This paper examines changing research practices in the digital environment and draws out implications for the development of research infrastructure. Reviews of the literature, quantitative indicators of research activities and our own field research in Australia suggest that there is a new mode of knowledge production emerging, changing research practices and bringing new information access and dissemination needs. Adjustments will be required to accommodate these changes, but new opportunities are emerging for more cost-effective and sustainable information access and dissemination. To realise these opportunities, however, it will be necessary to take an holistic approach and treat the creation, production and distribution of scholarly information, the management of information rights and access, systems of review and evaluation and the underlying infrastructure as parts of a single research infrastructure and scholarly communication system.