Case Study: University of Surrey

Increasing collaborations and helping target funding bids by using SciVal and Scopus to better understand research strengths.

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Elsevier's Research Intelligence solutions combine quality, structured, interoperable data, advanced analytics and an array of indicators and metrics to provide research executives with key insights to address critical challenges and expand research excellence.

"Effective internal and external communications around research expertise and technology transfer are critical to university success and decision making."

—Professor Carol Lane,
University of Surrey

Executive summary

The University of Surrey received its royal charter in 1966 and has been awarded three Queen's Anniversary Prizes for its research. In the 2014 UK Research Excellence Framework, 78% of the university's research outputs were ranked as "world leading" or "internationally excellent". Furthermore, in 2016, the university was named as The Sunday Times University of the Year. A major center for satellite and mobile communications research, the university owns Surrey Research Park, providing facilities for over 110 companies engaged in research.

Seeking a greater understanding of their research strengths and profile, the university combined the data and analytics capabilities of SciVal and Scopus with faculty interviews and existing university research information to gain a more holistic view of the university's research profile. This included a website aimed at improving communications around research activities and expertise, fostering collaborations and targeting funding opportunities more effectively.

Background

"Industry partners and funding agencies often wish to understand and know which academic institutions are working in a specific research or technology area."

Effective internal and external communications around research expertise and technology transfer are critical to university success and decision making in these areas. In smaller universities, limited staff and access to the latest technologies can present unique challenges, possibly leading to longer timelines, delayed research outputs, slower decision making and ultimately lower revenue.

Industry partners and funding agencies often seek to understand which academic institutions currently work in a specific research or technology area. For example, a pharmaceutical company may want to know which universities work in a specific medical indication like cancer imaging. Similarly, an engineering company may be interested in a university applied research area like biomaterials development for health.

Universities also need to communicate their areas of expertise to external partners such as industry, government and other institutions. Furthermore, university internal communications showcasing research expertise allow faculty to share wisdom, along with resources, and facilitates management decisions about research and research support.

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Using SciVal and Scopus to help profile university research expertise

Comprehensive understanding of a university's research profile is a crucial component to effective research planning, strategy, management and support. Analyzing the fields where research expertise and funding currently exists, where funding is coming from, how much funding there is and when the funding is running out is a vital aspect to reaching a clearer understanding of how to manage, plan and execute the required strategy and support for ongoing success.

Elements to success include having access to essential university information on research activities in a public and searchable format.

For example, an external website and effective internal communication can result in increased funding success, more collaboration and less duplication of resources. The latter of which potentially leads to decrease in costs, improved management support and shortened timelines for research outputs such as publications and press releases.

Increasing the understanding of strengths and partnerships around medical indications & themes

1. The University of Surrey global collaboration map for the medical sector
2. Keyphrases from a University of Surrey Topic in the medical field
3. Screenshot from the prototype website

Combining SciVal and Scopus complements existing information and local expertise

The University of Surrey obtains information about ongoing research through interviews and existing information systems. However, using a semi-automated method powered by Elsevier systems such as Scopus and SciVal complements this and further illuminates areas of expertise, revealing opportunities they didn't know they had. This is especially important in a smaller university setting where resources and systems may be limited.

The university wanted to gain a greater understanding of their current situation through supplementing existing approaches with additional robust data points. To do this, the team at Surrey turned to Scopus and SciVal, helping them develop an effective method of profiling specific fields of research expertise. This involved developing a semi-automatic method for generating effective search strings representing key research fields.

SciVal and Scopus provided an excellent automated start for defining the research fields but to capture the fields and local contextual factors effectively, expert review and curation of these initial key phrase sets was required. This was important in order to gain a greater degree of specificity and effectiveness.

In addition to providing a complete view of research expertise, existing and potential partnerships, outputs and impact, the semi-automatically generated key phrases developed also enabled the university to search through the information held in other internal systems, such as finance systems, to triangulate this information with funding information, for example. Furthermore, the team was able to develop a public, searchable external website initially as a pilot internally, that contains specific information about the key research expertise and activities occurring at the university.

Impact and Conclusion

"Use of Elsevier products provided insight into our research assets including financial, equipment, external and internal collaborations, and most importantly our strengths."

Combining the high-quality data and analytics available in Scopus and SciVal with internal information and expertise has allowed the university to further define and understand its strengths through analysis of its publications. Scopus and SciVal's robust author profiles created a clearer picture of areas with a critical mass of researchers in specific fields and where collaborative links exist globally across other universities, industry partners and funding agencies, all of which are vital for university growth in research. Furthermore, when analyzed in conjunction with funding information, the university was also able to see where existing funding was coming from as well as where potential future funding sources exist.

The website has provided an effective way to highlight and showcase researchers and their expertise. Initial feedback suggests that this is helping to improve morale through providing researchers with further recognition for their world-leading research activities.

As the website develops further and is more widely adopted, the hope is that staff looking to secure external partnerships have an effective external website capable of highlighting and communicating university research strengths. Furthermore, the university believes the website will facilitate and promote further collaborations both internally and externally, as well as communications with alumni, philanthropists and prospective undergraduate and graduate students.

Carol Lane,
Professor
University of Surrey

Carol Lane is a clinical scientist specializing in industrial liaison and translational medical research, with emphasis on engineering and physical sciences, including PET, MRI, Pharmaceutical and medical device research and development. Her work involves utilizing advanced techniques to study biological markers associated with illness, and conducting university, industry and hospital based research to develop treatments and diagnostics across multiple disease states. She is also involved in management of research, development and operations linking universities with external partners, teaching engineering students professional studies and large scale project and program management, and training neuroimaging to medical registrars and research methods to medical and post graduate students.

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