In the Data Steward's shoes: An autoethnographic exploration of everyday challenges

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Abstract

The role of Data Stewards (DSs) in academic institutions has become increasingly complex as research data management (RDM) policies evolve under the pressures of open science, data protection regulations, and funding mandates. This paper examines the challenges DSs face through an autoethnographic approach, analysing four cases that highlight tensions between global compliance requirements and researchers' practical needs. The findings illustrate that DSs operate in a "buffer zone," mediating between top-down global imperatives, such as the principles of findability, accessibility, interoperability, and reusability (FAIR), national data-sharing policies, and legal constraints, as well as bottom-up pressures from researchers prioritising knowledge production, academic freedom, and project-specific requirements. Rather than offering generalisations or fixed solutions, this paper provides a practice-based perspective that seeks to open the debate on the current positioning of DSs within academic institutions. By highlighting recurring frictions and underexplored issues, it identifies key areas for reflection and improvement, such as integrating DSs into institutional decision-making and promoting more flexible, context-sensitive RDM frameworks. This study contributes to a growing conversation on how Data Stewardship can evolve to better support both regulatory compliance and research innovation.

Keywords

Data Stewardship, Research Data Management, autoethnography, lived experiences

Introduction

Over the past decades, the academic landscape has undergone significant transformations. The proliferation of the internet and rapid technological advancements have led to an unprecedented explosion in global internet traffic and data production, fundamentally changing research processes and priorities. As highlighted by authors (Emmott & Rison, 2008; Hey & Trefethen, 2003; Peter Lyman & Hal R. Varian, 2003), these developments have reshaped how knowledge is produced, stored, and disseminated. The ability to generate, process, and share large volumes of data has become a defining

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characteristic of contemporary research, necessitating new methodologies and tools to address the challenges of scale, complexity, and interdisciplinary collaboration.

The ethical and legal dimensions of research have also evolved significantly. Historical ethical failures, such as the Tuskegee Syphilis Study, the Milgram Experiment, and the Stanford Prison Study, have highlighted the need for strict ethical standards and robust regulatory frameworks to safeguard research participants and their data (Smale et al., 2020). These lessons have notably led to the establishment of regulations such as the General Data Protection Regulation (GDPR) in Europe and the new Federal Data Protection Act (nFDPA) in Switzerland (the context of this study) which have profoundly influenced researchers' practices (European Union, 2016; The Swiss Confederation, 2023). Such regulations impose rigorous requirements for researchers regarding data protection, ensuring privacy and security while accommodating the growing demand for data sharing and collaboration.

Simultaneously, the open science movement has gained attention, advocating for the democratisation of research and the transparency of scientific findings. Notably, as Lord & Macdonald (2003) emphasise, one of the main missions is to make research outputs more findable, accessible, interoperable, and reusable (FAIR). These principles have emerged as a cornerstone of the open data movement, fostering a culture of openness while addressing challenges in data management (Wilkinson et al., 2016). However, balancing data protection with the principles of openness presents significant challenges for both researchers and institutions.

To address these challenges, universities and higher education institutions have developed comprehensive research data management programs that provide structured approaches for handling data throughout its lifecycle. The growing demand for effective data management has, in turn, led to the establishment of the role of DSs. Although terminology varies across the literature—with DSs sometimes referred to as *data custodians* or *research librarians*, among others (Rousi et al., 2024; UNECE, 2022; Verhulst, 2025)—there is general agreement that they are professionals who advise researchers on good data management practices and help ensure the quality of data assets (Mons, 2018; Peng et al., 2016; Whyte et al., 2023). They often act as an intermediary between those who generate data and those who use it (Rosenbaum, 2010). They are domain experts tasked with overseeing data collection, storage, sharing, and preservation. Their role is critical in ensuring alignment with institutional policies and regulatory frameworks while supporting researchers in adopting best practices for data management (Peng et al., 2018; Perrier et al., 2017; Plotkin, 2020).

The establishment of Data Stewardship roles has sparked interest in understanding the profession's characteristics (Mons, 2018; Wendelborn et al., 2023) and initiatives to develop their competencies (*Data Stewardship, Curricula and Career Paths - EOSC Association*, 2023; Oladipo et al., 2022; Wildgaard et al., 2020). The specific structures, processes, tasks, and requirements of DSs across various domains have been closely examined (Arend et al., 2022; Peng et al., 2016; Whyte et al., 2023; York et al., 2018) and captured in diverse models describing the role of DSs (Edmunds et al., 2016; Peng et al., 2015). Considerable focus has been placed on how academic libraries structure their service models (Cox et al., 2019; Hackett & Kim, 2024; Pinfield et al., 2014; Tenopir et al., 2012) and on how Data Stewardship works in higher education (Rousi et al., 2024).

However, while these studies provide valuable insights into institutional frameworks, they often lack an empirical grounding in the lived experiences of DSs. This gap limits our understanding of *how global imperatives translate into concrete practices at the local level and how these dynamics shape the DS role*. Given that DSs operate in a complex environment, interacting with diverse stakeholders, including researchers, administrators, and IT professionals (Perrier et al., 2017), a closer examination of their daily experiences is essential for improving both practice and policy. To do so, the paper adopts an autoethnographic approach grounded in the daily practice of a DS embedded within a research-intensive university. Through four case studies drawn from lived experience, this paper illustrates recurring challenges that many DSs will recognise: (1) navigating conflicting data storage policies and external partner contracts; (2) preserving research data after the unexpected departure of a principal investigator; (3) managing legal risks related to insecure data collection tools; and (4) addressing the unintended consequences of requiring data management plans for infrastructure access.

The aim of this paper is not to present a set of universal best practices, but to offer a grounded, practice-based analysis of the tensions encountered by a DS in their work. Because projects and situations are highly specific, ready-made solutions are rarely applicable. Instead, the analysis aims to highlight the tensions experienced by the author and consistently echoed in discussions with other DSs at both institutional and national levels. In doing so, the intention is therefore to open a practical dialogue on how to evolve Data Stewardship roles and frameworks to better support both compliance and research realities.

The paper begins by describing the autoethnographic approach employed in the study. We then present results from the DS/co-author's experience, highlighting practical challenges and institutional pressures. To reflect the personal and contextual nature of the autoethnographic approach, this section, which describes lived experiences and case studies, is written in the first person (I') by the co-author responsible for the data collection. This stylistic choice emphasises the subjective, reflective nature of the study. The final part of this study offers a comprehensive discussion of the challenges encountered. Unlike the section on the DS's experience, the rest of the paper uses the collective 'we' to emphasise the collaborative nature of the research and the joint interpretation of the findings.

Methodology

This study adopts a practice-oriented autoethnographic approach based on the professional experience of one of the co-authors, who has worked as a Data Steward in a research-intensive Swiss university since the formal introduction of the role in 2023. Autoethnography offers a structured way to reflect on and analyse one's own lived experience to shed light on broader institutional, cultural, and operational challenges (Hammersley & Atkinson, 2019; Poulos, 2021). It is particularly well-suited to the DS role, which sits at the intersection of policy, infrastructure, and research practice.

The paper presents four case studies in which the DS was directly involved as an active support actor. Their role included advising researchers, facilitating dialogue with institutional services, proposing alternatives, and advocating for exceptions. While not in a position of formal authority, the DS acted as a mediator and problem-solver, navigating institutional constraints while responding to researchers' needs. These case studies were selected because they exemplify recurring tensions that DSs commonly face across institutions and disciplines: navigating legal constraints, ensuring data preservation, complying with technical infrastructure requirements, and managing divergent interpretations of data protection rules. Rather than isolated or extraordinary events, they look representative of common dilemmas that arise in everyday Data Stewardship practice.

The cases draw on multiple data sources collected over the course of a year, including a reflective journal (maintained in the form of a logbook during project support), participant observation in institutional meetings and working groups, informal discussions with colleagues, meeting notes, and exchanges with other DSs from the university network and the Swiss Research Data Support Network (SRDSN). These peer interactions were crucial in confirming that the described tensions were not unique to the author's personal situation, but were widely recognised by other DSs facing comparable challenges. In addition, the DS also analysed internal documents, such as institutional policies, communication records, and guidance materials, to contextualise each situation within the broader data governance environment. This combination of self-reflection, observation, and document analysis ensures that the findings are grounded in concrete, everyday professional practice.

The Data Steward experience

My thoughts about the role of DS began long before this study. After only six months as a DS at a Swiss university, I began to question the real value of my work. Nine months earlier, I had almost completed my dissertation, which focused on the challenges Open Government Data providers face in meeting open access requirements and maximising their data’s value. With this background, I applied for a DS position in the faculty of Law, Criminal Justice and Public Administration. At this university, the DS function follows a decentralised model: each faculty (i.e. Social and Political Sciences, Theology and Sciences of Religions, Business and Economics, Geosciences and Environment, and Biology and Medicine) hosts its own DS position. DSs are hired as staff members rather than faculty, typically holding a PhD, and are attached directly to their faculty rather than to a central service.

The job description and interview made it clear that my role as a DS will be varied. And so, it was! My main duties included supporting researchers in research data management (RDM) to meet the requirements of different funders and align with open science ideals. This involved ensuring compliance with university and local authority rules. My role also involved advising researchers on best practices within these legal and institutional limits, as well as teaching RDM (e.g., one-on-one sessions, webinars, workshops, and lectures). When my expertise wasn’t enough, I was responsible for finding someone with more knowledge in the relevant field. For instance, if researchers needed specific advice on the ethical aspects of a project involving sex workers, or if they needed help anonymising data from phones confiscated from criminals, my job was to connect them with the right experts.

Another important aspect of my role was collaborating with other DSs from different faculties. We met biweekly to exchange ideas, compare approaches, and discuss institutional challenges. This enabled us to refine our practices, learn from each other’s expertise, and strengthen our collective capacity to support researchers. Beyond the university, I was also an active member of the SRDSN, which organised biannual meetings and other events where DSs from across Switzerland shared their experiences and practices.

Finally, I was also responsible for coordinating with various university central services involved in RDM, including Legal Services, the IT service, and the Computing division. The aim was to match researchers’ needs with the university's services, while ensuring compliance with relevant legislation. I was constantly navigating between two worlds - (1) the bureaucratic one, including other DSs and central services (legal, IT, computing), and (2) the researcher one, including PhD students, post-docs, and professors.

This job seemed perfect for me. Although my dissertation focused on government data, I had a good understanding of the challenges researchers face in managing data, as well as the institutional problems that may arise. My dissertation showed that the biggest challenges in open data often come from managing the data itself, ensuring data protection, meeting legal requirements, addressing storage security, and handling anonymisation. I was excited by the prospect of tackling these issues and discovering research projects in fields different from my own, while also helping researchers achieve their goals. However, six months into the job, I began to question the true meaning of this work.

I encountered these challenges while helping researchers manage their data. Half of my time was spent discussing their problems, understanding their needs and working through the solutions proposed by the university. The other half was spent trying to adapt solutions proposed by international, national, regional or institutional bodies to researchers' practices. Most of my activities were devoted to discussing with the university's central services involved in research data management, why the solutions proposed in many cases didn't fit most projects. These discussions made me realise that most of the actual Open Research Data and RDM recommendations came from a bureaucratic perspective, following a "one size fits all" approach, whereas researchers' projects depend on the reality on the ground and are therefore unique. At that moment, I realised that I was navigating between two separate environments that would be difficult to connect.

When institutional policies clash with field realities

Drawing on frequent exchanges with other DSs, many of the problems encountered in RDM are related to the sensitivity of the data used. Working in a faculty that includes researchers in law, public administration, and criminal justice, I dealt with sensitive data issues daily and was drawn into a compelling case study that illustrates the challenges of balancing data storage requirements with the terms and conditions of secondary data reuse.

The data to be stored was secondary data, including messages from platforms such as WhatsApp, Facebook Messenger, and Twitter, extracted from criminals' mobile phones. Given the sensitivity of the research and the origin of the data, the researchers sought my advice on how to store the data in a way that satisfies the data owners (i.e. the police) and complies with legal and university regulations. According to the applicable national legislation and the Guide to Technical and Organisational Data Protection Measures (Federal Data Protection and Information Commissioner, 2024), the data controller (i.e. the university) is required to take measures to ensure the security of files and personal data, in particular against loss, destruction and unlawful processing. To comply with these regulations, the university encourages researchers to use the storage infrastructure provided by the Computing Division. The solution was therefore a cloud storage system for sensitive data. This cloud-based solution ensured compliance with Swiss legislation, specifically regarding the location of data centres in Europe and the encryption of data, with the university retaining ownership of the encryption keys.

From the perspective of open science and funders, recommendations for storing sensitive data only specify compliance with security requirements and stress the accessibility of metadata.

However, from the researcher's point of view, the solutions offered by the regulations and infrastructure created problems. By using the university's solutions, the researchers were in breach of their contract with the police, which stipulated that the data had to be stored with a high level of security and that cloud storage was not secure enough. In addition, the collaboration between the researchers and the police was not new, and much of the information exchanged was facilitated by networks and old acquaintances. For the researchers, breaking the contract with the police meant not only breaching terms but also risking credibility and trust with the police, with serious implications for future collaboration. Moreover, using a cloud solution increased the risk of a data breach, with consequences not only for the criminals but also for the researchers.

After several meetings, discussions, and reflections on the risks, the main challenge for the researchers was not compliance with university rules, but rather preventing data leakage. Based on this, I proposed a "least bad alternative": an offline computer in a secure office within a secure building, accessible only by authorised personnel with key access. Disaster or security breaches were still possible, but considered less likely than an Internet-based breach. As this solution required the support of the university's IT and Computing division, I brought it to their attention. However, they neither validated nor rejected the proposal. Instead, they maintained their position that researchers should use university storage infrastructure. They also noted that in the event of a breach, the researchers would be solely responsible.

What I noticed was that there was no room for alternative solutions, no options outside strict compliance. For the university, cloud storage was the only option, even if it meant breaking a contract and taking on more risks. As a result, there was no agreement between the researchers and the university's research support services. Both parties were bound by different constraints, but from the researchers' point of view, only one was binding—the contract with the police. In the end, the researchers ignored the university's requirements. Attracted by the offline computer solution, they found in-house resources to implement it along with security measures such as encryption and key access.

How to preserve years of research when the PI suddenly passed away?

Another important issue discussed with other DSs is the preservation of data when researchers retire or leave a university. This case retraces the latter, involving a professor who had amassed 30 years of data but passed away suddenly. Throughout his tenure, he devoted his entire career to gathering data on public administration fields with a special emphasis on the municipal level. One of his signature research projects, launched in 1988, was a global monitoring survey conducted every five to six years.

Three decades of research material on a single topic can represent a valuable resource. However, for this material to be reusable, it must be accessible. Therefore, shortly after the PI passed away and about a year before completing his PhD, the doctoral student associated with this survey expressed concern about the future of the material. After learning about open science and storage solutions, he contacted me. His request was simple: with less than a year to finish his thesis, he could no longer preserve the data or continue the survey waves. Several institutions were potentially interested in continuing the work, so he sought a solution to store the research materials until future successors emerged.

In such contexts, DSs from my university usually provide two solutions. The first is to follow open science and funders' recommendations by publishing the data and research material in repositories without embargoes or other restrictions. In this way, anyone could reuse the data and continue the study. The second is institutional: a Long-Term Storage (LTS) solution, i.e. archiving research material on magnetic tapes. The process is simple, but costly, making it suitable for data that does not need to be retrieved regularly, only occasionally.

While the first solution may seem attractive, it is not suitable for all data. Repositories are not always designed to host 30 years of material, and few can accept personal or sensitive data. After some discussion, I learned that this project contained sensitive data. Anonymisation or other depersonalisation techniques could have been organised, but for 30 years of material, this would have been extremely expensive and time-consuming. Given the needs of the PhD student, I proposed the second solution: institutional LTS.

The second solution was simpler. According to the university's policy, the Principal Investigator (PI) had to contact the IT department and request storage space. Less than 24 hours later, the space should be open. However, in this situation, there was no PI, and the PhD student was not recognised as such. We contacted the relevant service to explain the situation, but after three meetings, it became clear that there was no way around the rule: only a PI could request storage, and without one, it was impossible to store research data on the institution's servers.

I had no idea what to do with this massive amount of data, nor whom to turn to. From the first meetings, I knew it would be challenging, so I contacted everyone who might be able to help, but none proved useful. After a final coffee with the PhD student, he told me we had done all we could, and that if no one stepped forward before he completed his PhD to take over the survey, it would no longer be his responsibility. I was as discouraged as he was. Less than a year later, I heard that a new PI had been appointed and agreed to "take care of this data".

American survey software

Here, I share my experience with researchers who sought my expertise in constructing a questionnaire to collect personal and sensitive data. Their study investigated the accessibility of Swiss administrative procedures for war refugees. To do this, they designed a questionnaire that included questions about the accessibility of procedures for entering Switzerland. The questionnaire was complemented by socio-demographic questions providing insight into respondents' profiles. Despite the researchers' efforts to limit or eliminate questions relating to sensitive and personal data, certain variables acted as strong indirect identifiers and could lead to re-identification. According to the researchers, if this were to happen, participants could be perceived as betrayers in their home countries, with serious consequences. To minimise the risk, we implemented a secure data processing strategy that covers data collection, storage, and analysis.

The issue was the survey software used to collect the data. It was hosted in the United States, a country not on the list of jurisdictions providing adequate data protection under Swiss law. According to *Article 16 of the new Federal Act on Data Protection (nFADP) on data transfer abroad*, personal data may be transferred if the Federal Council recognises that the third country ensures adequate protection. *If the Federal Data Protection and Information Commissioner (FDPIC) deems that the third country in question does not fulfill the requirements, then the data may still be transmitted, as under current law, provided that adequate data protection is ensured in another manner, such as an international treaty, data protection clauses, which must be submitted to the FDPIC in advance, or binding corporate rules* (The Swiss Confederation, 2023). For example, researchers must inform participants of safeguards such as contractual clauses, exceptions by the data controller, or data encryption.

However, like many researchers, few were aware of the processing rules (i.e. collection, analysis, storage, exchange, destruction, etc.) for personal and sensitive data. When they contacted me, the questionnaire was already ready for distribution. All questions and adjustments had been finalised. Furthermore, it was not feasible to implement clauses regarding encryption, unique key ownership, or the location of data storage, given the company's economic size and the ownership of the chosen solution. At this stage, following discussions with my DS colleagues, the only option was to change the software and use a more secure solution that could provide guarantees. This meant learning new survey software and re-implementing the questions. Yet, given the intensity of research competition, the "publish or perish" rules, and the difficulty of changing habits, I realised that adopting more secure but less user-friendly software would be a challenge.

Having made my recommendations, I no longer had any reason to monitor this project, and the researchers had no reason to keep me informed. As a result, I never received confirmation that they had changed the software to mitigate the risks associated with it and comply with Article 16 of the nFADP.

Requiring a Data Management Plan (DMP) to access the university's data storage system

I cannot speak for other universities, but at mine, a significant portion of DSs' time is devoted to DMPs. Based on my exchanges with other DSs, it appears that at least 50% of their job involve DMP-related activities (reviewing, workshops, corrections, concept explanations, etc.). While I understand their utility, this isn't always the case for researchers in the social sciences. The concept of Data Management originated in the 1960s in the sciences to manage research data collection and analysis for aeronautical and engineering projects. Over the next two decades, the use of DMPs expanded across engineering and scientific disciplines. Until the 2000s, they were primarily employed for projects of high technical complexity (Smale et al., 2020). However, the 2010s marked a significant shift: funding agencies began increasingly requiring DMPs in proposals and evaluations (Smale et al., 2020). At the same time, data protection laws, such as the GDPR and the nFADP, became more stringent, and new regulations emerged. So, writing a DMP has become more than just creating a document; it is an opportunity to develop a comprehensive strategy for managing data and ensuring compliance with legal, ethical and security requirements set by funders.

Yet, in the world of social science research, the DMP is often seen as just another funder's requirement, a roadmap to guide projects. Consequently, many researchers view it as another bureaucratic task with little intrinsic value. Researchers at the university, and in my faculty in particular, are no exception. Yet, they must write a DMP to meet funder requirements and secure grants, but also to follow the Ethics Committee's guidelines, request storage space, and (if applicable) plan for publishing data.

For storage access, the process is straightforward. The PI must submit a request, providing basic project information (i.e. name, ID, estimated storage size, start and end dates, data type—normal, personal, or sensitive), and confirm the existence of a DMP. If a DMP exists, access to storage is granted within 24 hours. If not, access is still provided; however, the DMP must be uploaded later, and the faculty DS is responsible for ensuring this is done.

Despite the simplicity of this process, together with DSs from other faculties, we often encountered two major challenges. Firstly, only PIs can request storage space, meaning PhD students or postdocs cannot do it themselves. This is problematic because PIs often delegate administrative tasks to their students. But what happens if the PI is on parental leave, long-term sick leave, sabbatical, holiday, or, as I have experienced, passes away? I faced two such cases (and other DSs reported similar situations), and in both, PhD students were left without access to secure storage.

Secondly, the DMP requirement can be a barrier. When already required for grants, the process is straightforward. But if no DMP exists, expecting a researcher to develop one just to access storage is ambitious. Creating a DMP is time-consuming, and many researchers prefer free commercial drives (e.g. Google Drive, Dropbox) over institutional requirements. As a result, the responsibility for uploading a DMP falls to the DS, caught between convincing researchers to comply and negotiating with IT staff. After a year of trying to reconcile IT needs with researcher realities, nothing has changed except my lack of motivation. My suggestion to remove the DMP requirement and instead add targeted questions to the storage request form, which would have provided IT personnel with the necessary information to comply with security rules, was not even discussed.

Discussion

The case studies above demonstrate the multifaceted role of the DS, extending beyond RDM advice. In many cases, the DS appears to navigate tensions between researchers and institutional policies, balancing the demands of data access with compliance requirements. The structural rigidity of institutions further complicates this role, as contingency planning is often lacking, leaving DSs exposed to unforeseen challenges. Furthermore, the DS often operates in a grey zone, able to recommend best practices but lacking enforcement power. Rigid, one-size-fits-all RDM policies often fail to account for disciplinary diversity, limiting the DS's ability to support research needs effectively. These dynamics were evident in both the author's cases and in biweekly exchanges with other DSs across faculties, as well as in discussions within the SRDSN. Similar challenges also appear in the broader literature, which highlights the lack of consensus on the DS role and its often-intermediary position (Rousi et al., 2024; UNECE, 2022; Verhulst, 2025). Taken together, these cases show the DS as an intermediary, navigating a buffer zone between the imperatives of global compliance and the practical realities faced by researchers.

The DS operates in a street-level role (Lipsky, 1980), caught between the abstract, formal logic of institutional mandates and the day-to-day complexities of research practice. Although they are expected to implement policies that align with FAIR and CARE principles, the GDPR and open science imperatives, DSs often lack the formal authority to adapt these mandates to local needs. Instead, they exercise discretion within constraints, seeking pragmatic workarounds and advocating for more context-sensitive approaches but without power to reshape the systems they uphold.

Grounded in lived experience and collective exchanges with other DSs, Figure 1 illustrates the systemic pressures they face. These pressures stem both from above, through institutional and regulatory imperatives, and from below, through the diverse, practical demands of researchers. Framing the model in this way ensures that the dynamics described resonate beyond a single perspective. The following discussion examines how these forces shape the DS's position and activities within this buffer zone (Figure 1).

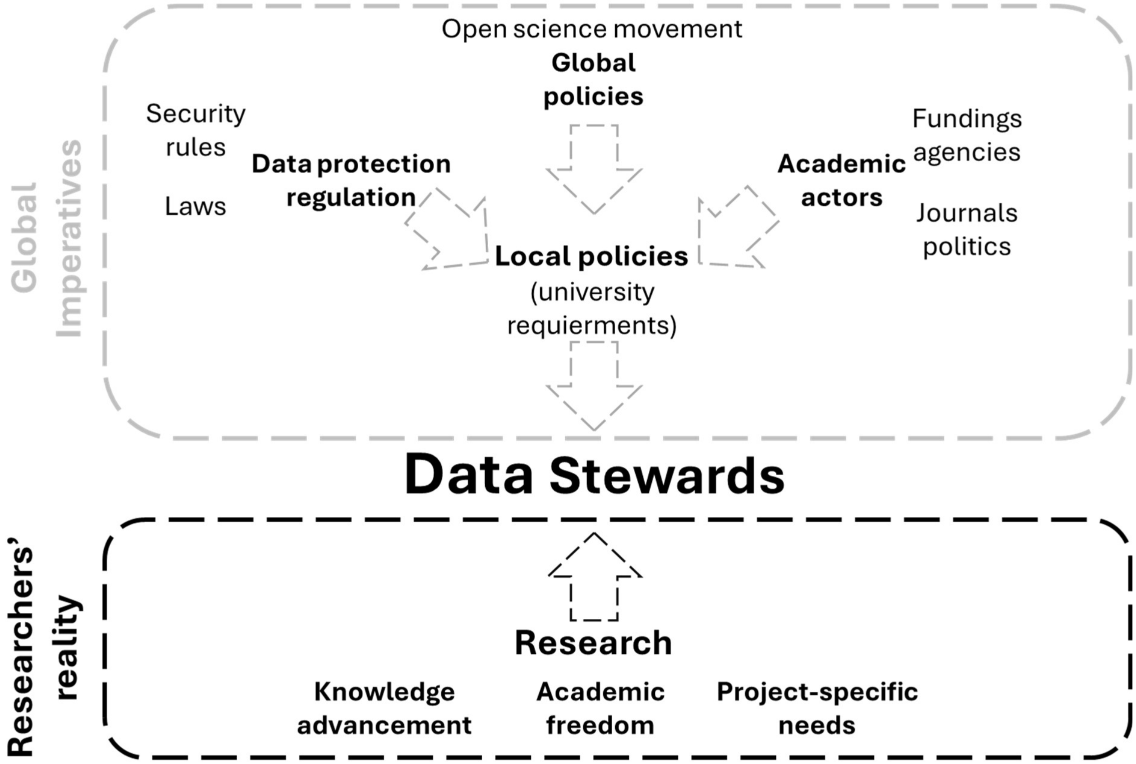

Figure 1. Data Steward challenge: Global imperatives vs researchers' reality

Top-down pressures from academic bureaucracy

From an academic perspective, the study shows that three major imperatives shape the pressures faced by DSs in their work: the rise of the open science movement, the evolving landscape of funding and journal policies (academic actors), and the implementation of data protection regulations.

The first factor that seems to influence universities in their implementation of RDM programs is the growing global emphasis on the open science movement, particularly its mandates regarding open data. Initially designed to promote transparency, shareability, and reproducibility in research (Fecher et al., 2014), open science has become a key institutional ranking variable that shapes university policies and funding decisions (Borgman, 2018; Peng, 2018; Wałek, 2019). Many universities have integrated open science principles not only to enhance research integrity but also as a strategic response to funders and rankings (Allen & Mehler, 2019; Araujo et al., 2024; Nosek et al., 2015).

Research institutions are progressively assessed based on their adherence to open science standards, such as the implementation of FAIR principles (Wilkinson et al., 2016). In addition, the increasing demand for data sharing and open access publishing has led to incentives for compliant researchers, such as a data reuse award or Data Works! Prize (Data Science at NIH, 2024; FORS, 2024). Yet, despite such measures, the push for openness often collides with researchers' priorities, i.e. time constraints, sensitive data, or inadequate institutional resources. This institutionalisation of open science thus places DSs in a complex position, requiring them to act as both facilitators and enforcers of data sharing policies. While supporting researchers comply with requirements and policies, they must also navigate disciplinary differences, ethical concerns, and hesitations about premature sharing or misuse.

As noted earlier, another factor that appears to influence DS activities is the evolving landscape of funding and journal policies regarding open data. Major research funders, such as the USA's National Institutes of Health (NIH), have implemented data-sharing mandates as funding prerequisites. For instance, the NIH's Data Management and Sharing (DMS) policy, effective January 25, 2023, requires institutions to share data to accelerate biomedical discovery (National Institutes of Health, 2023). Similarly, academic journals are increasingly adopting data-sharing policies (Piwowar et al., 2018). Publishers like Taylor & Francis and SAGE Publications now expect authors to share supporting data. Taylor & Francis, for example, has a basic data-sharing policy that encourages authors to make their data open, provided it does not violate ethical or privacy concerns (Taylor & Francis, 2025). SAGE Publications similarly supports and encourages research data being shared, discoverable, citable, and recognised as an intellectual product of value (Sage Editorial Policies, 2025). However, as seen in this study and others (Tenopir et al., 2020), despite funders' requirements and openness incentives, researchers often struggle with the practicalities of implementing open science mandates, especially with sensitive data, disciplinary variation, or proprietary constraints. This places DSs under significant pressure, as they are expected to support researchers on highly specific issues without being involved in shaping funders' policies. As a result, they find themselves in this buffer zone—listening to researchers' needs while aligning them with the requirements of funders. Consequently, DSs must continuously adapt to shifting policies while acting as both facilitators and negotiators, advocating for researchers' needs within institutional frameworks while ensuring compliance with external mandates.

Particularly visible throughout this autoethnography, the implementation of data protection regulation has fundamentally altered the landscape of research data governance. Regulations such as the GDPR and the Swiss nFADP impose stringent compliance requirements on universities, extending their obligations not only to institutional but also to researchers and DSs. Additionally, technical recommendations, such as Technical and Organisational Measures (TOMs) (Federal Data Protection and Information Commissioner, 2024), define steps for data security, risk mitigation, and privacy. Universities must now establish data protection policies that align with GDPR, nFADP, and other jurisdiction-specific regulations (Golla, 2017). One of the major challenges of data protection regulations is the tension between legal compliance and research efficiency. While laws emphasise privacy and security, researchers often prioritise data accessibility and usability. This creates a compliance paradox: security measures often clash with research needs. This was particularly evident in one case, where researchers' contract with the police made full compliance with institutional and federal recommendations difficult without compromising relations with data providers. As a result, this situation places DSs at the centre of the tension between data protection regulations and researchers' practices, with no straightforward solution to satisfy both sides. Beyond acting as advisors, DSs often serve as mediators, balancing legal constraints with the needs of researchers. This requires them to interpret evolving regulations, translate legal jargon into practical guidance, and sometimes even advocate for researchers when institutional policies become overly restrictive. However, DSs often lack formal authority in policy-making, leaving them in a reactive role rather than a proactive one.

Bottom-up pressures from researchers' reality

From the researchers' perspective, the study shows that factors such as prioritising the advancement of knowledge, maintaining academic freedom, and meeting project-specific needs seem to shape the pressures DSs face daily.

At the heart of academic research is the pursuit of knowledge, driving researchers to generate, analyse, and share data that contributes to scientific progress. As Borgman (2017) notes, we show that this commitment often leads researchers to prioritise methodologies and outputs that maximise knowledge production, sometimes at the expense of institutional requirements for compliance and data governance. While research institutions implement policies to enhance data integrity, security, and accessibility, researchers may view them as restrictive, particularly when they introduce administrative burdens that slow down scientific workflows (Allen & Mehler, 2019; Levin et al., 2016). This compliance–efficiency tension places DSs in a delicate balance. On the one hand, they must comply with institutional policies and external regulations to ensure that research data are managed following legal and ethical standards. On the other hand, they must meet researchers' needs for flexibility, speed and efficiency—especially in fast-moving fields where delays in data processing or publication can have significant consequences. DSs are thus caught between institutional imperatives of control and standardisation and researchers' expectations of autonomy and minimal bureaucracy. In practice, this means DSs often act as negotiators rather than enforcers, translating compliance requirements into workable researcher-friendly workflows.

Academic freedom is a foundational principle of research institutions, granting researchers the autonomy to explore novel ideas, select methodologies, and communicate findings without undue restrictions. However, contemporary research governance, particularly in data management, adds oversight often perceived as encroaching on this freedom (Borgman, 2018). As this paper shows, one key area of tension arises in the choice of tools and infrastructure. Institutional policies often mandate the use of specific data storage solutions, collaboration platforms, or security protocols to ensure compliance with regulations such as the GDPR or national data protection laws (Corti et al., 2014; Université de Lausanne Direction, 2019). While these policies aim to enhance security and standardisation, they seem to limit researchers' ability to use external software or cloud services that better align with their workflows. For instance, researchers conducting international collaborations may find institutional policies prohibitive if they restrict the use of widely used global platforms like Google Drive or Dropbox in favour of local institutional storage (Perrier et al., 2017). Furthermore, some researchers express concerns that stringent data governance policies could introduce a culture of surveillance, where institutions control what data can be collected, stored, or shared (Borgman, 2018). This perceived oversight can discourage innovative or controversial research, stifling academic freedom. Balancing compliance with academic autonomy is a delicate task that requires careful consideration. In this context, DSs navigate the intersection of regulation and academic freedom, advocating for flexible policies that accommodate diverse research needs while ensuring legal and ethical standards. With more institutional flexibility, DSs could develop tailored solutions that maintain both data governance integrity and academic freedom.

As shown in the four cases, research projects vary widely in scope, methodology and data requirements, highlighting the inadequacy of a one-size-fits-all approach to RDM. Disciplinary diversity necessitates tailored strategies addressing field-specific challenges. In disciplines like genomics or climate science, standardised sharing norms facilitate consistent practices. Conversely, ethnography or qualitative social sciences handle highly contextual, sensitive data requiring customised RDM strategies (Mannheimer et al., 2018; Zenk-Möltgen et al., 2018). Furthermore, the nature of qualitative data, which often contains personal narratives and contextual details, raises ethical concerns regarding privacy and consent when sharing. A study analysing variations across research domains - arts and humanities, social sciences, medical sciences, and basic sciences - also revealed significant distinctions in data management actions and attitudes (Akers & Doty, 2013). These differences highlight the necessity for RDM services that are sensitive to the specific needs of each discipline. Additionally, the rise of big data sources, such as social media and blogs, presents new challenges. Ethical questions around using publicly available data without explicit consent remain unresolved, complicating sharing and reuse (Mannheimer et al., 2018). Given this complexity, DSs must navigate a landscape where standardised RDM protocols may not suffice. They face pressures to develop flexible, discipline-specific strategies that respect ethics and meet project needs. This necessitates a nuanced understanding of diverse methodologies and a commitment to ethical data management practices.

Implications and limits

Implications for Research Data Management and Data Stewardship

This study emphasises the evolving and multifaceted role of DSs in academic institutions. DSs are positioned at the intersection of institutional mandates and researchers' practical needs. They are expected to ensure compliance with open science policies, funding requirements and data protection regulations, while also supporting researchers in their pursuit of knowledge. This dual responsibility places DSs in a 'buffer zone', where they must balance sometimes conflicting priorities, often without the formal authority to influence the rules they are tasked with implementing.

Rather than offering a catalogue of issues, this paper provides an overview of recurring tensions. Through an autoethnographic lens, it brings forward a perspective rarely voiced but increasingly relevant in practice. While the findings are based on an autoethnography, the issues raised have broader relevance and invite reflection within other settings. The goal is not to generalise, but to initiate debate on the role and function of DSs in research environments, and to identify areas for improvement. This paper presents a practice-based analysis of structural frictions in Data Stewardship and calls for rethinking how the DS role is integrated, supported, and empowered, enabling institutions to transition from compliance to enabling research environments.

One such area is the need to integrate DSs more effectively into institutional decision-making processes. Currently, DSs are often tasked with implementing policies without having been involved in their development, which limits their ability to adapt them to disciplinary, methodological, or ethical realities. Giving DSs a formal voice in data governance structures would increase the relevance of policies and foster institutional coherence.

Another key implication is the need for more flexible, researcher-centred data management frameworks. Rigid, one-size-fits-all policies often fail to reflect the diversity of research practices, particularly in the social sciences. Allowing DSs to propose tailored solutions and encouraging institutions to accommodate exceptions, where justified, would improve the relevance and uptake of RDM policies.

Finally, as funders' and journals' requirements continue to evolve, institutions must strengthen internal support structures. This includes ongoing training, technical resources, clearer internal guidance, and better coordination.

Limitations and future research directions

While this study provides valuable insights into the lived experiences of DSs, it also has certain limitations. First, the autoethnographic approach is inherently subjective, relying on the experiences of a single DS. Although this method enables a nuanced exploration of challenges in practice, it does not offer a broader, institution-wide perspective. Future studies could complement these findings with comparative analyses or surveys of multiple DSs.

Second, the case studies highlight tensions between institutional compliance and research practice, but they primarily focus on researchers from the faculty of Law, Criminal Justice and Public Administration. Expanding this analysis to life sciences, humanities, or interdisciplinary research environments could provide a more holistic view of how DSs adapt to different disciplinary challenges.

Finally, the study acknowledges that DSs often operate without formal authority in institutional decision-making. Future research could explore strategies for empowering DSs, including potential governance models where DSs play a more active role in policy development, researcher advocacy, and institutional data strategy planning. Examining how different universities structure their DS roles could provide actionable recommendations for institutions seeking to improve their RDM frameworks.

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