The Development Of Research Data Management (RDM) In Academic Libraries And Its Impact On Librarians' Identity: A Review

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Abstract

The effect of such activities on the identity and image of academic libraries is examined in this article. Participation of RDM University practices, according to this article, can change the identity, position, and image inside the university and help ensure that it remains relevant to research communities in the future. It also highlights how crucial it is for librarians to improve their RDM competences and skills while considering the dynamics of rivalry and cooperation in RDM. This evolution has had profound effects on the role and identity of academic librarians, changing their functions from traditional library tasks to more specialized data management responsibilities.

Keywords: Academic library, Research Data Management, RDM, Librarian, RDM Services.

1. Introduction

In many facets of higher education, new technologies are essential. Disseminating academic information requires new scholarly communication methods and channels. For science to advance, university-generated research data must be curated, preserved, stored, and reused (Verbaan & Cox, 2014). According to Whyte and Tedds (2011), RDM is defined as, "the organisation of data, from its entry into the research cycle to the dissemination and archiving of valuable results." RDM benefits industry and commerce, partners, students, regulatory agencies, and society at large. Lewis (2010) asserts that society must have access to the findings of extensively financed research, while Verbaan and Cox (2014) contend that maintaining scientific advancement depends critically on the calibre of data management.

2. The Emergence of RDM in Academic Libraries

RDM refers to the organization, storage, from collection to eventual archiving or disposal. The increasing emphasis on open access and open data policies, along with the growing volume and complexity of research data, has led academic libraries to adapt and integrate RDM services into their portfolios. Libraries have long played a central role in supporting scholarly communication, and RDM extends this support into the data lifecycle, offering services such as:

- Data curation
- Metadata management
- Data storage solutions
- Data sharing platforms
- Ensuring compliance with funding agency requirements
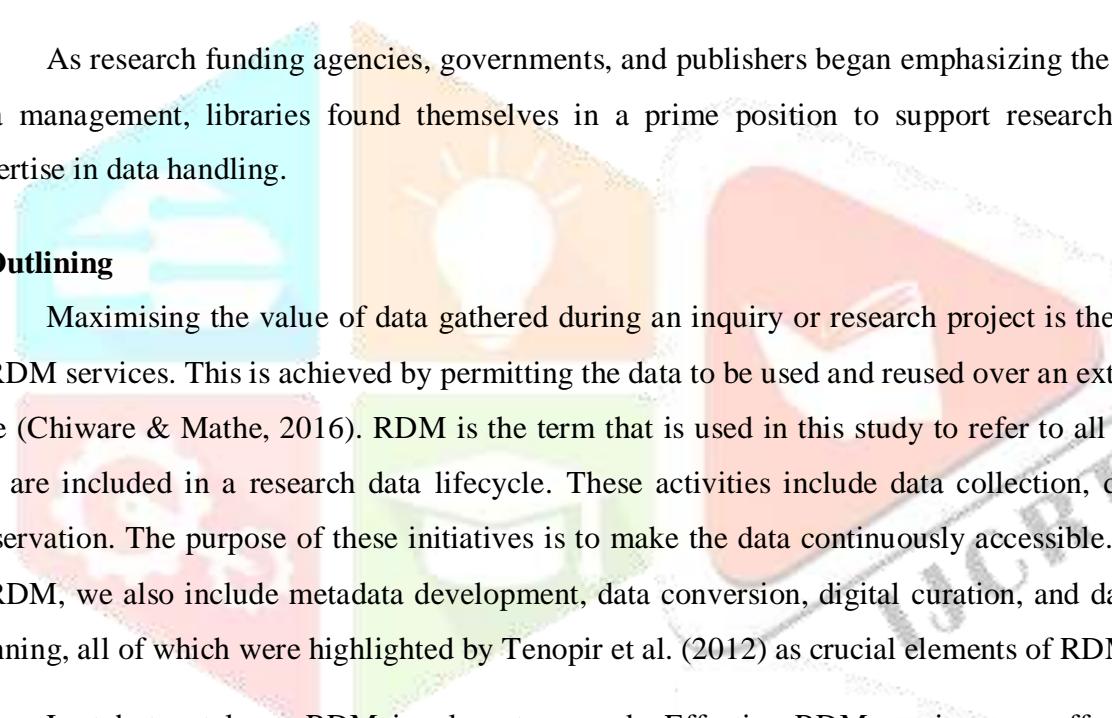
As research funding agencies, governments, and publishers began emphasizing the need for proper data management, libraries found themselves in a prime position to support researchers by offering expertise in data handling.

3. Outlining

Maximising the value of data gathered during an inquiry or research project is the main objective of RDM services. This is achieved by permitting the data to be used and reused over an extended period of time (Chiware & Mathe, 2016). RDM is the term that is used in this study to refer to all of the activities that are included in a research data lifecycle. These activities include data collection, distribution, and preservation. The purpose of these initiatives is to make the data continuously accessible. When we refer to RDM, we also include metadata development, data conversion, digital curation, and data management planning, all of which were highlighted by Tenopir et al. (2012) as crucial elements of RDM services.

Last but not least, RDM involves teamwork. Effective RDM services are offered by libraries, research management, funding organisations, and researchers. Information technology specialists and ethics advisors were identified as players who participated in RDM support services by Davidson et al. (2014). It is possible that the level of contribution from each stakeholder will differ from one institution to another, depending on the fund-raising method that is utilized to support research.

4. Approach

A narrative literature review approach was employed to help structure this article and lay the groundwork for integrating the existing research on Research Data Management (RDM). This type of review serves several purposes: it identifies research topics, questions, or hypotheses; and it identifies and contextualizes the relevant literature to which the study will contribute; and gathers knowledge about theoretical concepts and key terms. The procedure comprised an initial scoping review, continuous literature monitoring, and a second look at the literature throughout the writing-up stage, all of which were appropriate given the nature of such reviews. The approach of conducting a literature study was directed

by a number of significant search phrases and subjects, such as self-concept, reputation, university libraries, information literacy, and data stewardship. In a manner that is characteristic of narrative reviews, the searchers utilized these terms in a variety of different combinations at various stages of the article's creation.

5. Academic libraries and RDM policies

Data exchange, storage, and security are all covered by RDM policies (Pinfield et al., 2014). According to Cox and Verbaan (2018), a written policy removes uncertainty and offers a clear framework for involving stakeholders. Policies are essential for RDM because of the uncertainty in the field about the function of libraries. Those who support RDM can gain from policies (Pryor et al., 2014). They can assist in defining roles and responsibilities (Brown & White, 2014), elucidating institutional stances (Higman & Pinfield, 2015), and creating business justifications for funding IT infrastructure. This project shows how important research data is to society, education, and knowledge. A data-sharing strategy is still required for only a small number of significant UK research donors.

6. Academic libraries and their identity

In general, in today's world, where consumerization is the dominant condition, a strong identity ensures an organization's survival (Kazi, 2012). In other words, "in an age of proliferation of competitors and easily duplicated or replaceable products and services, brands have become an important means of simplifying the decision-making process for consumers." Hariff and Rowley (2011)

The academic librarians identify as librarians primarily when they support service provision. They also consider their image, which is how others perceive them and, more specifically, how users perceive them. Fagan suggests that the identity notion refers to self-perception or self-image, whereas the image notion refers to the perceptions of others (Fagan et al., 2021).

Individual or organizational identity, on the other hand, is not fixed and is characterized by fluidity and adaptability (Whitley et al., 2014). This applies to both individuals and organizations. This applies to interactions between libraries and other organizations, users, and the library's community. Fagan et al. (2021) looked at the identity and image of academic librarians and came to the conclusion that the library where they work is closely related to the librarians' professional identity. According to Whitley et al. (2014), flexibility is the ability to adapt to changes in an organization's surroundings and interactions with other organisations, which can lead to varying opinions among its members regarding its essential and distinctive features.

7. Identity of the library, librarians, and RDM

It's amazing how many articles there are about library identity. However, these studies do not specifically address librarian identity, despite offering some critical ideas regarding the authority of academics, librarians, and IT specialists over RDM. A thorough description of stakeholder interactions and their connection to the RDM program can be found in another qualitative study by Pinfield et al. (2014). It talks about how their responsibilities impact an RDM program's procedures, elements, rules, and services. However, research on how RDM influences or shapes the identity of the modern academic

library is still limited. It's possible that the fact that RDM is still relatively new and urgent is the reason why there is so little research done on it and the identity of academic libraries (Chiware & Mathe, 2016).

8. Improving the RDM abilities and competencies of librarians

A thorough description of stakeholder interactions and their connection to the RDM program can be found in another qualitative study by Pinfield et al. (2014). It talks about how their responsibilities impact an RDM program's procedures, elements, rules, and services. Research on how RDM affects or alters the identity of the modern academic library is still missing, despite the fact that this is a concern. It's possible that the fact that RDM is still relatively new and urgent is the reason why there is so little research done on it and the identity of academic libraries (Chiware & Mathe, 2016).

But according to current research, librarians frequently have postgraduate degrees (Cannon, 2017), and there is proof that both senior librarians and less seasoned practitioners understand the importance of keeping up with RDM (Cox et al., 2012). Like text data mining and altmetrics, RDM is perceived by academic library directors and librarians as having substantial skill shortages, according to ACRL (Gwyer, 2015).

Professional continuing education and RDM programs in iSchools may be helpful (Cox et al., 2017). It is important to remember that different libraries have different staffing and expertise requirements for RDM. The size of the university, its emphasis on teaching or research, and whether RDM support is integrated with other research support services are likely to influence their practices.

9. Competition and cooperation via RDM

Successful RDM necessitates both competition and collaboration; all important stakeholders must work together to accomplish the necessary RDM objectives and provide an efficient service (Chiware & Mathe, 2016). However, leadership roles and responsibilities can often be ambiguous (Cox & Verbaan, 2018), making it essential to clearly define who is responsible for each task (Cox et al., 2019). Furthermore, literature suggests that such collaboration may negatively impact the library's reputation (Cox et al., 2017) and blur the distinct identity of the Library and Information Science (LIS) profession (Gwyer, 2015).

According to Gwyer (2018), collaboration can sometimes result in competition for jurisdiction over a specific work area. As seen by the rivalry for the services that are supported by RDM, including their branding and web page hosting, competition in RDM mostly takes place in professional authority and identification (Verbaan & Cox, 2014). In the context of operations that need cooperation, comparable disputes occur between commercial providers and other organisations (Cox et al., 2019).

10. Future Directions and Challenges

The development of RDM in academic libraries is not without its challenges. There are several key areas that libraries and librarians must continue to address:

- **Sustainability**: Ensuring long-term storage, accessibility, and preservation of research data requires significant infrastructure and resources, which can be a challenge for libraries with limited funding.

- **Policy Development**: Librarians play an important role in the development of institutional data management policies, which must be aligned with evolving standards, such as those put forth by funding agencies or regulatory bodies.

- **Ongoing Training**: As the field continues to evolve, libraries will need to invest in continual training and professional development for librarians to stay current with new data management tools, software, and best practices.

- **Collaboration with Researchers**: Building trust and fostering closer collaborations between librarians and researchers will be key to successful RDM implementation. Librarians must become more embedded within the research process, helping to create a culture of good data management from the beginning.

11. Conclusion

Alongside this, there is a continuing discussion over the procedures involved in RDM, the effects it has on academic librarians, and the potential effects it may have on the librarians' and the library's identities. Numerous scholars have examined different facets of librarians' responsibilities in RDM. These consist of RDM competencies and skills, training needs, professional competitiveness and cooperation, the effects of quick changes in technology, leadership, and policymaking. The importance of academic librarians' leadership and involvement in research data management, along with the potential impact on their professional identity, are widely acknowledged throughout the conversation. However, this didactic link has received relatively little attention in prior research. As a result, both research and practice may benefit from this deeper analysis of librarians' identities and images in the changing RDM setting. The development of Research Data Management in academic libraries has reshaped the role and identity of librarians, requiring them to evolve from traditional information professionals to key players in managing and facilitating research data. While this transition brings both opportunities and challenges, it ultimately reinforces the central role of libraries in supporting the broader academic and research ecosystem. As RDM services continue to expand, so too will the opportunities for librarians to assert their expertise and value within the academic community.

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