

# Going beyond Word: Convincing scientists to embrace content management systems for writing science content

**Angela London, Sally Tetreault-Campbell, Kate Holland and Luk J.M. Peeters**

*CSIRO Environment, Adelaide, Australia  
Email: [angela.london@csiro.au](mailto:angela.london@csiro.au)*

**Abstract:** Scientists often rely on, and are accustomed, to using static tools such as Word to communicate their research, but this can become challenging for multi-disciplinary projects with multiple co-authors. While Microsoft Teams and Google Docs enable dynamic authoring by multiple authors, these tools have limitations that can restrict how information is published. Additionally, complex, multi-disciplinary projects require organisation and management of vast amounts of content. Content management systems (CMS) that allow for dynamic, interactive content and promote digital literacy are becoming increasingly popular for communicating science. CMS platforms that align with the future of science content delivery have potential to shape and transform how scientific knowledge and information is created, disseminated, and delivered. However, many scientists are hesitant to adopt new ways of working and communicating their science.

This paper describes our experience implementing a novel CMS with a broad group of scientists who were initially resistant to change. We share our experiences, including successes and challenges, and reflect on lessons learned for future projects. Our journey involved several multi-disciplinary projects with the aim to improve how we work with and communicate, complex information across multiple research disciplines. Initially we used Word documents complemented by an interactive tool. For the next project we used a hybrid approach that involved generating content in Word and copying and pasting it into the CMS. Our most recent project presented the opportunity to create content directly in the CMS, which required scientists to use the CMS as intended.

Scientists were initially hesitant to interact with the CMS for three main reasons: unfamiliarity with the user interface, difficulty navigating the system, and limited access to tools and functionality available in traditional word processors. We recognised that the CMS offered many efficiencies, such as flexibility, scalability, and integration that could improve productivity, collaboration, and a more seamless user experience; therefore, it was important to minimise the reluctance of scientist to engage the CMS. We also needed to ensure the CMS met important requirements for scientific publication, such as maintaining rigorous quality control, robust data protection measures, and integration of existing workflows for peer-review and approval processes.

To help scientists to overcome their resistance and reluctance to use the CMS, we employed several strategies. First, we provided training and support to help authors understand and navigate the system. Second, we kept the features similar to those in traditional Word to help make the system more familiar. Third, we prioritised co-design by creating an internal workspace for authors to create content while the CMS design and development process was ongoing. Scientists were able to provide feedback and co-design the features and functionality of the system. While this parallel development sometimes led to frustrations when waiting for functionality and features to be refined, it ultimately resulted in innovative solutions and successful adoption of the CMS.

Our success in engaging scientists to embrace the CMS was significant. In a nine-month timeframe, 27 authors across five science disciplines authored and reviewed content of 376 causal network nodes, equivalent to 576 pages of science content. Our experience suggests that engaging authors early in the design process and prioritising the user experience can help scientists develop an appreciation for CMS as a means for communicating science content. CMS platforms are increasingly important for creating engaging, dynamic, interactive science content, particularly in the policy space. The lessons we learned from our project can inform future work in this and other areas.

**Keywords:** *Content management systems, science delivery, multi-disciplinary projects, co-design*