

Analytical Services

For Funders



ELSEVIER

Analytical Services

We help funders gain in-depth insights into the impact of their investments to support evidence-based decision making.

Elsevier's Analytical Services team is experienced in serving policy makers, funders, and academic and corporate research institutions around the world. From simple, targeted reports to comprehensive multidimensional studies, as well as data delivery and web integration services, our offerings will meet your research management needs.

The team benefits from access to proprietary data sources including: ScienceDirect, Scopus, Total Patent, and PlumX, that are available across Elsevier and RELX. Insights are generated by combining these with public data sources and institutional data to help funders gain a more comprehensive view of their research investments. Elsevier's Scopus data is the preferred data source of policy makers, funders, and academic and corporate research institutions for its breadth of coverage and rich structured data. Scopus is the data source for the Times Higher Education and QS rankings, and is used by 84% of the top 100 universities.

Insights, based on data

Taking the time to fully appreciate your goals to provide the most appropriate analysis, our team combines high quality data sources with technical and research metrics expertise accrued over Elsevier's 130 years within the research community.

Our team of consultants move beyond data to provide powerful insights when measuring research performance. The resulting insights help funders gain an in-depth view into funding initiatives, their return on investment and the outputs to help assess and design funding programs.

The questions funders are asking us:

Q: *How do I measure the impact of research I have funded?*

Q: *Which areas of research should I fund?*

Q: *How do I choose the best people to fund?*

How do I measure the impact of research I have funded?

Our insights help you

- Identify and measure the research publications resulting from your funding investment
- Uncover the academic, economic and societal impact of funded research
- Understand the reach and effect of research in society

So you can

- Advocate for the societal benefit of the research you've funded
- Enhance strategies for increasing impact of the research you've funded
- Develop a more effective funding strategy

Case study

The challenge

A government body released a competitive tender to assess their country's research performance against other countries and their global positioning.

Elsevier's Analytical Services team prepared a winning proposal that delivered a comprehensive and pioneering approach. The scientometric study used Scopus, the world's largest high-quality abstract and citation database of peer-reviewed literature, and incorporated indicators and analytical methodologies developed in collaboration with the global research community.

Our approach

Following the tender win, the team combined a variety of indicators from different sources to present a multifaceted view of the country's comparative performance in research, as well as data about trends that affect their research strengths.

Key themes were explored through literature reviews, in-depth interviews with key stakeholders and data analyses from a range of Elsevier sources, including Scopus and ScienceDirect, as well as: R&D expenditure and human capital data from the OECD, PhD graduate and funding data and patent information from the World Intellectual Property Organization (WIPO).

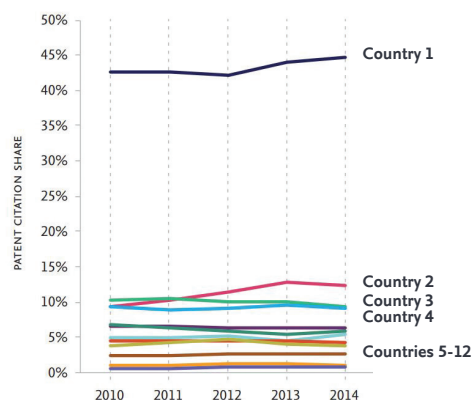
The result

The report generated actionable insights for the client, with a focus on the roles and contributions of the triple helix of research contributors: government, academia and industry. Additionally, the report and associated web portal, that included all data beyond what could be provided in the report, was widely used by internal analysts to assess specific initiatives and gain knowledge into levels of efficiency in generating citation impact from research budgets.

Strong levels of engagement were driven at each stage of the project, fostering a continual feedback loop between the client, governments, and Elsevier. Adopting this approach, as well as feedback generated between stakeholders, helped to impact the highest levels of government policy, provided academics with valuable insights into industry requirements and identified collaboration opportunities for a wide variety of industrial sectors.

To understand the efficiency of research dollars spent by the agency, we assessed citations per million USD Gross Expenditure in Research and Development. The data revealed that country 1 far surpasses the other nations in turning research expenditure into citations.

Patent citation share



Source: Scopus and OECD MSTI 2015/2

Measuring the return on your research investment: output and impact analyses

As global research budgets are under increased scrutiny, the need to show the outcome of research and development funding is becoming increasingly important. Our team can work closely with you to assess your funding research portfolio, drawing links between investments and their impact on society and innovation, to ultimately improve the effectiveness of your research investments.

Questions we can help you answer



How does my return on investment compare to peer funding bodies?



What are the core commercial and societal impacts of funded research?



How are my investments advancing innovation?



What real world applications have resulted from research I've funded and how is it being perceived across different sectors?



How is research I've funded being discussed in traditional and social media?



How can I develop evidence-based messaging about the real-world impact resulting from my funding?

Our Analytical Services team shares insights to provide funders with an enhanced understanding of the ways they can make their research investment go further. They do this by unveiling the research outcomes related to funded projects. Funders can then use this information to showcase the impact of the funding body, improve the funding strategy or better publicize the research.

Our approach

By connecting funded projects to published research, we can assess the research outputs and impact resulting from your funding investment. We do this by defining the project outcomes according to the individuals leading the work, the time frame of the research, the funding acknowledgements in the publications and the research topics. Once we make the link to publications, we then explore how the research has been cited in other research, in patents, and how it has been referenced in the news and by social media.

Which areas of research should I fund?

Our insights help you

- Understand the full make up of your research portfolio
- Identify gaps and opportunities in your research portfolio
- Learn where the field is headed

So you can

- Better allocate funding where the money is needed
- Assess whether your portfolio is as balanced or focused as you want it to be
- Determine future investment opportunities

Case study

The challenge

A government department was challenged to find innovative ways to preserve its competitive strength as a knowledge economy and develop several key technology areas over the coming years.

Elsevier was commissioned to perform an objective scientometrics-based assessment of the country's key enabling technologies.

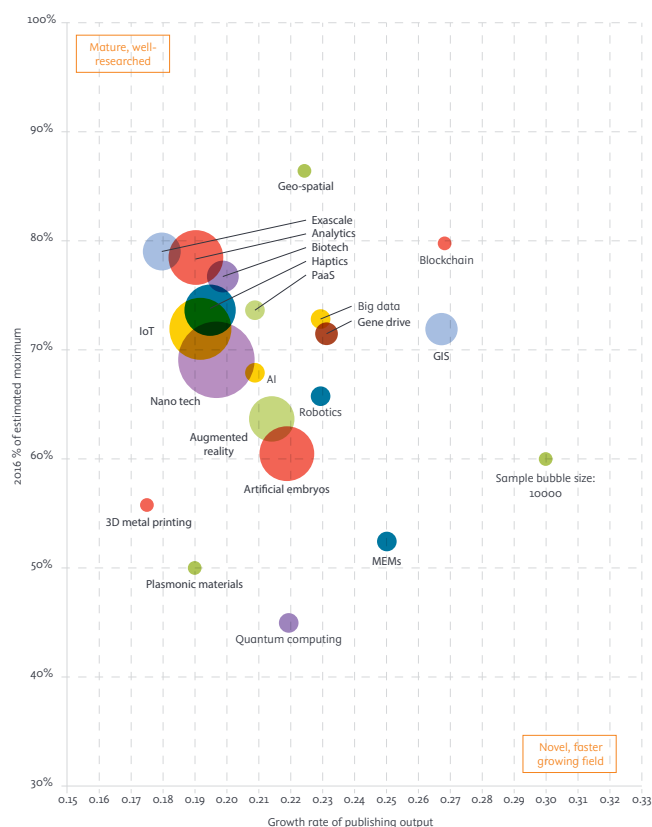
Our approach

In terms of first steps, Elsevier collaborated with external advisors to clearly define the selected technologies based on keywords and phrases. Following this, the team examined the country's performance using traditional scientometric output – such as publications, knowledge transfer by patent citations and researcher mobility – as well as newly introduced indicators, such as Science and Technology Maturity levels. By analyzing growth characteristics, the team was able to estimate growth output and identify breakthrough technologies. Additionally, through analyses of the phases in the technology lifecycle they were able to successfully indicate the maturity of each technology.

The result

The client gained objective insights into the quality of scientific knowledge on the selected key technology areas, therefore helping them to define future funding requirements. The analysis undertaken by Elsevier also helped the client to better understand the effect that policy input, as well as the innovative knowledge of institutions and companies, has on the development of key technologies.

Maturity level of selected key technologies



Source: Scopus

Seeing your research portfolio from a new perspective: landscape analysis and topic deep dive

Whether you are a small funding body focused on a specific problem or a large diverse funding body aiming to generate the most cutting edge findings in every field, this analysis will help you plan for the best next step.

Questions we can help you answer



What is the full make up of my research portfolio?



What gaps exist in my research portfolio?



Where is my funded research field headed and what other opportunities are there?

Our approach

By connecting your funded projects to research publications, we can analyse your portfolio to provide insights into what you're funding and the related research that is outside your portfolio. We also use metrics such as Prominence Score to help you understand the momentum behind your funded research.

Opportunities for additional customization

We can work with you to explore possibilities that may include; employing other bibliometric techniques to understand the make-up of your research portfolio in terms of basic to applied research, or exploring the maturity level of the research field or technology.

How do I choose the best people to fund?

Our insights help you

- Find experts in the field
- Diversify your talent pool
- Foster fruitful collaborations

So you can

- Be assured that you have the most effective team working on the research you are funding

Case study

The challenge

In 2018, Elsevier's Analytical Services team successfully won a tender to undertake a scientometric evaluation of a client's research leaders' program. The primary aim of the team was to better understand the extent to which the program contributes to better research, and to provide grantees with up-to-date information on their scholarly output and impact.

Our approach

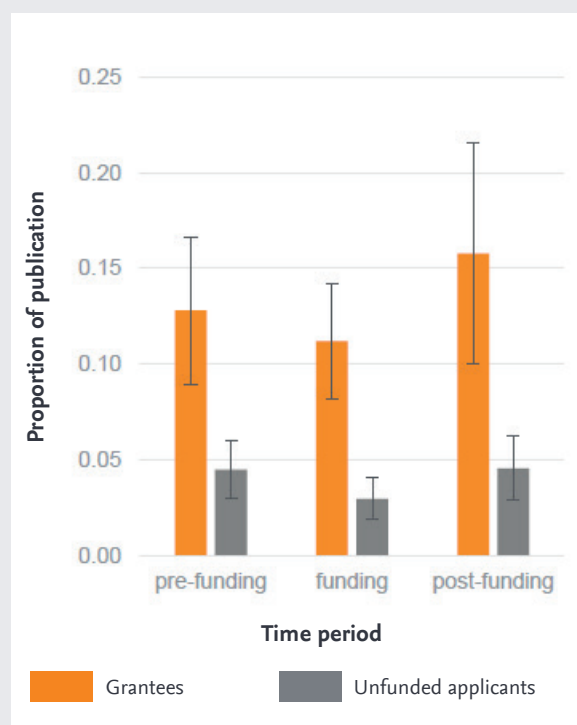
The team combined a variety of methodologies to assess research output and impact of grantees across all subjects and within a select list of specific subjects of interest. The aim of this was to help the team understand the impact of a funding grant on a researcher's performance before and after the award was given.

To do this analysis, the team matched individuals who received a grant with his or her Scopus author profile. Scopus author profiles are based on sophisticated algorithms and provide a link between an author and his or her publication output. To create meaningful benchmark groups, these researchers performance was compared pre and post grant allocation. Additionally, a control group of researchers who applied for grants, but did not receive one, was provided by the client for comparison.

The result

The work conducted by the team helped our client understand the impact of their award on grantees, so they could further strategies to ensure the success of future grantees. The insights also gave them an overview of the subject expertise of their grantees, so that they could better allocate funds to support a diverse range of experts.

Average share of publications resulting from corporate collaborations



Source: Scopus

Seeing your research portfolio from a new perspective: author analysis, gender analysis, collaboration analysis

A diversity of perspectives in research strengthens the quality of knowledge production, the relevance of research and the ability of society to innovate. Since researchers bring their own perspective to the research, understanding the researcher pool from different frameworks – area of expertise, collaborative network, gender – can facilitate putting together the most impactful team.

Questions we can help you answer



What is the gender makeup of my researcher pool and how can I benchmark this against peers?



What is a reasonable goal for gender-based diversity among my funded researchers?



Who are the best people for my funded researchers to collaborate with?



Who can I pair my researchers with to improve the outcomes of my funding?

Our approach

Scopus indexes authors with an associated unique identifier – a Scopus Author ID – and can perform a sophisticated author-matching algorithm to identify documents published by an author. Alternate spellings, variations of an author's last name and distinctions between same surnamed are all taken into consideration. This information can be enriched manually with data provided by authors, either directly through Scopus or via Scopus' direct links with ORCID (Open Researcher & Contributor ID). With this data structure, all the papers, affiliations, and citations of an author can be identified to form a Scopus Author Profile, with an author's country of origin determined by the country in which their first paper was published. Author names and country of origin can also be used to assess gender using various types of software.

This robust data structure enables us to perform researcher-level analyses into author output, gender distribution and movement within the researcher workforce.

Tools and data sources readily available to our teams

Scopus

The largest abstract and citation database and premier source of author profiles in the world, offering high quality data and tools for analyzing the research landscape – so you can advance your research, keep an eye on key and emerging trends, increase research visibility, and discover new collaborators.

Learn more at elsevier.com/solutions/scopus

SciVal

SciVal offers quick, easy access to the research performance of 10,000 research institutions and 230 nations worldwide – so you can visualize research performance, benchmark relative to peers, develop collaborative partnerships and analyze research trends.

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ScienceDirect

Built upon thousands of journals and books and stringent quality standards, ScienceDirect delivers you reliable information to help you move your research forward. It offers smart, intuitive functionality and personalized recommendations so you can answer pressing research questions in less time, generate ideas, get in-depth insights about trending research topics, stay on top of your field, and take your next big step towards discovery.

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Research assessment has moved to include new types and measurements of impact alongside traditional citation metrics. Elsevier offers a balanced, multi-dimensional basket of metrics to help universities, researchers and funders to showcase the research and assess the impact at the journal, article and author levels. On article level metrics specifically, Plum Analytics gathers metrics about research from dozens of scholarly sources, media channels and social media tools, and categorizes them into Usage, Captures, Mentions, Social Media and Citations.

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Learn more

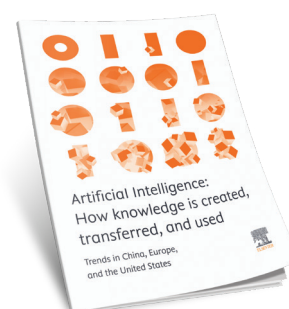
To request information, please contact us at elsevier.com/research-intelligence/request-a-consultation

Interested in reading our public reports?

Analytical Services reports answer pressing questions relevant to research management and inform decisions related to funding allocations, research policies and strategies.

Artificial Intelligence: How knowledge is created, transferred, and used

Our comprehensive report is the first of its kind. With consultation from many of the world's leading AI experts and based on the very latest data and insights from conferences, pre-print articles, social media and Scopus, it is a meticulously constructed and comprehensive guide that explains the terminology and brings a refreshing clarity to the global research picture. It helps anyone involved in AI research to make the most of the fast growing bank of knowledge available today.



Gender in the Global Research Landscape

Critical issues related to gender disparity and bias must be examined by sound studies. Drawing upon our high-quality global data sources, analytical expertise, and unique gender disambiguation methodology, this report is an evidence-based examination of research performance worldwide through a gender lens. Covering 20 years, 12 geographies and all 27 Scopus subject areas, this report provides powerful insight and guidance on gender research and gender equality policy for governments, funders and institutions worldwide.



International comparative performance of the UK research base – 2016

The UK's Department for Business, Energy & Industrial Strategy (BEIS) commissioned Elsevier to assess the performance of the UK's research base compared with seven other research-intensive countries (Canada, China, France, Germany, Italy, Japan, and the US), four fast growing nations (Brazil, India, Russia and South Korea), and international benchmarks.



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