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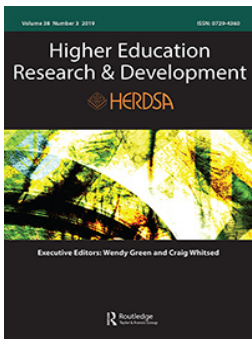
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Opportunities for intra-university collaborations in the new research environment

Kathryn M. Steel ^{a,b}, Helen Thompson ^c and Wendy Wright ^d

^aLibrary Services, Federation University Australia, Churchill, Australia; ^bCollaborative Research Centre in Australian Studies, Federation University Australia, Churchill, Australia; ^cCentre for eResearch and Digital Innovation, Federation University Australia, Ballarat, Australia; ^dSchool of Health & Life Sciences, Federation University Australia, Churchill, Australia

ABSTRACT

New opportunities for research collaborations within universities are explored through reflection on a recent collaboration between an academic researcher, the library and the eResearch Centre at a regional Australian university. Such opportunities arise from significant changes to the research landscape, including increased emphasis on open access publication of research outputs and the growth of eResearch capabilities. The latter has resulted in increases in data size and complexity and provides opportunities for collaboration across research institutions. This article reflects on the dynamics and assesses the outcomes of a collaboration formed during an externally funded open research data project. This project and a precursor project are briefly described, together with the specific contribution of each collaborator. Collaboration dynamics and the reasons for project success are assessed, as are implications for future research practice. Outcomes from eResearch collaborations may provide broader benefits to universities, as well as rewards to academic researchers.

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Introduction

Collaboration by researchers both within and external to universities is not a new phenomenon. More recently however, significant changes to the research landscape have included increased emphasis on open access publication of research outputs and associated datasets, and the growth of eResearch capabilities (Lynch, 2008; Ware & Mabe, 2015).

The latter are based on the use and practical application of advanced information and communication technologies and tools to support new as well as existing forms of research. While eResearch capabilities may facilitate scholarly collaboration, they also create new challenges: managing the greater extent and complexity of data, and assessing the multitude of options available to manage, disseminate and share researchers' work (Chitty & McRostie, 2016). These challenges have resulted in greater awareness of the

CONTACT Kathryn M. Steel  kay.steel@federation.edu.au

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importance of managing the research lifecycle, and in particular the retention, storage and curation of research data.

This article explores new forms of researcher collaboration emerging from this changed research landscape, and conceptualises and reflects on the nature of such collaborations. It does this through the analysis of an intra-university collaboration between an academic researcher, the library, and the university's eResearch Centre (hereafter eRC) during an externally funded open research data project at a regional Australian university.

Collaboration dynamics and the reasons for project success are of primary importance in this reflection on research practice. The authors suggest that outcomes from less traditional collaborations may provide broader benefits to universities, in addition to rewards to academic researchers. The article concludes with implications for future research practice.

A note on method: reflective practice

Research practice involves 'being explicit about our own position as researchers' (McClintock, Ison, & Armson, 2003, p. 716). It offers researchers the opportunity to critically reflect and act on their participation in research through the exploration of experiences, values and professional identities. Reflective research practice may thus be viewed as a 'learning process of critiquing and articulating experiences in order to re-shape practitioner knowledge' (Hains-Wesson & Young, 2017, p. 298).

McClintock et al. (2003) suggest that the researcher cannot be separated from his/her research and her/his subjectivities. Thus, the research context includes a researcher context: experience of research; the discipline research norms; links to research communities; assumptions; and institutional contexts (McClintock et al., 2003).

Extending this, Malthouse, Roffey-Barentsen, and Watts (2014) suggest that reflective practice benefits from including the situational context and its dynamics: the physical setting; the social context; and the personal/individual features, in order to extend the understandings obtained from reflective practice and the generation of knowledge to inform future practice. In that way, researchers can consider in which contexts their research findings are appropriate and generalisable.

Other contextual factors may also impact specifically on the success of research collaborations. These include social expectations of trust; disciplinary expectations and understandings; and expectations regarding a successful outcome (Bossio, Loch, Schier, & Mazzolini, 2014). Here, we conceptualise and critically reflect on the process of collaboration, placing theory into the social context of the research to better inform such research practice (Saltiel, 2003). This follows Bossio et al. (2014) who suggest that such a self-reflective approach is necessary to facilitate successful inter-disciplinary research collaboration.

Collaboration within the academy

Collaboration is distinguished from other forms of cooperative behaviour by

the process of *shared creation*: two or more individuals with complementary skills interacting to create a shared understanding that none had previously possessed or could have come to on their own. Collaboration creates a shared meaning about a process, a product, or an event. (Schrage, 1995, p. 33)

While each collaboration is unique, several themes are common. Ivey (2003) suggested that successful collaboration requires (but is not guaranteed by) four factors: shared understood goals; mutual respect, tolerance and trust; competence for the task at hand by each of the partners; and ongoing communication. These factors imply a shared responsibility and interaction on equal terms (Donham & Green, 2004) with recognition that each partner brings an equal but different contribution to the project. Decision making is by consensus, or through recognition that one or more collaborators have greater expertise in an area than the others, who defer to that expertise to ensure optimal outcomes.

Creamer (2003, p. 448) has suggested that fundamental to a successful collaboration is a shared way of seeing the world, which may overcome 'substantial differences in disciplinary training, approaches to problem solving, and work habits'. It may also be important to have already established a personal working relationship (Montiel-Overall, 2008).

More recently, Pham and Tanner (2015) noted the complex nature of collaboration in universities, and suggested that collaborations will be affected by power asymmetries relating to professional cultures, temporal and spatial factors, individual participants and their characteristics, and structural factors such as workloads, multiple campuses, and introduction of new technologies. Such factors are incorporated by Baldwin and Austin into a theory of collaboration 'that emphasizes the role and influence of potential collaborators' expectancy of positive results, of negotiated dynamics, of individual attributes, and of institutional and disciplinary contexts' (1995, p. 65). In this way, the attributes needed for a successful collaboration can be recognised, confirmed and built on.

Greater collaboration between scholars is an increasing trend. The Royal Society (2011, p. 46) noted an increase in internationally collaborative published articles from 25% to over 35% between 1996 and 2008. A later report (National Science Board, 2014) also highlighted the growth in cross-institution, cross-sector and cross-national collaboration. More recently, Haddow, Xia, and Willson (2017) analysed publication data from researchers in the humanities, arts and social sciences in Australia. Collaborative authorship increased during the 2004–2013 period. They also noted the apparent citation advantage of collaboration, with citation rates for national co-authored publications almost double those for sole-authored, and higher again for international collaborations.

Traditional intra-university collaborations

Within universities, an established focus for collaboration has been around the scholarship of teaching and learning (Kahn, Goodhew, Murphy, & Walsh, 2013; Marquis, Healey, & Vine, 2016). Intra-university engagement between librarians and academics for this purpose has been well-established since the 1990s, and has often taken the form of collaborative teaching of information research and academic skills for undergraduates (Haynes, 1996; Smith, 2011; Wilkes, Godwin, & Gurney, 2015). There has also been an increasing trend towards institution-wide collaborations which emphasise the intertwined nature of research, writing and disciplinary content (Adams & Bullard, 2014; Einfalt & Turley, 2013).

More recently, university academics have seen an increased focus on the quality and impact of their research outputs, in part through implementation of national research assessment exercises (De Silva & Vance, 2017). As a result, potential collaborations

must be perceived as likely to improve the quality of research outcomes, to outweigh the drawbacks ascribed to collaborating: the time required; challenges from working in different geographic locations; the need to accommodate or compromise; and the potential failure of some collaborators to meet expectations (Baldwin & Austin, 1995).

Some of these factors have been ameliorated by the emergence and proliferation of digital technologies and eResearch capabilities. eResearch, defined as ‘the use of information technology to support existing and new forms of research’ (Cook, 2010, p. 3) has facilitated developments in virtual labs, modelling, simulation, projection, prediction, data analysis and mining, and pattern discovery (Cook, 2010). Technologies supporting collaboration tools and environments, high performance computing, data visualisation and visual analytic tools have enabled rapid evolution of research methodologies, and changed scholarly practices across a range of disciplines (Lynch, 2008).

The effects of an increased awareness and utilisation of eResearch tools and approaches have included a greatly increased volume of data; technologies which better enable networking and collaboration; and the means to transform and publish research data.

While the potential benefits to researchers of access to data on a large scale are significant, they can only be realised through better managing the research data lifecycle through formal processes of data capture, curation and management to ensure discovery and access (Chitty & McRostie, 2016). Such expectations around increased management of primary research data have provided important opportunities for libraries to ‘redefine their role in supporting research and to develop closer relationships with their research community’ (Corrall, 2012, p. 106).

Allied to this is greater awareness and acceptance of open access among the academic and research community. Open access refers to the availability of research outputs, including journal articles, monographs and conference papers, which are ‘digital, online, free of charge, and free of most copyright and licensing restrictions’ (Suber, 2012, p. 4). Ware and Mabe (2015) suggest that the main drivers of greater open access include research funders’ policies, the growth and maturing of open access publishing, and the increased numbers of reputable open access journals. In tandem there has been a significant shift during the past decade in the importance ascribed to research data. This has seen datasets becoming ‘the new instruments of science’ (Atkins et al., 2010, p. 33), partly driven by more explicit expectations of funders about open access to publicly funded data collections (McKiernan et al., 2016). Governments are also driving open access to agency-collected data. For example, the recent Australian Government National Innovation and Science Agenda (2016) suggests the best use of public data will be achieved if non-sensitive data is made openly available by default. Similarly, some journal publishers have developed explicit policies about access to the underlying data that support conclusions in published materials (Jones, 2012).

This change has required an increased awareness by researchers of the need to make not only traditional research outputs, but also techniques and data openly available. However, researchers have generally been slow to adopt open research practices (Carr et al., 2006; McKiernan et al., 2016) and the extent of sharing of research data varies across disciplines (Borgman, 2012). This may be because of a lack of incentives to share data; a perception that sharing research outputs and data could jeopardise career advancement; or concerns that research data could be misused or misinterpreted. The time and effort required to provide documentation and metadata, along with concerns over

intellectual property may also deter researchers, who may also lack the required skills (Borgman, 2010). This is despite a recent review (McKiernan et al., 2016) which indicated that significant benefits result from open scholarship practices, including higher citation rates, greater attention via social and mainstream media, and increased potential to attract collaborators, job opportunities, and funding. Similar open access citation advantages have been ascribed to datasets (Piwowar & Vision, 2013). This supports the previous identification of open access citation advantage¹ and the conclusion by Suber (2012, p. 16) that open access ‘increases a work’s visibility, retrievability, audience, usage, and citations, which all convert to career building’.

For individual researchers the tangible benefits of open access publishing and eResearch tools may not be easily demonstrated, and incentives for making data open are few (Groenewegen, 2016; Van den Eynden & Bishop, 2014). Encouraging researchers to make some of their work available with a level of openness could facilitate an incremental shift in institutional research culture and practice, from a narrow focus on compliance to acknowledging and encouraging ongoing research practice change by an emphasis on greater researcher recognition through discovery and potential citation.

Librarians have facilitated engagement with their research communities through a greater emphasis on programs and services, loosely described as ‘data literacy’, which align with researcher needs. Such programs have developed in areas including scholarly communication and publishing, citation reports and impact measures, meeting funding agency requirements around research datasets and publications, and working with researchers to manage research data and ensure its discoverability and potential re-use (Auckland, 2012; Chitty & McRostie, 2016; Searle, Wolski, Simons, & Richardson, 2015). These approaches contribute to researchers’ increased understanding and better management of the research life cycle and to maximising potential research impact, thus providing a tangible value-add to researchers. This has provided a basis for librarians to transition to full partners in research collaborations (Bedi & Walde, 2017).

Novel intra-university research collaborations

Taken together, these changes to the research landscape have encouraged collaborations both within and between universities and other research institutions around research data and its management.

Such cross- and intra-institutional collaborations within universities may be grouped into one of four loosely defined types. First, those between service units which relate to technical and policy infrastructure; second, those between service units to embed general research data management (RDM) services across the university; third, collaborations with researchers which increase institutional capacity and provide specific benefits to collaborators, and fourth, collaborations with researchers which additionally result in tangible, university-wide outcomes.

Collaborations in the first category include those which identify the policies and/or physical infrastructure required to encourage the capture, description and sharing of research data. For example, Huggard, Pigram, Williams, and Fisch (2016) describe a collaboration between the library, IT and research office to deliver university-wide data management infrastructure and policies to ensure university compliance with funder policies

and mandates, *The Australian Code for the Responsible Conduct of Research*, and to facilitate research collaborations.

Examples of the second type include collaborations such as those described by McAlpine, Chang, McLean, and Albone (2016) to embed RDM practices across the university. In that project, the library, IT and research office collaborated to develop a suite of RDM services and infrastructure to facilitate the provision of a coordinated, seamless to the researcher service at faculty and university level.

The third type of collaboration provides beneficial outcomes for individual researchers or research groups but not more broadly at the organisational level. This is the case particularly where the internal research environment is mature. Wise and Sefton (2015) describe a collaboration between eResearch, the library and researchers to implement a cross-disciplinary research data repository and publish associated collections. This resulted in benefits to participating researchers in terms of impact and discoverability. Similarly, Liffers, Brown, and McInnes (2015) describe a collaboration between the library, IT and a researcher to scan, publish and link geochemical datasets. Beneficial outcomes included building institutional capacity, and increasing the profile of university research through potential impact via citations and new researcher collaborations.

Less well documented are intra-university collaborations of the fourth type. These include Milne, Thompson, and De Vine's (2011) report on a collaboration between the library, research office and IT. Researchers were approached to contribute datasets related to Australian Research Council and National Health and Medical Research Council-funded research. In addition to metadata being contributed to Research Data Australia (RDA), the national research data discovery service managed by the Australian National Data Service (ANDS),² workflows were documented and information was collected to inform university-wide initiatives, including a metadata store and data repository with a researcher interface for data deposit and access.

The regional university project being described is of the fourth, less frequently reported type. It is thus unusual, both in the collaborative relationship itself, and in the tangible outcomes for the university research community which are described later.

The case study

This section describes the institutional context within which the case study was situated. It then describes a previous collaboration between the eRC and library, and the outcomes from that initial foray into research data management. Details about the more recent project are then provided, with the specific individual contributions and dynamics of the collaboration further explored within the theory proposed by Baldwin and Austin (1995).

The institutional context

The institutional context for the project involved three entities: the university; its eRC; and ANDS. The university is a multi-sector, multi-campus regional university with an increased and explicit focus on creating and maintaining a strong research culture and capacity.

Within the university, the eRC is an externally focused research centre. It actively pursues partnerships with industries, organisations, enterprises and communities, promoting innovation through the application of new technologies and contributing to and enhancing technology application and knowledge transfer. The eRC's research initiatives are delivered across a diverse range of disciplines. It also conducts longitudinal impact research to understand how eResearch and digital innovation can build empowerment and ownership across groups, communities and industries.

ANDS has provided a focus for transforming Australia's research data environment, and is an international exemplar (Davidson, Jones, Molloy, & Kejser, 2014). ANDS is funded by the Australian government via the National Collaborative Research Infrastructure Strategy (NCRIS), which supports national research capability and collaborative infrastructure. ANDS has funded a series of projects via a partnership approach, beginning with the *Seeding the Commons* program, in order to build institutional capacity to manage and preserve Australian research data, provide rich metadata to aid discovery, and increase access to open data and related infrastructure (Groenewegen & Treloar, 2013). ANDS has played a major role in research data discoverability and potential re-use, facilitated by its RDA portal which contains searchable metadata and links to research datasets.

ANDS Seeding the Commons

Within the university, initial interest and experience with data management were gained during the implementation of an ANDS-funded project in 2012/2013 as part of the national *Seeding the Commons* research data program. The university's focus was to embed skills in research data management within the library as the basis for new programs and services to researchers. The Project was managed by the eRC, which proactively sought collaboration with Library staff.

Major outcomes included increased awareness of research data management; the identification of existing datasets to raise the profile of the university's research; high standard metadata records for these datasets on RDA; a University policy on RDM; a guide and template to assist researchers in creating an RDM Plan; and a Library Guide for RDM as an information resource for ongoing research data management activities.

ANDS Open Data Project 2014/2015

Further collaboration between academic researchers, the eRC and the library was prompted by the receipt of funding from ANDS in mid-2014 to source one or more research datasets and publish them as open access. This 12-month project offered the opportunity to build on the skills acquired during the *Seeding the Commons* project; and to publish exemplar datasets.

Initial discussions were held between the library and the eRC to consider options and plan the timelines. The academic researcher had raised concerns around retention of and continuing access to datasets, especially those compiled by Higher Degree by Research (HDR) students. In particular, one of the researcher's PhD students had compiled a database comprising important baseline information on avian biodiversity. Further discussions focused on the researcher's own data from a systematic biodiversity survey. Both

datasets consisted of geographic data in the form of GPS locational data, linked to temporal data of bird and/or wildlife sightings.

These two datasets were particularly suitable for this project since they provided baseline survey data. It was clear that accessibility of this data to other researchers would allow opportunities for informed future data collection and for comparisons to explore changes to biodiversity and assessments of ecological resilience. Continued access to this data in line with the FAIR (findable, accessible, interoperable, re-usable) principles³ was therefore very important. At this point, the Director of the eRC took up the conversation with exciting ideas for the use of eResearch tools including visually appealing websites to showcase the datasets; visualisation of the linked data to provide an interpretative snapshot; and direct download links to the data in both Excel and GIS formats.

Individual contributions by collaborators

Each participant had discrete responsibility for a particular part of the project, determined by consent. The individual contributions are summarised as follows, with the specific dynamics of the collaboration discussed more fully in the next section.

The researcher sourced and described the two datasets. She liaised with her PhD student to obtain permission to publish that dataset; resolved issues around naming conventions and field data identification; clarified survey locations; checked linked data; and provided content for the websites.

The eRC managed technical requirements, capabilities and solutions. The eRC Director nominated a liaison to coordinate with eRC specialist technical staff for data checking, development of the websites, and mapping the datasets; ensured cleaning and checking the integrity of the datasets; and provided space on an eRC server for data storage and websites. Data storage was a significant and unforeseen issue which highlighted greater need for a University-preferred open access storage solution. Until this project commenced, the two datasets had been stored on the researcher's hard drive, albeit with backup copies held by the researcher and the PhD student.

The library representative managed the project, liaison, and reporting. She coordinated production and entry of high quality metadata to RDA; provided links to publications related to the datasets; liaised with ANDS and staff contacts outside the principal collaborators; advised on the content of the web pages; recommended an appropriate Creative Commons licence; developed the poster for the national ANDS Showcase; managed the project budget; and prepared the final project report.

Dynamics of the collaboration

In this section, the specific nuances and dynamics of the collaboration are discussed more fully within the four themes posited by Baldwin and Austin (1995): Initiating and terminating collaboration; Negotiated order in collaboration; Individual attributes; and Contextual factors.

Theme 1: Initiating and terminating collaboration: In this project, the three collaborators came together as a 'best fit'. The library had been approached by ANDS to apply for funding for an open data project, and discussed with the eRC a proposal to collaborate. The researcher was known to be passionate about the value of datasets and committed to

ensuring that research outputs are available to other researchers. The collaboration formally ended when the Project was successfully completed and the datasets and poster presentation were published. However, it has continued informally through collaboration on a conference presentation and a journal article.

Theme 2: Negotiated order in collaboration. This refers to the ongoing negotiation of relationships through interactions between participants. In this project, the extent of each collaborator's responsibilities was implicitly determined on the basis of the knowledge and skill sets which each brought. Underlying the project was a shared belief in and commitment to open access and wide dissemination and discoverability of research outputs and data sets. This provided a common meeting point or 'world view' as one foundation for the collaboration. The eRC had established practices which made research outputs available by open access, ensuring results could be disseminated with as little delay as possible. In the researcher's discipline area, open access was perceived to be more problematic, and access to datasets uncommon. Conventionally, researchers interested in accessing research data would need to be aware of who was undertaking relevant research and approach them directly for access and coding protocols.

The three collaborators had backgrounds in different disciplines: ecology, history/information management and business/information technology. However, shared experiences as researchers meant that the language of the collaboration was mutual, and differences enriched rather than impeded the collaboration. While each had significant responsibility in their own domain, there was no sense that a power struggle was occurring. This may have been due to pressure of other commitments, but perhaps reflected the good working relationship which had developed between the eRC and the library during the *Seeding the Commons* project. Each participant was generous in their trust in each other's skills and abilities and time management to ensure that the Project would be completed on time and to a high standard.

The three partners were in geographically separate locations. However, the different locations were viewed as a feature of the work environment which was managed on a daily basis within and across units of the multi-campus University. Research collaborations are often with distant partners, and distance is not generally seen as a disincentive due to enabling technologies.

Communication was consistent and ongoing during the project. Initially, it was necessary to consider different views of what would be done with the datasets. What was the end product? How would the data be accessed for re-use? Where would it be stored? What was the best way to visualise the GPS data? Early meetings establishing the parameters of the project were face to face. Email updates did not replace in-person meetings, phone calls, or videoconferencing. They were a means of ensuring consistent and enduring documentation of decisions, processes, or methods to avoid misinterpretation or confusion, and enabled decisions to be clearly communicated to other staff involved in tasks related to the project.

Theme 3: Individual attributes: Baldwin and Austin (1995) suggest that a range of personal attributes, including race, gender, career stage and professional status define the nature of collaboration. In the present case, all participants were of Anglo-Saxon heritage, and female. As mature researchers, each was accustomed to working as part of, or leading teams, and involved in a range of collaborations both within and across units and institutions. Two were employed as academics, while one was a professional staff member

of the university. These individual attributes may have influenced both the nature and the outcomes of the collaboration.

Theme 4: Contextual factors: The two academic participants worked in research fields where collaboration was common. The library representative was research trained, and filled a newly created position with responsibility for the development of strategic research projects and partnerships to inform development of library services and programs for researchers. She interacted regularly with researchers, and was comfortable in collaborative relationships. The nature of the project was such that it required a set of skills not possessed by each participant individually, so with a substantial time commitment required project goals could only be met by working closely together. Such complementarity may be more important than personality compatibilities (Hara, Solomon, Kim, & Sonnenwald, 2003). Timelines were tight, necessitating quick and consensual agreements and a clear recognition of responsibilities. The rewards for a successful outcome were intrinsic rather than extrinsic, but aligned with individual value sets around collaboration, open access, and the potential value of research data to others. In addition, this project provided a unique opportunity to raise the research profile of the university through participation in the national ANDS Showcase of Open Research Data Collection Projects.⁴

This discussion of the dynamics of the collaboration within the Baldwin and Austin (1995) theory with its themes of negotiated dynamics, individual attributes and of institutional and disciplinary contexts, suggests a range of possible issues for consideration when planning potential collaborations.

Why did the collaboration work?

Successful collaboration is said to be supported by four factors: shared understood goals; mutual respect, tolerance and trust; competence for the task at hand; and ongoing communication (Ivey, 2003). These factors were demonstrated during the project: each of the partners was clear on the outcome required and the role each would play, trusted each other's competence and commitment, and engaged in ongoing and clear communication during the project.

In particular, the case demonstrates the latitude which collaborators have to define the parameters of their collaboration. While individual attributes and contextual environments played a role, the expectation of a positive outcome to provide an exemplar which would showcase both the possibilities offered by eResearch and the research undertaken by the university, was paramount. It is interesting that the case study involved three females. Each participant's level of responsibility within the university was similar, with collaborators enjoying significant autonomy. This may have enabled smoother decision-making than may have been the case if participants were of unequal status, for example, if a very senior, or quite junior staff member was involved (Baldwin & Austin, 1995). While this was envisioned as a short-term collaboration, other joint longer-term activities have since been pursued, including a conference presentation and authoring of a journal article.

Where team members 'share a common mission, have clear goals, define operating guidelines, provide mutual support, and work in an atmosphere of trust, respect, and affection' (Baldwin & Austin, 1995, p. 55), then perhaps the gender mix, level of responsibility, and length of collaboration become less important? While the collaborators had

not worked together formally before, the negotiation of roles and communication occurred without dispute. It may be that this was due in part to the short timelines; a focus on a positive outcome for the team and the university; recognition of the skills of each partner; and the coordinating role played by the library representative.⁵ In this project, collaboration with colleagues who were enthusiastic about open research data and committed to making research data available for discovery and re-use was essential and we believe was the basis for the success of the partnership.

Project outcomes and future research practice

Successful outcomes from the collaboration included an exciting and visually appealing exemplar to create greater awareness by researchers of open research practices; to promote the possibilities offered by eResearch; as one strategy to promote incremental research cultural change; and to demonstrate innovative collaborations and outputs.

In addition to the intrinsic rewards to the academic researcher, the collaboration identified a range of institutional strategies related to research infrastructure, outcomes from which will provide longer-term benefits to other researchers and the university. These include: extending the research data policy framework; formalising a University-endorsed suite of data storage options; and increasing researcher data management skills. These three strategies are considered below.

The first strategy is to extend the research data policy framework, since development of services relating to RDM needs to occur within and be aligned to an appropriate institutional policy framework. Such a policy framework, together with infrastructure, which reflects changes to both the external environment and local service initiatives, is fundamental to providing competitive advantage and an increased value proposition for University research priority areas. To progress this strategy, the university's Research Office, Library, and ITS units are working collaboratively across the university to extend the policy, procedure and infrastructure framework around research data and its management to strengthen institutional research impact.

The second strategy recognises the need for an enterprise-endorsed suite of options around research data storage. Such options provide an important basis for management of research data. At the university, the collaborative project described in this article provided the impetus to establish an eResearch Advisory Committee with strong linkages to the university's Research Committee. The former developed a number of recommendations related to research data storage, and the university has committed to progressing these recommendations. A small group which includes representation from the library, Research Office, the eRC, researchers and senior ITS staff is working towards that outcome.

The third strategy is to increase researcher RDM skills through formal training, both online and in-person. The university Research Office is leading an investigation into the acquisition of online RDM skills development modules to provide on-demand training. This will engage researchers with best practice RDM skills. Complementing this is the provision of in-person assistance to researchers throughout the research data lifecycle. The library faculty liaison teams will engage with researchers to gain greater awareness of the types of data which they use or generate; what their data storage needs are; and

how their data is managed and documented. Included in this will be a mutual consideration of ways to progress the open data agenda and the opportunities offered by eResearch.

The successful collaboration described in the case study has provided a model on which participants will build to complete a future ANDS-funded Collections Enhancement Partnership. This project will be managed by the library in collaboration with the eRC and invited researcher/s. A senior staff member from ITS will be part of a reference group, as a means of drawing this significant organisational unit into local as well as broader discussions around research data and the changing research landscape.

Conclusion

This article has conceptualised and reflected on a specific and unusual collaboration between an academic researcher, an eRC and the library which was facilitated by the changed research landscape. The dynamics of the collaboration and the reasons for project success have been of primary consideration in this reflection on research practice. This particular collaboration provided tangible outcomes for the university in addition to benefits to the researcher involved, a collaborative result less commonly reported.

For potential collaborators (which may include the library, research office and IT), awareness of the constantly changing research landscape and the opportunities it may offer academic researchers in terms of possible research advantage is critical, as is understanding the potential impact of new eResearch technologies and methods. This can be facilitated through creating opportunities to promote tools and approaches which streamline the work of researchers during the research lifecycle and enhance research productivity, quality and impact. Such opportunities contribute to greater understanding of researcher needs and facilitate the articulation of collaborative solutions which may impact across the institution. This will achieve both area benefit and assist the university to meet its institutional strategic goals and objectives related to research and better facilitate the transition towards best practice research.

Notes

1. For a synopsis of studies see: <http://sparceurope.org/oaca/>. Retrieved on 2 June 2018.
2. ANDS was merged into a new organisation, the Australian Research Data Commons, on 1 July 2018.
3. <https://www.force11.org/fairprinciples>. Retrieved on 4 March 2018.
4. The datasets presented at the Showcase are available at <http://www.ands.org.au/partners-and-communities/projects/open-research-data-collection>.
5. The latter suggestion was made by one of the collaborators.

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ORCID

Kathryn M. Steel  <http://orcid.org/0000-0002-5720-1239>

Helen Thompson  <http://orcid.org/0000-0001-7698-450X>

Wendy Wright  <http://orcid.org/0000-0003-3388-1273>

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