intricacies of research productivity through the lens of public audit framework. Drawing primarily from the reports of supreme audit institutions from various countries, this study aims to provide a comprehensive understanding of the interplay between research productivity and public audit methodology. Key to this examination is the formulation of definitions pertaining to fundamental efficiency concepts, including input, output, outcome, and impact. Through an analysis of these concepts, the research seeks to establish a clear and robust framework for evaluating the effectiveness of research activities within HEIs. By delving into the reports of supreme audit institutions, the article aims to elucidate the best practices and identify potential areas of improvement for enhancing research productivity and ensuring the efficient utilization of resources in HEIs. The article also emphasizes the significance of integrating public audit perspectives in the assessment process, highlighting the role of transparency and accountability in promoting effective research management and resource allocation. By exploring data from diverse national contexts, this research article ultimately aspires to offer practical insights and recommendations that can inform policy decisions and strategic planning for optimizing research productivity in HEIs, with implications for the broader international educational landscape. Through

the utilization of these strategic approaches, the research endeavors to contribute to the ongoing dialogue surrounding the enhancement of research and science productivity in HEIs, offering a nuanced understanding of the complex relationship between financial models, public audit mechanisms, and institutional performance within the domain of academic research.

**Keywords:** supreme audit institutions, performance audit; science productivity

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Л.Н. Гумилев атындағы Еуразия Ұлттық Университеті, Астана, Қазақстан.

E-mail: ankon\_a@mail.ru

## **ЗЕРТТЕУ НӘТИЖЕЛЕРІНІҢ ТИІМДІЛІГІ: МЕМЛЕКЕТТІК АУДИТ ПЕРСПЕКТИВАСЫ**

**Абдикадирова Анар Адилхановна** — экономика докторы (PhD). Аға оқытушы. Л.Н.Гумилев атындағы Еуразия ұлттық университеті. 010000. Сатбаев 2, Астана, Қазақстан

E-mail: ankon\_a@mail.ru, <https://orcid.org/0000-0001-9738-2479>;

**Темірханов Жарасхан Темірханұлы** — PhD студент. Л.Н. Гумилев атындағы Еуразияұлттық университеті. 010000. Сатбаев 2, Астана, Қазақстан

E-mail: zharas1@mail.ru, <https://orcid.org/0000-0001-8596-2628>.

**Аннотация.** Жоғары оқу орындарының (ЖОО) арасында ғылыми-зерттеу және ғылыми өнімділік институттық тиімділіктің маңызды көрсеткіштері болып табылады. Бұл зерттеу мақаласы мемлекеттік аудит жүйесі тұрғысынан зерттеу өнімділігінің мәселелерін қарастырады. Шетелдік жоғары аудит органдарының есептеріне сүйене отырып, бұл зерттеу зерттеу өнімділігі мен мемлекеттік аудит әдіснамасы арасындағы өзара байланысты жан-жақты түсінуді қамтамасыз етуге бағытталған. Бұл зерттеудің кілті тиімділіктің іргелі тұжырымдамаларына қатысты анықтамаларды айқындау болып табылады: қолданылатын ресурстар, қол жеткізетін көрсеткіштер, нәтижелер және бағдарламаның немесе ұйымның жалпы ықпалы. Осы тұжырымдамаларды талдау арқылы университеттердегі ғылыми-зерттеу қызметінің тиімділігін бағалаудың нақты және сенімді негізін қамтамасыз етуге ұмтылады. Аудит органдарының есептерін зерделеу арқылы мақала озық тәжірибені нақтылауға және зерттеу өнімділігін арттыру және ЖОО-дағы ресурстарды тиімді пайдалануды қамтамасыз ету үшін жақсартудың әлеуетті бағыттарын анықтауға бағытталған. Мақалада сондай-ақ мемлекеттік аудиттің бағалау процесінің маңыздылығы атап көрсетіліп, зерттеулерді тиімді басқару мен ресурстарды бөлуді ынталандырудағы ашықтық пен есеп берушіліктің рөлі атап өтіледі. Әртүрлі ұлттық контексттерден алынған



дәлелдемелерді зерттей отырып, бұл зерттеу мақаласы сайып келгенде, ЖОО-дағы зерттеу өнімділігін оңтайландыру үшін саяси шешімдер қабылдауға және стратегиялық жоспарлауға көмектесетін практикалық түсініктер мен ұсыныстарды ұсынуға тырысады. Осы стратегиялық тәсілдерді пайдалана отырып, зерттеу қаржы үлгілері, мемлекеттік аудит тетіктері және саладағы институционалдық нәтижелер арасындағы күрделі байланыстарды түсінуді ұсына отырып, институционалдық зерттеу өнімділігін арттыру бойынша тұрақты диалогқа үлес қосуға тырысады.

**Түйін сөздер:** жоғары аудит органдары, тиімділік аудиті; ғылым өнімділігі

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Евразийский национальный университет имени Л.Н. Гумилева,

Астана, Казахстан.

E-mail: ankon\_a@mail.ru

### ***ЭФФЕКТИВНОСТЬ НАУЧНЫХ РЕЗУЛЬТАТОВ: ПЕРСПЕКТИВА ГОСУДАРСТВЕННОГО АУДИТА***

**Абдикадирова Анар Адилхановна** — PhD доктор по экономике, старший преподаватель, Евразийский национальный университет имени Л.Н. Гумилева. 010000 Сатбаев 2, Астана, Казахстан

E-mail: ankon\_a@mail.ru, <https://orcid.org/0000-0001-9738-2479>;

**Темирханов Жарасхан Темирханович** — PhD студент, Евразийский национальный университет имени Л.Н. Гумилева. 010000 Сатбаев 2, Астана, Казахстан

E-mail: zharas1@mail.ru, <https://orcid.org/0000-0001-8596-2628>.

**Аннотация.** В среде высших учебных заведений исследования и научная продуктивность служат важнейшими индикаторами институциональной эффективности. В данной исследовательской статье рассматриваются тонкости продуктивности исследований через призму системы государственного аудита. Опираясь в первую очередь на отчеты высших органов финансового контроля из разных стран, данное исследование направлено на обеспечение всестороннего понимания взаимодействия между продуктивностью исследований и методологией государственного аудита. Ключом к этому исследованию является формулировка определений, касающихся фундаментальных концепций эффективности: входные данные, выходные данные, результаты и воздействие. Посредством анализа этих концепций исследование стремится создать четкую и надежную основу для оценки эффективности исследовательской деятельности в вузах. Углубляясь в отчеты высших органов финансового контроля, статья направлена на разъяснение передового опыта и определение потенциальных областей повышения продуктивности исследований и обеспечения эффективного использования ресурсов в вузах. В статье также подчеркивается важность интеграции перспектив государственного аудита в процесс оценки, с акцентом на роль прозрачности и подотчетности в содействии эффективному управлению исследованиями и распределению ресурсов. Изучая

данные из различных национальных контекстов, эта исследовательская статья в конечном итоге стремится предложить практические идеи и рекомендации, которые могут помочь в принятии политических решений и стратегическом планировании для оптимизации продуктивности исследований в вузах. Используя эти стратегические подходы, исследование стремится внести свой вклад в постоянный диалог, посвященный повышению производительности исследований и науки в вузах, предлагая понимание сложных взаимосвязей между финансовыми моделями, механизмами государственного аудита и институциональной деятельностью в этой области.

**Ключевые слова:** высшие органы аудита, аудит эффективности, производительность науки

### ***Introduction***

Higher Education Institutions (HEIs) play a critical role in fostering research and scientific innovation, serving as the epicenter for knowledge creation, dissemination, and application within a society. The productivity and efficiency of research activities within these institutions have far-reaching implications for national development, economic growth, and global competitiveness. In recent years, the evaluation of research productivity in HEIs has garnered increasing attention, particularly in the context of optimizing resource allocation and promoting transparency in the utilization of public funds. Within this realm, the incorporation of public audit perspectives has emerged as a vital mechanism for ensuring accountability and enhancing the overall effectiveness of research management. In the specific context of Kazakhstan, a rapidly developing country with a growing emphasis on knowledge-based economic strategies, the need for a comprehensive understanding of research productivity within HEIs is paramount. With a burgeoning commitment to advancing scientific research and technological innovation, Kazakhstan's HEIs are positioned to become pivotal hubs for generating knowledge and driving societal progress. However, to ensure the efficient utilization of resources and the attainment of strategic national objectives, it is imperative to establish a robust framework for evaluating research productivity from a public audit perspective.

This research article seeks to address this pressing need by delving into the intricacies of research productivity and efficiency in HEIs in Kazakhstan, focusing on the crucial role of public audit in the assessment and enhancement of institutional performance. Through an in-depth exploration of the reports of supreme audit institutions from various countries, the study endeavors to provide valuable insights into the best practices, challenges, and opportunities for improving research productivity within the Kazakhstani HEI landscape.

Central to this examination is the formulation of clear definitions and conceptual frameworks that underpin the assessment of research productivity. Key concepts, including input, output, outcome, and impact, will be delineated to establish a comprehensive understanding of the factors influencing research effectiveness within HEIs. By elucidating these fundamental concepts, the research aims to create a

solid foundation for evaluating the relationship between financing models, resource allocation, and the outcomes and impacts of research activities. Furthermore, this study recognizes the significance of integrating public audit perspectives in the assessment process, as transparency and accountability are vital elements for fostering a culture of responsible research management. By analyzing and synthesizing data from supreme audit institution reports, this research article seeks to provide actionable recommendations and strategies that can inform policy decisions and drive systemic improvements in research productivity and efficiency within Kazakhstan's HEIs. Through this comprehensive analysis, the study aims to contribute to the ongoing discourse on the optimization of research management and the enhancement of knowledge creation within HEIs, with implications for the broader landscape of scientific advancement and societal progress in Kazakhstan.

A proposition has been introduced for an upcoming rise in expenses dedicated to research and development. Nevertheless, there remains an absence of clarity regarding the means of gauging its efficiency and impact. This issue is the central focus of this paper: examining the predominant trends in performance audit practices globally concerning research productivity. To investigate this matter, the following research questions have been devised: 1) What are the fundamental methods employed by Supreme Audit Institutions in different countries for conducting performance audits? 2) What constitutes the principal structure of the reports? 3) What are the key recommendations for implementing these methods in cases concerning research productivity issues?

Our study is characterized by a forward-looking perspective as we strive to anticipate the future ramifications of the existing approaches. The Methods and Materials section elaborates on the scrutinized performance audit reports, their prerequisites, patterns, and the specific frameworks upon which our focus is concentrated. The subsequent section succinctly reviews relevant literature pertaining to current trends in performance audit practices. Subsequently, we present our primary findings, uncovering potential prospects. Leveraging international experience and considering our main stakeholders, including government, higher education institutions, and researchers, we provide several recommendations and discuss our significant discoveries. Finally, we summarize our study and propose future avenues for research that warrant exploration.

### **Materials and methods**

We primarily sourced our data by examining official performance audits conducted by supreme audit institutions. As outlined in the Organisation for Economic Co-operation and Development Public Governance Reviews (OECD, 2016), ten active Supreme Audit Institutions were identified in countries including Brazil, Canada, Chile, France, Korea, the Netherlands, Poland, Portugal, South Africa, and the United States. Furthermore, our research indicated that pioneer countries in public auditing, such as the UK and Australia, have well-established public sector audit systems. However, limited accessibility to reports or publication in national languages was observed in some countries. Consequently, we expanded our search using keywords

related to higher education institutions, science, and research funding to supplement our findings. While the available reports related to our specific topic were scarce, we broadened our scope to incorporate additional audit reports to gain a comprehensive understanding of performance audits in general. The approach employed for document analysis is illustrated in Figure 1. The final step involved comparing our findings with the proposed framework for performance auditing as per international standards.

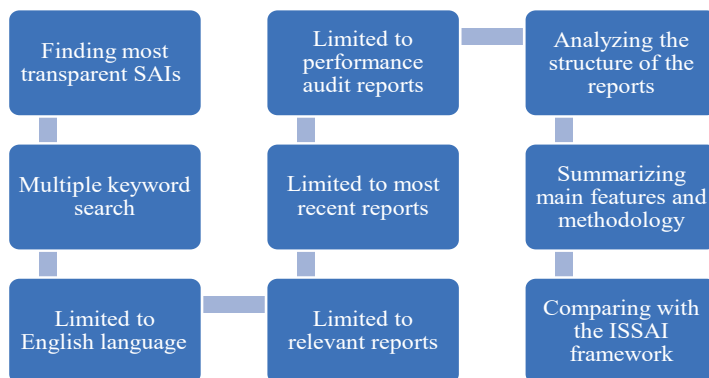


Figure 1 – Search inclusion and exclusion strategy

Fischer (2005) defines document analysis as a systematic method for examining and evaluating both physical and digital textual materials. Similar to other qualitative research methodologies, document analysis involves the careful scrutiny and interpretation of data to extract significance, obtain knowledge, and establish empirical support. Through the process of triangulation, researchers aim to corroborate findings by integrating information from diverse sources, thereby minimizing the influence of potential biases that might be present in a single data set (Rapley, 2018). The specific procedures employed in document analysis are contingent upon the researcher's epistemological standpoint, underscoring the importance of comprehending the epistemological underpinnings of the research.

In this research, we employed the traditional content analysis method, a common document analysis technique used to identify specific terms or ideas within texts or collections of texts. This method involves quantifying and studying the presence, meanings, and associations of these terms and ideas to make inferences about the messages conveyed in the texts, as well as the authors, readers, and broader cultural and historical contexts they belong to. While content analysis is typically considered a qualitative research approach, it comprises three distinct methods—conventional, directed, and summative—used for interpreting textual data. The primary advantage of this approach lies in its capacity to illuminate intricate patterns of human language and thought that may be challenging to investigate using alternative methodologies. Nevertheless, our study encounters certain limitations, including the time-consuming nature of content analysis, the absence of a clear theoretical framework, and the propensity to make extrapolations about the relationships and impacts suggested in the study.

*The extent and development of performance auditing.*

Performance auditing has experienced notable developments in recent decades, garnering substantial attention from both scholars and professionals. Its rise, progression, alteration, and consequences across different international settings have been significant areas of focus (Parker et al., 2021). According to Hatherly and Parker (1988), performance auditing is defined as an autonomous investigation and assessment of an entity's operations' cost-effectiveness and the efficacy of its initiatives. Nevertheless, this definition remains open to considerable variations and interpretations, with Parker et al. (2019) and Guthrie and Parker (1999) suggesting that performance auditing is a flexible concept rather than a definitive evaluation tool, and it defies universally grounded definitions. Supreme audit institutions (SAIs) and national audit offices worldwide have devised diverse interpretations for performance auditing. The International Organization of Supreme Audit Institutions (INTOSAI), the overarching platform for performance auditing bodies globally, states that performance auditing aims to enhance efficiency, cost-effectiveness, and effectiveness within the public sector. It also strives to promote good governance, accountability, and transparency (ISSAI, 2019).

Performance auditing has demonstrated its diverse applicability due to its adoption across different political and institutional environments in various countries (Lonsdale et al., 2011). The characterization of performance auditing as a "malleable masque" by Guthrie and Parker (1999) emphasizes that it should not be seen solely as a neutral or technical procedure but rather as a flexible social concept that evolves over time and is shaped by the particular societal, political, and institutional settings in which it is implemented (Parker et al., 2021). This highlights the intricate and multifaceted nature of public sector performance, which is influenced by cultural, social, political, and institutional interpretations as well as the auditors' adoption of different rationalities (Tillema & ter Bogt, 2010; 2016).

Although forms of government auditing were present earlier, the contemporary form of performance auditing originated in the 1970s (Lonsdale et al., 2011). Before the 1970s, the primary responsibility of audit offices was to conduct financial statement audits, focusing mainly on the validation of financial information, as stated by Wanna et al. (2001). Since then, the application and significance of performance auditing have expanded, leading to increased interest among scholars. This review encompasses peer-reviewed journal articles on performance auditing to ensure the inclusion of high-quality research in the analysis. Given that performance auditing combines elements from both accounting and public administration and management (PAM), efforts were made to identify papers published in both accounting and PAM journals. This selection process aligns with the methodologies employed by previous researchers (Anessi-Pessina et al., 2016; Jacobs, 2012).

The fundamental aspect of any audit is the overall audit approach, serving as a crucial connection between the audit objectives and the audit questions. According to the The INTOSAI Development Initiative (IDI, 2021), there are three primary approaches for conducting a performance audit, namely the result-oriented, problem-

oriented, and system-oriented approaches. When formulating audit objectives and questions, it is essential to determine whether one or a combination of these approaches will be utilized.

In the result-oriented audit approach, the assessment focuses on the achievement of outcomes or output objectives and the proper functioning of services as intended. Findings are presented as deviations from performance criteria, with recommendations aimed at addressing the underlying causes of these deviations. This approach involves evaluating performance in terms of economy, efficiency, and effectiveness, aligning observations with goals, objectives, regulations, or audit criteria. Establishing credible criteria might require collaboration with experts if the criteria are challenging to establish.

Conversely, the problem-oriented audit approach begins by identifying a preliminary problem, which may or may not necessitate further verification during the audit process. It emphasizes the examination, verification, and analysis of the causes of performance issues. This approach is suitable when there is general agreement on a problem, even in the absence of a clear definition of desired outcomes or outputs. Conclusions and recommendations are drawn from an analysis of causes, utilizing criteria that enable the assessment of how specific factors contribute to the identified problem. Analyzing the causes from various perspectives is a key task within the problem-oriented audit approach.

On the other hand, the system-oriented audit approach scrutinizes the effective functioning of management systems. This approach may employ performance benchmarks and principles of effective management as criteria to assess the conditions of economy, efficiency, or effectiveness, even if there is no clear consensus on a problem or when outcomes or outputs are not explicitly defined. In order to communicate the significance of weaknesses in management systems to report users, it is vital to identify the causes of these weaknesses and establish plausible connections to how they impact operations. A comprehensive use of this type of audit seeks to address a wide range of inquiries, describing the functionality of activities, the root causes of any weaknesses, and the potential for improvement.

Despite the increasing number of studies in this area, certain aspects remain under-researched, and contentious issues require more comprehensive attention. There is still limited knowledge regarding how to mitigate the unintended consequences of performance auditing and how to strike an effective balance between public accountability and performance enhancement. Literature indicates that performance auditing influences the identities of both auditors and auditees, yet further exploration is necessary to comprehend the requisite training, skills, and professional expertise essential for conducting meaningful performance audits.

### ***Results and discussion***

We have made use of seven official value for money reports from four distinct countries: Australia, France, The Netherlands, and the United Kingdom. These reports provided a thorough account, encompassing essential elements like methodology, scope, background information, and recommendations. Please refer to Table 1 for specific details regarding the reports.

Table 1 – geographical distribution and description of reports

Report title	SAI name	Issued year	Brief description
The Australian Research Council's Management of Research Grants	The Australian National Audit Office	2006	The objective of this audit was to form an opinion on the Australian Research Council's management of research grants.
Administration of the Research Block Grants Program	The Australian National Audit Office	2013	The Australian Government provides funds to the higher education sector to support research and research training through a dual funding arrangement. One of them is a performance-based system for annual block funding administered by the Department of Industry, Innovation, Science, Research and Tertiary Education
Improving the UK's science capability for managing animal diseases	The National Audit Office of the United Kingdom	2022	The Animal and Plant Health Agency's Weybridge site houses the UK's primary science capability for managing threats from animal diseases.
UK Research and Innovation's management of the Industrial Strategy Challenge Fund	The National Audit Office of the United Kingdom	2021	The Industrial Strategy Challenge Fund – the responsibility of UK Research and Innovation – supports the Industrial Strategy's objective to raise long-term productivity and living standards. By January 2021 the Fund was supporting 1,613 projects. To date, UKRI has spent around £1.2 billion of the Fund's eight-year budget of £3 billion.
The Added Value of EU Grants in the Netherlands	The Netherlands Court of Audit	2022	In the period 2014-2020, the Netherlands was awarded approximately €1 billion a year in EU grants under shared management. The European Commission and the Dutch government are jointly responsible for the use of grants awarded under shared management.
Special Purpose Grants Awarded to the Caribbean Netherlands	The Netherlands Court of Audit	2021	This report looks at the development of special grants awarded to the Caribbean Netherlands, considering them from the perspective of central government expenditure in the Caribbean Netherlands and the public bodies' revenues.
Funding for Public Research in the Fight against the Covid-19 Pandemic	The Court of Accounts of France	2021	devoted to the financial resources mobilised for public research as part of the fight against the COVID-19 pandemic, results from a survey carried out in the particular context of the health crisis. It is inspired by the models chosen by other senior foreign supervisory institutions.

*The Australian Research Council's Management of Research Grants.* The Australian National Audit Office (ANAO) conducted an assessment of the Australian Research Council's (ARC) management of research grants, focusing on governance, grant assessment, post-award management, and performance monitoring (The Australian National Audit Office, 2006). The evaluation emphasized adherence to

legislative requirements and best practice standards in grant administration. The audit revealed various areas where ARC's practices could be enhanced. Regarding its structure and governance, the audit highlighted the need for improved business continuity strategies and formalized communication protocols between ARC and the Department of Education, Science, and Training (DEST). Strengthening conflict of interest guidelines and implementing a register of interests for committees was also advised. In the context of grant assessment and selection, the absence of a consolidated annual calendar and delayed release of funding rules posed challenges. The complexity of the application and assessment processes led to inadequate documentation of selection panel decisions, resulting in insufficient feedback for grant recipients. The audit pointed out significant deficiencies in ARC's post-award grant management, such as a lack of comprehensive processes for monitoring progress and reporting, and retrospective approval of project variations. Non-compliance with reporting requirements compromised ARC's ability to ensure the effective utilization of funds and achievement of grant objectives. In terms of monitoring and performance, the audit identified a lack of alignment between performance indicators and reporting, with minimal reporting against effectiveness indicators. There was also a need for more comprehensive data collection and monitoring practices, particularly in the context of integrating national research priorities into the grant programs. In light of these findings, the audit recommended the implementation of enhanced governance mechanisms, streamlined communication channels, and transparent documentation processes to improve the transparency and efficiency of ARC's grant management. It underscored the significance of robust performance monitoring and data collection practices to ensure the effective utilization of research funds and the achievement of program objectives.

*Administration of the Research Block Grants Program.* The Australian Research Block Grants Program (RBG) is a key funding mechanism supporting the higher education sector's research and training activities. The program, initiated in 1995, operates alongside the competitive grant system, distributing over \$1.7 billion to universities in the 2012–13 fiscal year. RBG comprises six schemes aimed at fostering research excellence, collaborations, and best practices. Its funding is primarily governed by the Higher Education Support Act 2003 (HESA Act), which sets out the legislative framework for financial assistance to higher education providers and students. The dual funding model, comprising RBGs and competitive grants, is designed to ensure stability and flexibility for universities to maintain long-term strategic research capabilities while supporting emerging research areas. The RBG program has evolved over time to address various government priorities, expanding its focus to encompass diverse areas such as research education, financial management, and performance reporting. Government-led reforms since 2009, including the introduction of the Sustainable Research Excellence and Joint Research Engagement schemes, have further emphasized the RBG program's role in promoting research excellence, collaboration, and increased research group performances. Mission-based compacts with universities and the Excellence in Research Australia (ERA)



initiative have facilitated coordinated efforts in achieving reform objectives. The RBG program's administration is under the purview of the Department of Industry, Innovation, Science, Research, and Tertiary Education (DIISRTE). The department's role involves planning, implementing, and monitoring the effectiveness of the program, including the calculation and distribution of funds based on performance indices derived from specific scheme formulas. However, the ANAO audit highlights certain areas for improvement, particularly in enhancing data quality assurance strategies, developing outcome-focused performance indicators, and aligning scheme objectives with government priorities. The audit also recommends the implementation of a formal risk management framework to address potential implementation risks associated with program changes. Furthermore, the establishment of a balanced monitoring and reporting framework is proposed to measure the program's impact on achieving higher education sector reforms. The Department has acknowledged the ANAO's recommendations and is taking steps to develop a comprehensive data quality strategy and refine performance indicators while recognizing the complexities associated with measuring research quality and impact.

*Improving the UK's science capability for managing animal diseases.* The UK's Science Capability for Managing Animal Diseases Programme is a critical initiative necessitated by the significant impact of animal diseases on the UK's food industry and trade. The Programme aims to redevelop and transform the Weybridge site, the primary facility for managing animal disease threats, with an estimated implementation cost of £2.8 billion over 15 years. The Programme's scope has expanded to include various transformations beyond construction. Deficiencies in long-term asset management and underinvestment in Weybridge have led to the deterioration of its facilities, posing a substantial risk to the UK's disease management capabilities. To address these challenges, the report recommends prioritizing a comprehensive asset management strategy for Weybridge and fostering a system-level risk management approach with clear accountability across stakeholders. While the Programme demonstrates progress, it has experienced delays due to inadequate scope understanding and insufficient investment. The report suggests enhancing staff recruitment efforts and adopting best commercial practices to align contractual incentives. Moreover, there is a need to integrate science and digital transformation elements before finalizing construction contracts to minimize potential cost escalations. To ensure effective decision-making, the report advises expressing uncertainty in cost and schedule estimates and establishing robust benefit estimates within the next Programme Business Case. These steps are crucial for assessing the Programme's impact and aligning with the strategic goals of Defra and the Animal and Plant Health Agency. By implementing these recommendations, the Programme can effectively mitigate risks and achieve its objectives, thereby delivering value for money and safeguarding the UK's animal health security.

*UK Research and Innovation's management of the Industrial Strategy Challenge Fund.* The National Audit Office (NAO) recently published a report on the management of the Industrial Strategy Challenge Fund (ISCF) by UK Research and

Innovation (UKRI) and the Department for Business, Energy & Industrial Strategy (BEIS). The ISCF, established in 2016 and funded through the National Productivity Investment Fund, aims to address major industrial and societal challenges by promoting investment in science, research, and innovation. The report highlighted key aspects of the Fund, including its budget, the number of challenges addressed, and the support provided to various projects. The report emphasized the multifaceted nature of the Fund's objectives, focusing on increasing R&D investment, promoting interdisciplinary research, fostering engagement between academia and industry, supporting collaborations between small and established companies, and attracting foreign investment. The Fund's operational framework was described, including the stages of identifying and approving challenges and projects, which were found to involve lengthy approval processes. The report also highlighted issues related to the geographical distribution of funding and the involvement of small and micro-enterprises. While the report acknowledged the positive performance of the Fund in attracting interest from industry and academia and supporting a substantial number of projects, it emphasized the importance of aligning objectives with measurable impacts and streamlining the decision-making process. It recommended a re-evaluation of the Fund's performance measurement, a review of the approval processes to expedite decision-making, an examination of the factors influencing regional funding distribution, and an assessment of the impact of co-investment funding conditions on business size. These recommendations were proposed to enhance the Fund's effectiveness and ensure its contributions align with broader national objectives, including the government's 'levelling up' agenda.

*The Added Value of EU Grants in the Netherlands.* The audit conducted by the Netherlands Court of Audit aims to assess the effectiveness and efficiency of European Union (EU) grants under shared management in the Netherlands. The audit is motivated by the significant financial allocation from the EU budget to member states, with the Netherlands receiving approximately €7.4 billion in EU grants between 2014 and 2020. While the regularity of grant expenditure has been accounted for, there is a lack of comprehensive evaluation regarding the efficiency and effectiveness of these funds. The study examines the added value of EU grants in the country, evaluating their impact on various sectors, including agriculture, integration projects, and innovation initiatives. The audit aims to determine the significance of these grants in enabling activities that might not have been feasible otherwise and their contribution to achieving grant and program objectives. To achieve these objectives, the audit employs a multifaceted methodology. Surveys were conducted among both recipients and rejected applicants of EU grants, supplemented by in-depth interviews with select applicants. The study also involved an examination of documents from relevant ministries and information collected from public sources. The scope of the audit focused on eight specific EU funds under shared management during the 2014–2020 period, with certain exceptions, such as the Fund for European Aid to the Most Deprived and a specific segment of the European Agricultural Guarantee Fund. The report concludes with recommendations aimed at enhancing the added

value of EU grants in the Netherlands. These recommendations include performing comprehensive problem analyses for better allocation of funds, allocating budgets based on substantive justifications, establishing national indicators to assess program outcomes, and implementing timely evaluations to facilitate necessary improvements within the current programming period. The report emphasizes the importance of optimizing the utilization of EU grants to ensure maximum benefits, highlighting the significance of thorough problem analyses, well-defined indicators, and timely evaluations. The Dutch government is urged to pay heed to the recommendations, thus enhancing the overall impact of EU funds in the country.

*Special Purpose Grants Awarded to the Caribbean Netherlands.* The report discusses the audit findings on the coordination and supervision of special purpose grants provided to the Caribbean Netherlands, specifically Bonaire, St Eustatius, and Saba. These grants, awarded between 2011 and 2019, amounted to \$162.6 million. However, the study reveals several issues. First, the Minister of the Interior and Kingdom Relations (BZK) has not effectively promoted policy coherence, resulting in a growing proportion of special purpose grants that overshadow general grants. Limited coordination between awarding ministers and BZK and Finance Ministries has led to insufficient consideration of structural costs, creating socioeconomic disadvantages. Steps have been taken to enhance coordination through administrative agreements between the Netherlands and Bonaire, Saba, and Saba. However, there are significant shortcomings in the supervision of regularity, efficiency, and effectiveness in Bonaire and St Eustatius, with their financial management being inadequate for several years. Saba has shown better financial management practices. Moreover, the information provided to parliament lacks traceability and completeness, requiring improved budget checks. In response to these findings, the Council of State proposed integrated solutions, emphasizing the need for an investment fund managed by the Minister of BZK. The report recommends prioritizing the implementation of the Council of State's suggestions, enhancing statements of special purpose grants, and improving financial management in Bonaire and St Eustatius. These actions aim to ensure policy coherence, effective supervision, and better financial control in the region. The report emphasizes the necessity of comprehensive and accurate reporting to foster transparency and accountability in the distribution and utilization of special purpose grants.

*Funding for Public Research in the Fight against the Covid-19 Pandemic.* The comprehensive review of research funding during the COVID-19 crisis in France revealed significant systemic challenges in the country's biomedical and biotechnology research sector. One of the key issues highlighted was the fragmentation of initiatives and the lack of centralized control, leading to redundancy and a scarcity of collaborative efforts. The absence of a central governing body further complicated the situation, emphasizing the need for a more unified approach under the Ministry of Higher Education, Research, and Innovation (MESRI). The report stressed the importance of establishing regularly updated research databases to streamline efforts and promote more effective coordination. Furthermore, the report shed light on the

inadequacies in prioritizing research, particularly in terms of vaccine research and the formation of patient cohorts for clinical trials. It emphasized the significance of sustained public support for national research infrastructure and the crucial role of strengthened collaboration between research units and industrial sectors. The rigidity of administrative processes was also underscored, emphasizing the need for streamlined collaborative procedures and standardized management rules within research organizations. In the context of the audit conducted by the Court of Accounts, the principles of independence, review, and collegiality were emphasized. The audit, conducted in an accelerated "flash" format, meticulously outlined the methodological precautions taken to assess the allocation and mobilization of resources for public research during the pandemic. Despite the expeditious nature of the investigation, the data presented reflected a comprehensive and diverse range of funding channels utilized during the crisis. The report highlighted a notable disparity between the financial efforts made in France and those of other European countries, attributing organizational limitations as a significant factor hindering a more effective response to the crisis.

A performance audit in the public sector is a systematic examination of the effectiveness, efficiency, and economy of government operations. It aims to assess whether government entities are achieving their objectives in an efficient and cost-effective manner, thereby ensuring accountability and promoting transparency in the use of public resources. The process typically involves several key stages. The first stage of a performance audit involves defining the scope and objectives of the audit, which includes identifying the specific programs, activities, or functions that will be assessed. This step is crucial as it sets the parameters for the entire audit process, ensuring that the audit focuses on relevant and significant aspects of the public sector's performance. The next step entails conducting a comprehensive review of relevant laws, regulations, policies, and procedures governing the activities under scrutiny. This helps auditors to establish the criteria against which the performance of the public sector entity will be evaluated. By comparing the actual performance with the established criteria, auditors can identify any discrepancies or inefficiencies that may exist within the system. Following this, auditors collect and analyze pertinent data, such as financial records, operational reports, and performance metrics. This data serves as the basis for assessing the efficiency and effectiveness of the public sector entity's operations. Through data analysis, auditors can identify trends, patterns, and anomalies that may indicate areas of improvement or concern within the organization. Once the data analysis is complete, auditors evaluate the findings to identify strengths, weaknesses, opportunities, and threats within the public sector entity. This evaluation involves a thorough examination of the root causes of any inefficiencies or shortcomings, as well as an assessment of the impact of these issues on the entity's overall performance. Based on the evaluation, auditors develop recommendations and action plans aimed at addressing the identified weaknesses and improving the overall performance of the public sector entity. These recommendations often include strategies for enhancing operational efficiency, strengthening internal controls, and

optimizing resource utilization, all of which are designed to promote better governance and accountability within the public sector.

Finally, auditors present their findings, conclusions, and recommendations in a comprehensive audit report, which is typically shared with relevant stakeholders, including government officials, policymakers, and the general public. This report serves as a vital tool for fostering transparency and accountability in the public sector, as it highlights areas for improvement and provides a roadmap for implementing necessary changes to enhance the entity’s performance and service delivery. Figure 2 displays the audit matrix derived from the examined reports.

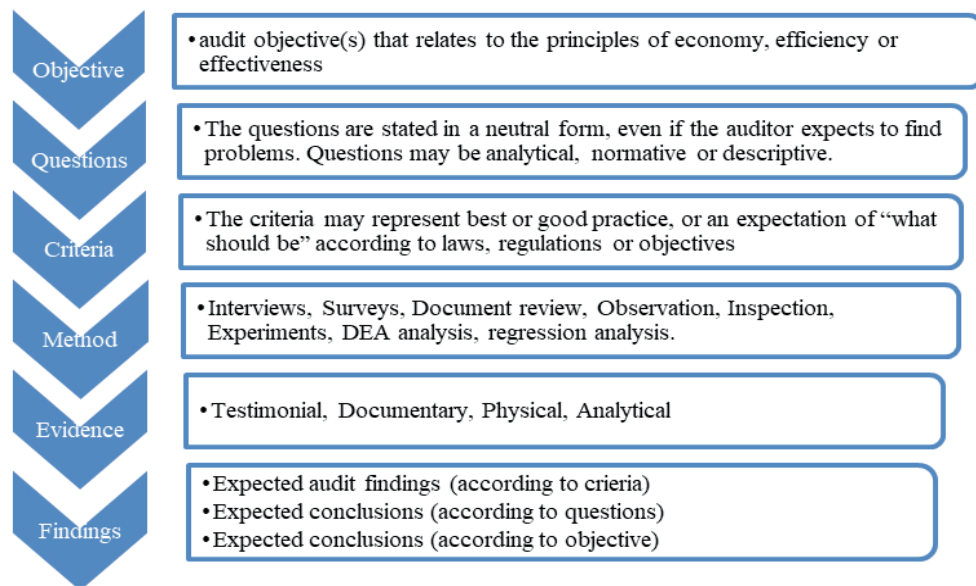


Figure 2 – the audit design matrix

**Conclusion**

In conclusion, the analysis of the seven official value-for-money reports from Australia, France, The Netherlands, and the United Kingdom provided comprehensive insights into the effectiveness, efficiency, and economy of government operations within the context of diverse sectors and challenges. These reports offered a detailed assessment of various grant management programs, disease management initiatives, funding strategies, and coordination of special purpose grants, particularly in response to the global challenges posed by the COVID-19 pandemic. Collectively, they highlighted the importance of robust governance mechanisms, transparent documentation processes, and streamlined communication channels to ensure the efficient utilization of resources and the achievement of program objectives.

The reports revealed common themes across different sectors, including the imperative of enhanced data quality assurance, the implementation of outcome-focused performance indicators, and the alignment of program objectives with broader national priorities. They also emphasized the need for improved risk management

frameworks and balanced monitoring and reporting systems to facilitate effective decision-making and promote accountability. Furthermore, the reports underscored the significance of fostering collaborative efforts between different stakeholders, such as government entities, research organizations, and industrial sectors, to foster innovation and maximize the impact of research initiatives. Moreover, the findings emphasized the necessity of strategic planning and streamlined administrative processes to facilitate timely and effective responses to crises, as highlighted in the case of the COVID-19 pandemic. The reports emphasized the importance of establishing centralized control and coordination, alongside the adoption of standardized management rules and streamlined collaborative procedures, to ensure the efficient allocation and mobilization of resources during emergency situations.

Overall, the reports' recommendations aimed to promote a culture of continuous improvement and accountability within the public sector, emphasizing the significance of transparent and well-defined indicators, comprehensive problem analyses, and timely evaluations. The findings and recommendations presented in the reports serve as crucial guidelines for policymakers, government officials, and relevant stakeholders in the examined countries, providing a roadmap for enhancing the governance and performance of various sectors and programs. They underscore the critical role of performance audits in fostering transparency, accountability, and effective utilization of public resources, ultimately contributing to the overall development and well-being of societies.

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