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BUILDING A POSITIVE ACADEMIC CULTURE BY IMPROVING RESEARCH EVALUATION

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ABSTRACT

Research-derived knowledge plays an important role in economic development and has great social significance. University evaluations conducted within national evaluation systems aim to improve the quality of scientific research and its social impact. It is reasonable to consider whether improving the functioning of evaluation systems can also entail building a positive, healthy academic culture, strengthening scientific culture, and increasing interest in results consistent with social needs and sustainability research. These systems should have a positive impact on shaping an academic culture that ensures that research funding is directed towards meeting legitimate social needs, rather than merely reflecting the individual ambitions of researchers. In turn, beneficial changes in academic culture can lead, among other things, to an improved working environment, a supportive environment for researchers, and the creation of institutions based on trust and quality. This paper analyzes how the term "academic culture" is conceptualized in the literature on research evaluation and identifies the main themes and concepts that link research evaluation to academic culture. Additionally, in connection with promising experiments using AI to evaluate research scientific excellence, an attempt was made to answer the following question: can AI not only improve research evaluation but also shape academic culture, foster a friendly working environment for researchers, and enhance their dialogue with society? In answering this question, the specificity of research institutions was taken into account, resulting from different operating models, i.e., those based on the Weberian paradigm (WP) or those closer to the principles of New Public Management (NPM). Attention was also drawn to the hitherto underutilized potential of AI-based methods, which can serve as a basis for developing solutions to improve evaluation mechanisms and shape academic culture appropriately.

KEYWORDS: Academic Culture, Research Assessment, Scientific Culture, Sustainability Research, Societal Impact of Research, Literature Study, Bibliometric Indicators, Artificial Intelligence.

1. INTRODUCTION

There is growing interest among scientists and policymakers in the concepts of "research environment," "research culture," and "academic culture," which help describe the principles of conducting and improving scientific research, as well as managing it (Callard, 2024). A well-developed academic culture promotes stakeholder involvement, transparency, inclusiveness, and a commitment to achieving the desired social impact. It encourages dialogue between scientists and the wider community, builds trust in scientific processes, and increases researchers' sensitivity to social needs. This mutual relationship strengthens the legitimacy of science and ensures that research programs are better aligned with the public interest.

Stakeholder engagement is seen as essential for enhancing the relevance of research, improving research evaluation and societal impact of research, and supporting sustainable development. This is achieved by improving academic culture through transformative learning, increasing the relevance of local communities, and applying the principles of human-centered sustainable development (Leal Filho et al., 2025).

Academic culture can be improved by refining systems for assessing scientific excellence and research impact, and can also be a key element in creating the right conditions for conducting inspiring scientific research with the desired social impact. The scientific community has high hopes for the development of responsible research assessment principles and the promotion of a sustainable academic and research culture, which are particularly eagerly awaited by groups of scientists disappointed with the subjective nature of research assessments (Muhonen & Himanen, 2024).

Appropriate conditions enable stable scientific work and high-quality research. This research should be systematically evaluated in terms of the significance of the results obtained for society. Scientific projects should generate knowledge that is both economically valuable and socially important. National evaluation systems, such as the UK's Research Excellence Framework (REF), help to justify public investment in scientific research by gathering evidence of the benefits of funding such projects (Sutton, 2020).

The functioning of many scientific institutions and cooperation networks carrying out research projects requires public funding, which depends on the results and recommendations of national research evaluation systems. The relevance of results to society should be measured using a new generation of research impact evaluation approaches, but, due to significant challenges, many researchers doubt the possibility of developing an effective evaluation approach based on standardized methods and indicators (Joly & Matt, 2022). The quality of evaluation systems has a significant impact on the working atmosphere in scientific environments, and their functioning is associated with both desirable and undesirable consequences. It can even be observed that evaluation processes conducted in conditions of growing competition for funding can sometimes lead to conflict situations and increase feelings of pressure and threat among researchers, as the results obtained in terms of scientific productivity and the social impact of research are key factors in the survival of scientific institutions and the success of their employees. In the context of these key challenges, it is understandable to seek new AI tools that would support an effective, fair, and non-controversial assessment of the usefulness and social impact of research, promote a friendly working environment for researchers, and strengthen dialogue with society.

Initial experiments using AI to evaluate research scientific excellence in universities are promising (Grzeszczyk, 2025). This raises the question: can AI not only contribute to improving research evaluation, but also to shaping academic culture, building a friendly working environment for researchers, and improving their dialogue with society? This question opens up a vast space for scientific research, in which it is worth paying attention to the specificity of national systems supporting research evaluation and research institutions, resulting from different operating models, i.e., those based on the Weberian paradigm (WP) or closer to the principles of New Public Management (NPM). It is also important to note the hitherto underutilized potential of artificial intelligence-based methods, which can serve as a basis for developing solutions to improve evaluation mechanisms and shape academic culture. Skillful improvement of research evaluation models (e.g., by introducing less mechanistic quantitative measures, increasing the importance of qualitative expert assessments, and recognizing diverse forms of achievement) has a positive impact on academic and organizational culture, reduces stress among researchers, and improves working conditions, making them more friendly.

2. SCIENTIFIC CULTURE AND ACADEMIC CULTURE

Scientific culture is the foundation of how

societies generate, nurture, and apply knowledge derived from scientific research. It encompasses the values, practices, norms, and conditions that define the environment in which research is conducted. Scientific culture determines the importance of science for society by building a scientific ecosystem that supports the scientific community, operates in accordance with its ethos, and provides working conditions appropriate to its financial situation (Bauer, 2025).

An important subset of the concept of "scientific culture" is the term "academic culture," which represents the institutional and organizational layer of scientific culture. Academic culture is shaped by shared beliefs and norms that influence practices, decision-making processes, and outcomes related to teaching and scientific activity within academic institutions. There is no uniform definition of this type of culture, and it can generally be assumed that scientific culture and academic culture together constitute a system of norms, practices, and values.

The application of a sound academic culture, grounded in norms, practices, and values, can provide a basis for robust and productive research processes. This culture often entails significant pressure to produce scientific results, and the evaluation of scientific productivity and the social impact of research greatly shapes behaviors and values in the academic environment. The pressure to achieve results significantly impacts the research processes of knowledge creation. In addition, there is a strong link between evaluation processes and modifications to institutional structures (Simula & Scott, 2020).

A robust academic culture should provide a solid foundation for the effective pursuit of knowledge, without isolating laboratories and academic institutions from their socio-economic environment. The generation of new knowledge is inextricably linked to economic development and social welfare. Therefore, improving academic culture is not only a matter of supporting the improvement of the research environment, but also a strategic imperative to harness the potential of science to address important social challenges.

One of the key aspects of academic culture is ensuring appropriate, stable, long-term conditions for conducting research, which, by its very nature, is characterized by considerable uncertainty, requires long periods of work, and where real breakthroughs cannot be precisely planned. A positive working environment and high academic culture are essential for conducting valuable, high-quality research with significant social impact (Roberts et al., 2024).

Significant innovations often arise from exploratory work that has no immediate practical applications. Therefore, science policymakers bear a key responsibility for creating funding frameworks that prioritize not only short-term results but also improving the overall quality of research and facilitating the creation of strategically important knowledge. By providing researchers with the resources and stability necessary to work in a dynamic environment, policymakers directly influence the ability of scientific endeavors to make a significant contribution to social and economic progress.

Researchers' working conditions are a key element of scientific culture. Researchers interact in complex and dynamic systems in which intellectual freedom, access to appropriate infrastructure, interdisciplinary cooperation, and opportunities for professional development determine their ability to innovate. Many studies focus on identifying factors and analyzing their impact on researchers' results. Such factors may include: satisfaction with the work environment, job satisfaction, support from management, work-life balance, and relationships between colleagues (Alkadash et al., 2025). Efforts should be made to shape the conditions under which these systems operate so that they respect and support the basic needs of researchers and foster their creativity and scientific integrity. On the other hand, uncertain employment conditions, excessive administrative burdens, and a narrow focus on measurable results, such as publication indicators, can undermine the quality of research and reduce its social relevance.

Cultivating a strong scientific culture is inextricably linked to understanding and increasing the social impact of research. The knowledge generated as a result of scientific research should be evaluated not only using academic indicators, but also in terms of its potential to improve the quality of life, reduce social inequalities, and support the generation of effects consistent with the concept of sustainable development. This requires systematic analysis and evaluation of the social impact of research, which, in turn, shapes the proper formulation of policies and funding strategies.

Measuring the social impact of research makes it possible to create conditions for effectively bringing science closer to society and using the results obtained to identify problems to be solved. By assessing how research results translate into measurable social benefits, decision-makers can improve the conditions for conducting scientific research, ensuring the continuous evolution of

academic culture to meet the needs of society. Intensive research is being conducted to improve the prediction of social impact and its measurement after the completion of research (Gómez et al., 2022). Work on improving methods of evaluating research and social impact contributes to the appropriate development of academic culture.

3. RESEARCH EVALUATION AND ACADEMIC CULTURE

Research evaluation positively shapes research culture through the application of evaluation principles and practices, as well as incentive and penalty mechanisms, thereby indirectly influencing improvement in the broader context of scientific culture, understood as shared values, epistemic norms, and ethical principles governing the creation and verification of scientific knowledge. The culture of scientific research comprises practices, values/beliefs, and norms/expectations (Dewey et al., 2021).

Numerous studies have confirmed that there are legitimate concerns in various scientific disciplines about the significant pressure associated with research work, the evaluation of its results, and the negative impact of a poor research culture (Jong et al., 2021). The introduction of performance-based research funding systems has varying effects on the quality of work, the attitudes of researchers, and changes in the measurable outcomes of scientific research (Buckle & Creedy, 2022). Studies that take into account, among other things, well-being, job stability, inclusiveness, and the quality of the research environment show that a stronger research culture is associated with a better working environment and better evaluation outcomes for researchers (Blatch-Jones et al., 2024). Improving university research culture and ensuring a supportive research environment are key to conducting high-quality research in conditions that promote the well-being of research institution employees (Roberts et al., 2024).

Two important concepts are therefore associated with the above-mentioned issues: 'research culture' and 'research evaluation', which are interrelated, and efforts should be made to conduct evaluation taking into account not only the results, but also the manner in which they are obtained, ethical aspects, societal impact, and other factors that can improve research culture based on transparency, learning from mistakes, and the long-term development of science that responds to social and civilizational needs. Research evaluation cannot focus solely on assessing productivity in terms of the number of publications and citation indices, as this approach may weaken research culture by promoting short-sightedness and misunderstood competitiveness instead of cooperation within qualitatively assessed interdisciplinary scientific projects. However, a broader context of considerations should be taken into account, as research culture has a narrow meaning and refers to the practices, values, and norms prevailing in specific research teams or scientific institutions. It is more important to analyze the relationship between research evaluation and academic culture, which is a broader concept encompassing the general principles, ethics, and traditions of the entire scientific community that shape the way science is practiced globally.

Changes towards a more sustainable, fair, and inclusive academic culture contribute to the improvement of many organizational and psychosocial aspects, including the working atmosphere and the well-being of researchers. These changes can also be observed in the context of the broader concept of scientific culture, which sometimes also includes epistemic norms and social relations in science. Academic culture concerns the institutional and environmental aspects of scientific work (e.g., career structure, work style, academic values). Academic culture and research evaluation therefore concern not only the subject of research, but also the way in which researchers are treated. Positive changes in academic culture and evaluation mechanisms may, for example, be related to an increase in the importance of scientific excellence and societal impact over simple indicators relating only to the number of publications.

The combined improvement of academic culture and research evaluation can increase work-life balance and inclusiveness, simplify the implementation of ethical principles, and facilitate cooperation, which in turn can lead to an improvement in the scientific and research work environment. Positive effects can also be seen in reducing the pressure to "publish or perish," which often leads to enormous stress, depression, and burnout among researchers. Promoting more supportive and collaborative interdisciplinary research environments also has a positive impact on the morale and well-being of university staff. Key to a friendly atmosphere is increasing the sense of purpose and autonomy in scientific research. Improving research evaluation in conjunction with academic culture influences organizational culture, reduces stress, improves working conditions, and makes them more friendly.

Research evaluation does not only mean the

application of procedures and specialized systems, but also affects the values and structures of academic culture by exerting pressure on the productivity and competitiveness of research teams at the expense of a friendly working atmosphere, inclusiveness, and the well-being of researchers. The Leiden Manifesto emphasized the need to return the principles of evaluation to the fundamental nature of scientific disciplines, emphasizing the social value of research, responsible use of bibliometric indicators in research evaluation processes, focusing evaluation on the proper shaping of scientific culture, and limiting harmful procedures based on quantitative indicators and impact factors related to scientific journals. (Hicks et al., 2015). Strong competition and increasing pressure to publish often result in methodological degradation of research, deterioration of scientific culture due to an emphasis on quantity over quality, and a need for changes in academic culture at the institutional level (Smaldino & McElreath, 2016). Evaluation systems and procedures should be more focused on developing participatory, contextual approaches based on an inclusive culture of evaluation that fosters creativity, diversity, and improved research quality (Heuritsch, 2021). Evaluation methods should be developed that combine various aspects of social value and contribute to the implementation of learning processes, which may ultimately increase the social value of scientific research (Smit & Hessels, 2021). Undoubtedly, evaluation systems have a significant impact on shaping values, the behavior of scientists, the institutional culture of scientific communities, and academic culture.

4. RESEARCH METHODOLOGY

The following two research questions were formulated concerning the analysis of existing literature related to academic culture and research evaluation.

1. How is the concept of "academic culture" conceptualized in the literature on research evaluation between 2015 and 2025?
2. What are the main themes and concepts linking the discussion on "research evaluation" with "academic culture" in the analyzed literature?

Seeking answers to the first question allows us to identify the dominant themes, values, practices, and contexts in which "academic culture" coexists with "research evaluation (assessment)." In turn, research related to the second question concerns the identification and interpretation of thematic clusters linking both key concepts and their main synonyms.

Literature research and qualitative cluster analyses were conducted using data from the Scopus database and open-source software, i.e., VOSviewer (Visualizing Scientific Landscapes), which was used to create visualizations of bibliometric networks based on bibliographic descriptions downloaded from Scopus. This database was chosen because it contains more information resources in the social sciences than, e.g., the Web of Science database, which is more focused on technical sciences (Melchiorsen, 2019). Based on data obtained from the selected database, an analysis of time series concerning the number of publications for selected keywords was carried out.

The research procedure diagram is inspired by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method, which originates from medical science (Page et al., 2021). However, this method is increasingly used not only for conducting systematic reviews of medical literature but is also accepted by the academic community. This is because it enables the reproducibility of research across various fields and scientific disciplines, e.g., the social sciences (Mishra & Mishra, 2023).

The literature review began with the formulation of the problem and scope of the study, a preliminary outline of the scope of the study was drawn up, and search parameters for quantitative analyses were defined. Next, the quantitative search criteria were refined and data for further analysis was prepared. Finally, a qualitative cluster analysis was performed using the network of keyword connections.

The search process covered publication titles, keywords, and abstracts available in the selected database. The search results were refined using the following criteria:

1) publications in English,
2) articles in peer-reviewed journals and conference papers,
3) publication time frame 2015-2025 (data collected in January 2026),
4) search limited to publication titles, abstracts, and keywords.

The following set of keywords was used in the study:

("research evaluation" OR "research assessment" OR "research performance" OR "research quality assessment" OR "academic evaluation")

AND

("academic culture" OR "research culture" OR "scientific culture" OR "epistemic culture")

The search parameters adopted allow for a relatively broad but controlled search range and are

adapted to the content indexed in the Scopus database (it is not possible to include full texts of publications). The selection of keywords allows for the inclusion of publications related to the selected issue of building a positive academic culture by improving research evaluation.

5. RESULTS AND DISCUSSION

The research problem addressed concerns the possibility of building a positive, supportive, healthy, and inclusive academic culture by improving research evaluation. There is literature available that shows how evaluation systems (from bibliometrics to performance management) shape the values, behaviours, as well as institutional and academic culture of scientific communities.

The results of the study allow to consider whether the efficient functioning of evaluation systems implies an improvement in academic culture and an increase in interest in results that are consistent with social needs and sustainability research. These systems should contribute to building a positive academic culture that ensures that research funding is directed towards meeting legitimate social needs, rather than merely reflecting the individual ambitions of researchers. In turn, beneficial changes in academic culture can lead, among other things, to an improvement in the working environment.

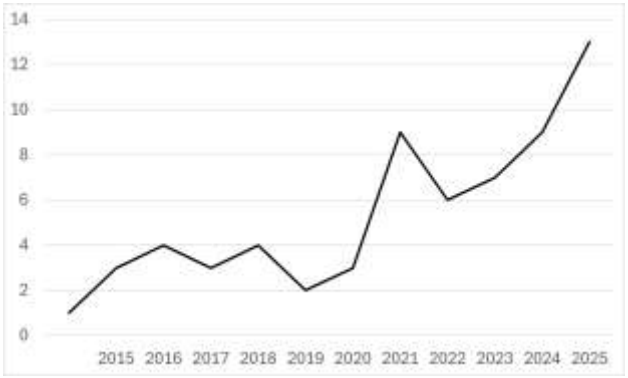

Figure 1: Time Series of Annual Numbers of Publications.
Source: Own Study Based on Data From the Scopus Database.

As a result of quantitative analysis, 63 publications were obtained for the selected set of keywords. Figure 1 shows a graph of the number of publications, indicating growing interest in this issue. Figure 2, on the other hand, presents a network of co-occurring keywords, with the size of the nodes indicating their frequency of occurrence, while the colors facilitate the identification of related topics and research trends grouped into the following three clusters: green (concepts: academic culture, research, research performance, research productivity), red (related to research culture, research assessment, peer review, diversity) and blue (related to research evaluation, research excellence framework).

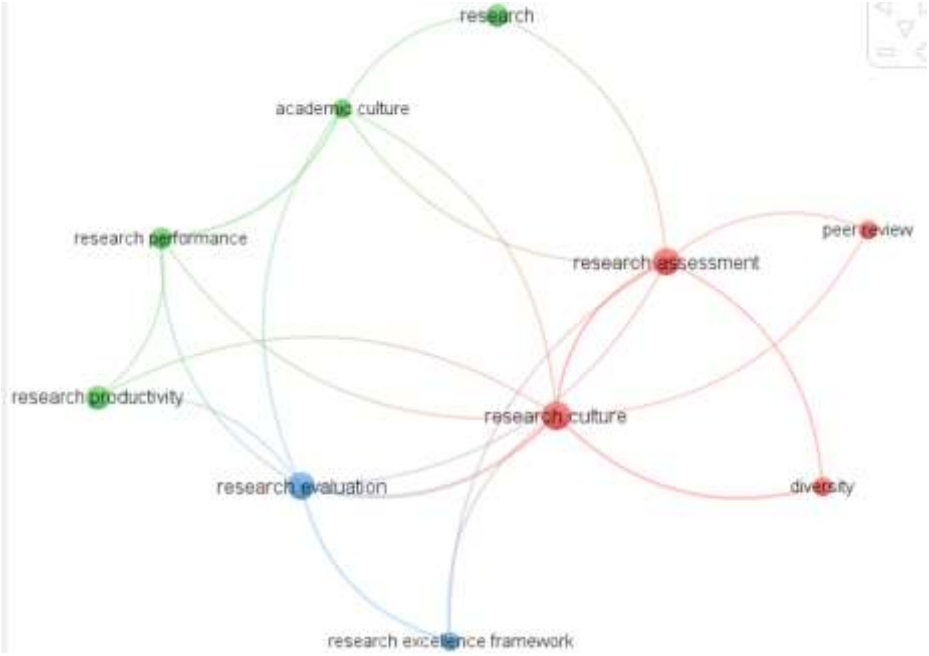

Figure 2: Bibliometric Network for the Selected Set of Keywords.
Source: Own Study Based on Data From the Scopus Database.

Bibliometric network analysis enables the seeking of answers to previously posed research questions. The first concerns how the concept of "academic culture" is conceptualized in the literature on

research evaluation. The concepts linking research evaluation (in the blue cluster) with research culture (in the red cluster) are: "research excellence framework" (a formal British evaluation system), research assessment (as a method of evaluating scientific research), diversity (suggesting that research evaluation may be linked to issues of equality and inclusiveness), and research culture is the central node connecting various themes: it co-occurs with peer review (the evaluation process), diversity (equal opportunities), and research evaluation – indicating that research evaluation is one of the main factors shaping academic culture. In the context of this analysis, it can also be assumed that these factors even shape scientific culture, although scientific culture is a broader concept (it also includes epistemic norms and social relations in science), and academic culture more often refers to the institutional and environmental aspects of scientific work (e.g., career structure, work style, academic values). For this study, the node labeled "academic culture" can be considered to encompass issues related to the more general concept of scientific culture, which is precisely defined. In this view, academic culture represents the institutional and organizational layer of scientific culture.

As part of the bibliometric network analysis related to the first research question, it can be noted that the node "academic culture" is located in a green thematic cluster associated with concepts such as research performance, research productivity, and, more broadly, research. It follows that academic culture is primarily presented as an environment operating under pressure to achieve results, in which the evaluation of research teams' productivity (e.g., using metrics or ranking systems) shapes behaviors and values in the academic environment. This concept can therefore be conceptualized as a set of practices, norms, and institutional expectations towards researchers - covering not only the production of knowledge but also the organization of scientific work.

The second research question concerns the identification of the main themes and concepts linking the discussion on "research evaluation" with "academic culture" in the analyzed literature. An analysis of keyword co-occurrence showed that the bridge between "research evaluation" and "academic culture" is formed by such concepts as: research culture (a key node in the network that links the discussion on evaluation with topics related to the work environment and academic values), research assessment (the main instrument for evaluating the quality of research and the productivity of research teams), peer review and diversity (indicating ethical and equality issues related to evaluation), and research excellence framework (referring to specific national research evaluation systems, e.g., REF in the UK).

The concept of "research culture" seems to serve as an intermediary term that encompasses both evaluation mechanisms and consequences for the academic community. This shows that research evaluation processes are perceived as contributing to academic culture, influencing institutional behavior, incentive systems, relationships within research teams, and standards of scientific work quality. Against the backdrop of this discussion of research results, one may also venture a broader reflection on scientific culture, understood as a set of values and ideas that define what good science is. Although it does not appear directly as a keyword, references to the ethos of science, transparency, independence, and quality appear implicitly in the analyzed literature.

In view of the dynamic development of AI technologies and their applications, it is worth considering whether AI can not only contribute to improving research evaluation, but also to shaping academic culture, building a friendly working environment for researchers, and improving their dialogue with society. AI-based tools are known and valued for their powerful capabilities in analyzing large data sets, automating routine tasks, improving research efficiency, and streamlining knowledge sharing and communication within project teams. The rapid development of such technologies is almost leading to a paradigm shift in the work of researchers from "publish or perish" to "embrace AI or perish," which determines the achievement of the right competitive position for professional success (Kondratenko et al., 2025).

An interesting future area of application for AI tools could be the improvement of research evaluation support systems, not only in terms of stimulating improvements in research quality, but above all in terms of supporting the improvement of working environments for researchers and strengthening their dialogue with society. Higher education institutions should be transparent and socially responsible, and the allocation of public funds for scientific research should depend on the results of the evaluation of their scientific achievements and their impact on the economy and society. Evaluation processes are not always viewed positively in the scientific community; they sometimes cause negative emotions and even contribute to a deterioration in the working

atmosphere. In this context, it is reasonable to seek new solutions that can influence the proper development of scientific institutions, which should provide friendly conditions for work and scientific research beneficial to society and the economy.

In higher education environments, not only students but also research and teaching staff are subject to evaluation. Their difficult-to-measure activities are quantified in numerical values, the magnitude of which determines their positions in ranking lists for employees within scientific institutions and for those institutions within national systems.

The scientific activity of Higher Education Institutions (HES) can be seen as a social practice, as it is carried out in response to key challenges and needs of societies in terms of creating new and useful knowledge, developing technological innovations, solving health problems, etc. The results of research can be used indirectly or directly in society and influence people's quality of life, the organization of communities, and the development of civilization. Scientific research is therefore dependent on social expectations, desired values, and the results of debates with stakeholders. Paradigms are changing in the HES landscape and are increasingly becoming catalysts for personal, social, and environmental change, with transformational changes driven by the need for research to have a social impact, strengthen dialogue with society, and implement the principles of sustainable development (Purcell, 2025).

The NPM concept involves reducing various aspects of the activities of scientific and research institutions to quantitative metrics concerning publication outcomes and social impact, as well as treating the accountability of the outputs of these activities using market mechanisms, on similar terms and in the same way as other organizations. These factors shape the information communicated by scientists to the public and the so-called evaluation game, which is often perceived negatively (Kulczycki, 2023). The principles of NPM look promising and can lead to significant results in a dynamic environment of competing higher education institutions. On the other hand, they can lead to excessive commercialization of universities and to the neglect of their social mission. NPM means that scientific productivity is heavily dependent on external grants (e.g., from UK Research and Innovation, private foundations, and industry partnerships), which sometimes leads to a deterioration in the working atmosphere and, at times, significant frustration among researchers who are unable to keep up with the growing demands to secure further research funding.

The WP is valued for its often desirable stability and balance, accompanied by a lack of commercial pressure and the opportunity to conduct long-term research, the social effects of which can be seen in the longer term. Relying on this inflexible approach and rigid, hierarchical decision-making structures can lead to overly conservative attitudes, waste of resources, inhibition of innovation, and failure to adapt to fundamental changes in research priorities forced by a turbulent environment.

The introduction of social research impact assessment at the national level is often accompanied by a deterioration in the working environment for researchers, which may result from the significant consequences associated with its results (prestige, amount of public funding, promotion or demotion within scientific categories), the large amount of narrative and evidence-based work required to demonstrate the impact achieved, and a sense of arbitrariness in decisions and a lack of control on the part of researchers. evidence required to demonstrate the impact achieved, and a sense of arbitrariness in decisions and lack of control on the part of researchers. The introduction of AI into these processes may contribute to reducing tensions and improving the atmosphere in the work environment, but it may also significantly exacerbate tensions. This certainly depends on the approach to the implementation of AI solutions and the realization of one of two scenarios: positive or negative.

The introduction of AI in research evaluation can have a positive impact on the working environment for researchers and strengthen dialogue with society for the following reasons.

1. A noticeable reduction in repetitive tasks and tedious office work thanks to the support of processes for the automatic collection and organization of evidence of social impact in the form of citations in public documents, traces of the use of research in public policies, visibility in the media, reports, and consultations with stakeholders. The implementation of these processes reduces the need for labor-intensive reporting and writing of detailed reports in favor of automatically collecting data and preparing synthetic interpretations.
2. Improving the atmosphere through a psychological effect, reducing the frustration of the researchers being evaluated, who can be supported by a system that no longer serves only to perform evaluations, but becomes a virtual collaborator and supportive colleague.

The condition for a positive scenario is the

introduction of AI as an auxiliary tool, rather than as the main tool for making arbitrary assessments. Mechanisms for monitoring and providing useful support information on an ongoing basis, rather than rigorous assessments, are also desirable. AI should therefore support monitoring mechanisms rather than periodic evaluations. Dashboards are desirable for presenting potential paths of social impact, providing early predictive information on the identification of desirable actions that may be important for strengthening social dialogue in the future. They enable the correction of actions taken at an early stage, rather than tracking the effects of failure in traditional evaluation systems later on.

The introduction of AI can improve the culture of scientific work and social impact assessment by reducing the role of scientists as strictly examined individuals in favor of implementing a flexible process of ongoing learning and responding to positive signals about emerging opportunities. The positive scenario also assumes support through the use of NLP tools and content analysis, which can help detect the impact on public debate, automatically analyzing policy documents, and demonstrating cultural and educational resonance, which is particularly important for employees in the humanities and social sciences who may be frustrated by the relative ease of demonstrating social impact in the technical sciences through patents.

However, ill-considered integration of AI technology into the processes of assessing the impact of scientific research may significantly exacerbate tensions, and one can imagine a negative scenario involving a deterioration in the working environment for scientists, for the following reasons.

1. In practice, automating assessment activities may be perceived as intensifying surveillance, spying, and harassment of employees, rather than automating support for building a friendly work environment. AI systems can facilitate the rapid detection of poor performance and the identification of individual researchers and units, and can disqualify them as a result of quick and efficient comparative analyses, the negative results of which can reach sponsors and research funding institutions more quickly and influence them to withdraw their support sooner. AI systems can also be good at identifying risks of low ratings, which may not necessarily prove to be true. This can lead to increased tension in scientific work, overly conservative behavior, and avoidance of research risks identified by AI systems, which may not be helpful but only stressful due to constant monitoring and evaluation.
2. The increase in distrust of results may stem from inconsistent identification of potential risks of anticipated minor impact and analysis results that are difficult to justify for AI systems, which typically operate on a "black box" principle, producing results that depend on the hard-to-explain effects of algorithms. The result may be increased frustration with the assessment of research impact and a decline in trust in the entire evaluation system, even those that do not use AI.

After the introduction of AI, the atmosphere at work may therefore deteriorate radically, which will be particularly noticeable in institutions operating in accordance with NPM principles, where significant stress related to the growing demands on scientific work results can already be observed. Public attitudes toward AI are ambiguous, and there are a variety of opinions regarding the fairness of the assessments made and the usefulness of automated decision-making (Araujo et al., 2020). In particular, negative attitudes toward AI algorithms are often associated with analysis, evaluation, and decision-making processes related to career development opportunities and functioning in the work environment (Chacon & Larrain, 2026).

The implementation of AI solutions may therefore contribute to a deterioration in working conditions and atmosphere in an environment of fierce competition for professional positions and career development opportunities related to obtaining research funding.

AI can exacerbate mental health crises among employees by enabling more frequent measurements, eliminating the gaps in assessments typical of expert evaluation panels, and allowing for detailed identification of individual employees' impact on the university's position in rankings. Evaluation systems are launched in individual cycles lasting several years. The results of the evaluation arrive after a long period of time, and any weaker evaluation results are available with a certain delay. AI systems can enable the implementation of continuous evaluation, without division into these cycles, and the immediate transmission of information that is not always positive for individual employees. Temporary negative results may be unnecessarily emphasized too quickly and too strongly, without taking into account the broader context and many long-term circumstances that are important when assessing the impact of scientific research.

6. CONCLUSION

The concept of "academic culture" in the analyzed literature does not function in isolation, but is strongly linked to research evaluation mechanisms. Research evaluation influences the shape of academic culture by modeling institutional values and practices. The analysis of the bibliometric network shows that there is a strong thematic link between academic culture and evaluation systems, as well as the presence of broader ideas of scientific ethos related to "scientific culture," which constitute a noticeable and important background to this relationship.

Academic culture in the analyzed literature is conceptualized mainly in terms of research performance, productivity, and effectiveness, which is reflected in the presence of related terms: research performance, research productivity, and the broad concept of "research." The discussion on research evaluation focuses on formal evaluation systems such as research assessment, peer review, and research excellence frameworks. These systems are often seen as factors shaping academic culture, influencing both the behavior of researchers and institutional norms of scientific work. In the analyzed bibliometric network, the concept of "research culture" acts as an integrator, pointing to the dynamic relationship between research evaluation and the academic environment, shaped by a set of practices, values, and organizational norms. The "scientific culture" node did not appear directly in the generated bibliometric network, but its meaning can be seen in the context of diversity, peer review, and research excellence, as these concepts refer to the ethos of science, reliability, and responsibility.

The research conducted shows that research evaluation is not merely a technical tool, but actively shapes the values and structures of academic culture, often reinforcing pressure on the productivity and competitiveness of research teams at the expense of inclusiveness or the well-being of researchers. It is therefore reasonable to address the research problem concerning the possibility of building a positive, supportive, healthy, and inclusive academic culture by improving research evaluation. Additionally, this paper considers whether AI can not only contribute to improving research evaluation, but also to shaping academic culture, building a friendly working environment for researchers, and improving their dialogue with society.

The potential effects of introducing AI systems in the assessment of scientific excellence and the social impact of research depend on many factors, including the specific characteristics of different universities operating according to different models, i.e., those based on the WP paradigm or those closer to NPM principles. These effects may also be influenced by the maturity of national evaluation systems, e.g., systems based on many years of experience (e.g., the British system) or those introduced only a few years ago (e.g., the Polish system). It is unclear who would benefit most from the widespread introduction of AI: impact officers and researchers, or research funding institutions and decision-makers at the level of national evaluation systems. For less developed and less mature national evaluation systems, there is a risk of a deterioration in the working atmosphere and conditions as a result of an excessive emphasis on competitiveness within the NPM model. If AI technologies are introduced skilfully, gradually, and slowly, they can improve the situation of weaker institutions by reducing costs. In general, the beneficial effects of its implementation will be more visible in various types of scientific institutions due to the limited and cautious introduction of new solutions.

AI can provide real support to researchers in carrying out routine bureaucratic tasks, but it cannot replace experts in formulating assessments that may have far-reaching consequences for researchers and the scientific institutions that employ them. When implemented thoughtfully, AI can help reduce employee stress and increase a sense of fairness and trust in the public evaluation system. However, it is important to remember that AI should not be used for continuous monitoring and identification of short-term poor performance. If AI is introduced for permanent evaluation, it may significantly worsen the atmosphere surrounding scientific work.

The results of the research provide a good basis for developing new AI-based solutions that can contribute to improving research evaluation, but also to shaping academic culture, building a friendly working environment for researchers, and improving their dialogue with society. The results of the research may be useful in improving the implementation of research evaluation systems.

The limitation of the conducted research is its excessive focus on quantitative bibliometric analyses, which should be supplemented with qualitative and in-depth analyses of the content of scientific publications identified on the web in order to examine how academic culture is understood in different contexts (e.g., individual scientific disciplines, national or individual institutions). The results of the research could prove useful in increasing decision-makers' awareness of the impact of evaluation systems on the quality of academic

culture and the working conditions of researchers. In further research, it is worth considering academic culture as part of a broader scientific culture, which also takes into account the epistemic and ethical aspects of scientific work, e.g., openness, critical thinking, and social responsibility. Subsequent research may focus on analyzing evaluation systems in terms of their impact on the positive shaping of academic culture and the attitudes of researchers.

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