

Case Study: National Cheng Kung University

Creating an innovative research environment
to compete on a global scale



A Case Study of Elsevier featuring **Pure**, **Scopus** & **SciVal**



Executive summary

Taiwan's National Cheng Kung University (NCKU), a leading comprehensive university, has long enjoyed high rankings and a strong international research reputation. However, NCKU faces new challenges in the complex, competitive research community of the 21st century. To maintain and further enhance its role in this international community, NCKU has established three goals: higher levels of interdisciplinary collaboration, increased visibility and an "energetic," innovative research environment.

To achieve these goals, NCKU turned to Elsevier's suite of solutions – Pure, SciVal and Scopus software, combined with customized consulting options. These solutions give NCKU the tools to quantify their research achievements, assess the potential impact of new faculty, and manage multi-institutional projects. These outcomes directly affect NCKU's ability to gain the funding and faculty needed to maintain the university's research reputation and continue contributing significantly to the country's economic growth.

Background: NCKU's historic mission

For many years, NCKU has focused on a single core mission: contributing to the economic development of modern Taiwan. For the past eight years, the Times Higher Education World University has ranked NCKU among the world's Top 3% in the category of knowledge transfer from university to industry.

This mission has always been backed by a strong research initiative. However, in the 21st century, the university's administration has been actively seeking a larger research role in an increasingly competitive and collaborative world stage.

New research directions for the new century

As the university seeks this larger role, NCKU President Huey-Jen Su has encouraged significant changes to the university's teaching and research programs. For example, to expand interdisciplinary collaboration, the university created a more flexible research environment to support younger scholars and encourage innovative research.

To implement these changes, NCKU has identified three goals that must be met in order to attract funding, faculty and collaboration opportunities. To achieve each goal, NCKU needs timely and cost-effective access to data. Even more importantly, the university must analyze and interpret this data so it can apply insights to action plans.

To meet these challenges, NCKU has turned to Elsevier's solutions, especially Pure and SciVal. Pure provides a comprehensive overview of research activities, areas of expertise and the university's research accomplishments. SciVal acts like a virtual scorecard, allowing NCKU to evaluate and benchmark its performance against other universities at the researcher, department or university level. These solutions play a critical role in helping NCKU achieve each goal.



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Goal: Interdisciplinary collaboration

Interdisciplinary collaborations have become increasingly critical in today's research environment, where each project's impact must extend beyond the scope of a single department or faculty. Successful collaborations begin by identifying potential collaborators from thousands of universities around the world.

Elsevier's programs solutions allow NCKU to search across the global communities of Pure Experts and SciVal to pinpoint authorities, even in highly specialized fields. Pure finds collaborators through semantic technology using research-specific keywords; Pure can even take advantage of the Elsevier Fingerprint Engine® to create a visual list of concepts unique to each researcher.

Pure automatically updates SciVal, which President Su credits with "collecting institutional and individual data to identify potential new areas of collaboration anywhere in the world."

As collaborations increase, [Pure's](#) core module can help NCKU manage multi-institutional research projects, making it easier to aggregate data, showcase the project's research assets, and even understand the contributions of each institution. Pure reduces paperwork and increases accuracy of reporting for each institution.

Goal: Enhance the university's reputation and attract top scholars

Accurate benchmarking, President Su emphasizes, requires current, reliable information about world university rankings. SciVal provides solid, quantifiable evidence of the university's research reputation — exactly what NCKU needs to gain funding and attract the best researchers. This data, says President Su, lets NCKU "anchor ourselves in the global higher education community and learn new strategies."

But SciVal doesn't stop there: it also helps the university continue producing high-level research by supporting critical, sensitive staffing decisions. University administrators can use SciVal to objectively assess an individual scholar's research impact, so they can move forward confidently with promotion and recruitment decisions.

Dr. Sun-Yuan Hsieh, Vice President, Office of Research and Development, leads the team implementing SciVal, Scopus and Pure. He notes that Scopus® not only provides a database of journal articles, conference papers, and book chapters, but also creates a unique identifier for each NCKU researcher. Therefore, Dr. Hsieh points out, "we can easily calculate individual performance, measured by research outputs, citations, and *h*-index." Pure can also deliver customized reports so each department and college reviews its own performance from a consistent source.

Goal: Maintain an "energetic" research environment to support innovative research and offer flexibility to new scholars

For innovative research, any university will need ongoing access to new approaches, insights and perspectives. Therefore, researchers must communicate with one another and attend conferences worldwide.

Traditionally, research communications have always been limited by time and funds. Therefore, Dr. Hsieh says, Scopus has become a necessary supplement to these live interactions. This platform, he says, "offers insight into complex questions, allowing us to view what is happening here from different perspectives."

"Through comparisons with our benchmark universities," President Su emphasizes, "SciVal makes our strategic planning more effective. We can analyze future research trends and university world rankings to create a research agenda and make strategic decisions about how we collaborate with other universities."

Pure helps NCKU analyze each project's overall research life cycle, whether the objective is fact-based decision making or expert discoveries. Researchers can configure this flexible software to adapt to new requirements as the university continues to grow.

Perhaps most importantly, Pure makes it easy to document the execution of NCKU's strategy — a necessary step for access to funding opportunities, international collaboration and greater visibility.



Anticipating the future

Moving forward, NCKU plans to continue contributing to fundamental research and transferring knowledge from the academic world to industry. The solutions NCKU has chosen — Scopus®, SciVal and Pure — will make it easier for NCKU to accomplish these goals in an increasingly competitive, dynamic world.

NCKU has built a solid research foundation and has become known for research in its core areas, such as engineering. The Elsevier solutions further support NCKU to compete in additional disciplinary areas, to draw on talents and resources from all over the world and to build a lively, creative environment for innovative discovery.

About Elsevier

Elsevier is a global information analytics business that specializes in science and health. During its 140-year history in publishing, it has partnered with the scholarly community to curate and verify knowledge. Now, with a focus on information analytics, Elsevier provides digital tools in the areas of strategic research management, R&D performance, clinical decision support, and professional education. These solutions deliver insights that help institutions make decisions and answer critical questions.

Pure

Pure is a versatile centralized system that facilitates evidence-based approaches to your institution's research and collaboration strategies, assessment exercises and business decisions. It enables building reports, performance assessments, managing researcher profiles, networking, expertise discovery and more – with less administrative burden

Scopus

Since 2004, Scopus has delivered a comprehensive overview of the world's scientific research output across all disciplines. And it's only getting better. Scopus features smart tools to track, analyze and visualize research—all so researchers can identify emerging trends, increase the visibility of their research, build a collaborative network, bolster funding applications and articulate the value of research at your organization.

SciVal

A web-based analytics solution with unparalleled power and flexibility that provides comprehensive access to the research performance of over 14,000 research institutions and their associated researchers from 230 nations worldwide. SciVal allows you to visualize your research performance, benchmark relative to peers, develop strategic partnerships, identify and analyze new, emerging research trends, and create uniquely tailored reports.

To schedule a consultation, contact:

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