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ORIGINAL RESEARCH ARTICLE

Research Data Management in German Academia from a Multiple Logic Perspective

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Abstract

The requirements for research data management (RDM) have increased. Due to academia's neoliberalization, however, researchers already face a high workload within a hypercompetitive environment. The demand to integrate RDM as an additional task into academics' day-to-day actions seems to be quixotic. To deepen our understanding of early career researchers' (ECRs) daily work arbitrage, we need to know more about their behavior, actions, and decisions in relation to RDM. Drawing on a multiple institutional logics perspective at the micro-level, we conducted 40 semistructured interviews at German higher education institutions (HEIs) to investigate *how ECRs respond to institutional logics in the context of RDM*. Our findings revealed three profiles – the *conformist*, the *waverer*, and the *resister* – that make use of different response strategies to the state, market, professional, and community logic. We contribute to institutional logic research at the micro-level and, in addition, broaden prior research on HEIs and RDM by taking neoliberal academia into account.

Keywords: *Early career researchers*; *Institutional logics*; *Micro-level processes*; *Neoliberal academia*; *Research data management*

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Researchers face pressure from a wide range of actors, such as politicians, higher education institutions (HEIs), and journals, to adopt research data management (RDM). RDM focuses on the handling of research data – collection, organization, storage, and documentation – both during and after a research activity[1] with the aim of keeping data findable, accessible, interoperable, and reusable (FAIR) in the long term (Wilkinson et al., 2016). Along with FAIR data,[2] RDM not only enhances the transparency of the research process but also contributes to open science and thus helps to build 'sustainable academia', that is, open, engaged, and slow science that allows researchers to reflect on their research and find new ways to connect with each other by reducing their own footprint (Berkowitz & Delacour, 2020). But reasons driving or limiting RDM's adoption are manifold, and they are shaped by researchers' behaviors and attitudes (Defazio et al., 2022; Fecher et al., 2015; Schwarz & Bouckenooghe, 2024). The European Union (EU) estimates 'the annual cost of not having FAIR data to a minimum of €10.2 billion per year' (European Commission, 2018a, p. 26) in the academic sector alone. In terms of wider policy interests, there is increasing demand on researchers to integrate RDM and FAIR principles into their day-to-day actions to ensure a sustainable use of resources. However, the experiences reported in HEIs and research institutes suggest that RDM is still practiced by a relatively limited number of researchers (Stieglitz et al., 2020).

1. Structured RDM actions can be taken at all stages of the data life cycle – planning research projects, creation/collection, processing and analysis, sharing and publishing, archiving, reuse. These should be appropriate to maintain the scientific validity of research data to preserve its accessibility to others for evaluation and analysis and to secure the chain of evidence.

2. In 2016, the 'FAIR guiding principles for scientific data management and stewardship' by Wilkinson et al. (2016) were published. The authors provide guidelines to improve the findability, accessibility, interoperability, and reuse (FAIR) of digital assets. Findability means that metadata and data should be easy to find for both humans and computers. Accessibility signifies that once users find the required data, they need to know how they can be accessed, possibly including authentication and authorization. Interoperability implies that the data usually need to be integrated with other data, applications, or workflows for analysis, storage, and processing. Reusability implies the necessity to describe (meta)data so that it can be replicated and/or combined in different settings. For more information about FAIR, see here: https://www.go-fair.org/.

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The attitudes and actions of early career researchers[3] (ECRs) as the next generation of university professors are particularly significant because they are an important group in the long-term adoption of RDM. However, in light of academia's neoliberalization, including increasingly insecure academic careers due to precarious casual and contract-based employment (Knights & Clarke, 2014), performance measurement, and overwork (Bottrell & Manathunga, 2019; Lorenz, 2012), ECRs are under intense work pressure due to increasing teaching, research, and administrative responsibilities (Bristow et al., 2017; Docherty, 2015; McCann et al., 2020). As Rowlands and Rawolle (2013) have cautioned against the use of neoliberalism as a catch-all, we define neoliberal academia as a field 'fraught with intensified corporate culture [in universities] that disempowers academics by eroding their autonomy and imposing on them standardized, quantified measures of productivity' (Yin & Mu, 2023, p. 66). ECRs have an especially limited ability to oppose neoliberal academia or to deal with its excesses. Considering the numerous tasks ECRs are responsible for, integrating additional tasks such as RDM into their day-to-day actions within neoliberal academia is difficult, even if RDM can provide numerous benefits (Berkowitz & Delacour, 2022).

Building on recent insights from the institutional logics literature, we consider both institutional logics' influence on the adoption of RDM by ECRs and ECRs' response to as well as the impact on institutional logics. Cai and Mountford emphasized that the 'explanations on how institutional processes play out at a micro-level' (2022, p. 1637) are still underdeveloped within higher education research. Micro-level research is important because while institutional logics are related to society and field, they are imposed on individual actors who then have to handle them, even when such logics may be contradictory. In addition, Kallio et al. noted that 'less knowledge is available on how scholars affect their organizations and influence [institutional logics] through their actions and behaviors' (2021, p. 142). Researchers are especially interesting because their work takes place in pluralistic organizations (Spee & Jarzabkowski, 2011), which are simultaneously hypercompetitive (Bristow et al., 2017) and expected to contribute to the common good (Berkowitz & Delacour, 2020).

In this study, we used a qualitative research design to investigate how institutional logics influence the behaviors of actors at the micro-level using the example of RDM in German HEIs. Our research is driven by the following question: *How do ECRs respond to institutional logics in the context of RDM?* To this end, we used Pache and Santos' (2013) repertoire of individuals' responses to competing institutional logics to show how micro-level processes influence institutional logics. We conducted 40 semistructured interviews with PhD students, postdocs, HEI executives, and research data managers from different German HEIs. Their revelations allowed us to generate valuable insights into ECRs' actions and behaviors concerning RDM in neoliberal academia. We found that three different behavioral profiles of ECRs emerge when they are faced with RDM: the *conformist*, the *waverer*, and the *resister*. Interestingly, these profiles respond differently to the institutional logics.

Our study makes two core contributions. First, we focus on how individuals respond to institutional logics. Therefore, our study offers new insights in the area of micro-level research on institutional logics by providing an in-depth account of ECRs' behavior, actions, and decisions regarding RDM and the related microprocesses. Second, we extend the field of HEI and RDM studies by focusing on RDM in the context of neoliberal academia. Our study illustrates the different pressures faced by ECRs, showing the crucial role of academia's neoliberalization regarding RDM.

Institutional logics at the micro-level within HEIs

Due to international norms as well as national priorities and monitoring by funding agencies, HEIs must adapt to changing requirements such as RDM to ensure their legitimacy (Grossi et al., 2020). However, HEIs are pluralist organizations (Spee & Jarzabkowski, 2011). Defined as 'the socially constructed, historical patterns of cultural symbols and material practices, including assumptions, values, and beliefs' (Thornton et al., 2012, p. 2) that stipulate and 'provide organizational members with principles and templates that guide day-to-day action' (Waeger & Weber, 2019, p. 338), institutional logics provide a valuable framework to better understand how changes within HEIs take place at the micro-level. Institutional logics influence the mindsets (Cristofini, 2021) and experiences (Guarini et al., 2020) of individuals. They are multiple and diverse (Dansou & Langley, 2012) and, furthermore, 'are both taken for granted and reconstituted by actors' (Zilber, 2016, p. 149).

Previous research has mainly addressed institutional logics at the macro-level or meso-level, focusing on fields, organizations, or intraorganizational aspects (e.g., Berman, 2012; Kraatz & Block, 2008; Townley, 1997; Yan et al., 2021). This overlooks the influence of the micro-level, which is characterized by individuals or collective actors. Past research has revealed that actors at the micro-level influence institutional logics through their behavior, reactions, and decisions (Kellogg, 2019; McPherson & Sauder, 2013). Confronted with multiple logics that are not always compatible (e.g., Greenwood et al., 2011; Kraatz & Block, 2008; Malhotra et al., 2021), these actors need to be selective about the logic to which they adhere, as well as how they interpret it (Voronov et al., 2013). However, 'to

[3] In the German context, ECRs are PhD students, postdocs, or advanced postdocs (a maximum of 6 years of academic research experience following completion of the doctorate) and junior professors (professors with an outstanding doctorate but without a 'Habilitation').

understand how individuals respond to competing institutional logics, it is important to understand first how individuals are exposed to institutional logics' (Pache & Santos, 2013, p. 7). Furthermore, individuals' responses to institutional complexity and competing institutional logics depend on their experience with them (Glaser et al., 2016). Thus, institutional logics are not only sets of organizing principles; rather, they are 'tools that can be brought out to resolve conflicts, frame solutions to practical work problems, or legitimate calls for different courses of action' (McPherson & Sauder, 2013, p. 186).

The framework by Thornton et al. (2012) defines seven ideal types of institutional logics – state, market, family, religious, professional, corporate, and community – explaining the interrelations between society, organizations, and individuals. Given the hybrid nature of HEIs, which combine various institutional logics (Svenningsen-Berthélem et al., 2018), we follow prior research findings and interpret the state, market, professional, and community logics as the dominant institutional logics within HEIs (e.g., Conrath-Hargreaves & Wüstemann, 2019; Grossi et al., 2020; Jeanes et al., 2019; Kallio et al., 2021). Table A1 (see Appendix) summarizes the characteristics of these four logics and assigns them to the level of academia, HEIs, researchers, and the RDM context. Institutional logics manifest at multiple levels, that is, at the field, organizational, and individual levels. While HEIs present the organizational level, researchers' actions take place at the micro-level, and academia embodies the field level. Meanwhile, RDM is located at all three levels. How individuals react to the emergence of competing logics or new requirements depends on their experiences (Glaser et al., 2016; Pache & Santos, 2013). Hence, researchers will respond to RDM requirements based on their experience and the logics they apply to.

Considering that the individual level is interwoven with the organization and field levels, individuals do not only reproduce existing structures with their actions but are able to initiate change (Zucker & Schilke, 2019) and to 'actively generate, maintain, and resist [institutional logics] as they operate in value-plural landscapes in different fields' (Power, 2021, p. 10). New requirements or technical advances can be triggers for individuals to adapt their behavior. In the context of organizational microprocesses, Power noted that a logic 'is strongly performative of the conditions of its own reproduction and expansion' (2021, p. 6). Furthermore, Kellogg found that micro-level institutional change can be accomplished by 'subordinate activation tactics' (2019, p. 928). In short, explanations of microprocesses provide the 'depth and texture to accounts of macro-level events and relationships' (Powell & Rerup, 2017, p. 312). In their study, Pache and Santos (2013) described five potential response strategies of individuals when competing logics appear: compliance, ignorance, defiance, combination, and compartmentalization. Compliance indicates the individual's full adoption of practices, values, and norms. As opposing responses to compliance, individuals can adopt ignorance or defiance as a strategy. While ignorance consists of the lack of awareness of the logic's existence, defiance entails the awareness of the logic's existence and the conscious disagreement with it. Additionally, individuals are able to combine or compartmentalize competing logics. By blending certain elements of competing logics, individuals are able to combine them. The other option, compartmentalization, lies in the full adoption of a logic's elements in certain contexts and its refusal in other contexts. Pache and Santos' (2013) repertoire helps explain how individuals respond to institutional logics when new requirements, such as RDM, are put in place.

Institutional logics and RDM

While previous research has underlined how external requirements and their effects influence science (e.g., Barczak et al., 2022; Gumport, 2000; Kallio et al., 2021; Townley, 1997), knowledge in the context of RDM is lacking. Technical developments, such as the utilization of artificial intelligence, new measurement devices, or the combination of measurement platforms, drive new opportunities to change the process of knowledge creation and to answer complex, interdisciplinary research questions. But bigger datasets and highly technical measurement devices increase the requirements for RDM, such as the production of FAIR data (Wilkinson et al., 2016), to utilize this technology to its full potential. Hence, RDM is an additional way for HEIs and researchers to gain legitimacy. As an expression of a new priority, the state provides additional funding programs supporting the production of FAIR data and the implementation of new support institutes for RDM such as the German National Research Data Infrastructure (NFDI). Moreover, research funding organizations worldwide, including the German Research Foundation (Deutsche Forschungsgemeinschaft), the French national research agency (Centre national de la recherche scientifique), and the US National Science Foundation, require RDM in their policies. This demonstrates how RDM is fostered by the state logic.

Prior research has shown that scientific contributions can occur in a variety of ways, for instance via teaching, transfer activities, or research (Conrath-Hargreaves & Wüstemann, 2019; Guarini et al., 2020; Gumport, 2000). All such activities represent the professional logic. In this context, RDM offers researchers an additional means of contributing to research and high-quality scientific work. Nevertheless, depending on the research discipline, a variety of norms and values exist that influence RDM. As the European Commission (2018b) has confirmed, some research disciplines recognize the FAIR principles, while others still need to develop frameworks to realize them. The EU has remarked that disciplines following the FAIR principles should be conceived as role models. Hence, RDM seems to depend not only on state and professional logics but

also on the community logic. Considering how many responsibilities researchers already have, RDM can be seen as an additional task that increases researchers' workload (Berkowitz & Delacour, 2022). Therefore, RDM puts additional pressure on them, so researchers may also actively decide to discard some of their tasks that are considered less career enhancing. Thus, the market logic influences RDM activities as well. In summary, all four dominant institutional logics within academia have an impact on RDM. However, little is known regarding how ECRs respond to them.

Data and methodology

Research setting

This research adopts Germany as a research setting because, despite the continuing role of the traditional chair regime, Germany nevertheless has aspects of a neoliberal academia (Wieners & Weber, 2020). Thus, it provides interesting insights into ECRs' daily lives in neoliberal academia. Especially at German HEIs, ECRs possess considerable importance as researchers, teachers, and supporters of academic self-administration. Furthermore, a distinct interdependency between professors and ECRs is evident. For example, in Germany, the professor acts simultaneously as the supervisor and examiner of the doctoral or habilitation degree as well as the person responsible for an extension of the employment contract. In addition, RDM is receiving increasing attention in Germany, which is reflected in various foundations and initiatives (e.g., the NFDI). Both researchers and politicians are aiming to establish and develop comprehensive RDM in order to enhance the entire German science system.

To examine how ECRs respond to institutional logics in the context of RDM, we used an inductive study design. We conducted qualitative, semistructured interviews with 40 research associates, HEI executives, and research data managers from various German HEIs. Our interviewed research associates included PhD students and postdocs. We decided to focus on ECRs because, in contrast to senior researchers, they have both more constraints and more incentives to pursue RDM. Especially in German academia, ECRs are more exposed to institutional logics because, unlike professors, they usually have insecure working conditions. Laudel and Gläser see them as 'the most vulnerable group [within academia and, therefore, as] the first to suffer from the stress that has befallen [academia]' (2008, p. 388). Furthermore, ECRs are the future of the profession. Thus, they are crucial concerning RDM's long-term adoption.

Research participants

Initially, we searched for universities with an existing RDM policy and team. After identifying such universities, we chose three with a wide range of faculties in the natural, medical, and management sciences. We decided on these disciplines because we had attended various workshops on RDM in 2020, in which it was reported that the natural and medical sciences in particular are quite advanced in terms of RDM, whereas the management and social sciences need to catch up. We scanned the universities' homepages to find ECRs as well as the RDM team and sent invitations to potential interview partners. To broaden our perspective and to gain a variety of insights, we decided to interview researchers, research data managers, and an executive of a big research institute in Germany as well. In total, we sent 135 emails inviting potential interview partners to join our study. The initial response rate was 80%, with an overall acceptance rate of around 30%. Table 1 provides an overview of our interviewees.

All interviewed ECRs already had contact with research data as part of their doctoral or postdoctoral work and could therefore report on how they were dealing with data and why they were dealing with it in this way. Research data managers are experts in the field of RDM and operate as the points of contact for questions regarding RDM. Furthermore, they have a holistic view concerning the status of RDM in Germany. Combining these perspectives with the perspective of executives enabled us to obtain a holistic view of RDM beyond neoliberal academia and the predominant institutional logics. Table 2 provides an overview of the key characteristics of the interviewees' disciplines and roles in terms of RDM. Our collected data are heterogeneous. By obtaining data with high variation, we minimize the probability of not

Table 1. Overview of the interviewees for the study

	Number of interviewees	Percentage (%)
Career level		
PhD student (research associate)	21	52.5
Postdoc (research associate)	13	32.5
Research data manager	4	10
Executive	2	5
Discipline of researchers (excluding research data manager and executives)		
Management sciences	20	58.8
Medical sciences	8	23.5
Natural sciences	6	17.7
Sex		
Female	20	50
Male	20	50
Affiliation		
University	35	87.5
Research institute	5	12.5

Source: own elaboration.

Table 2. Key characteristics of interviewees' disciplines and roles regarding RDM

Interviewees' disciplines	Type of data	Data policies	Specifics regarding RDM
Management sciences	• Heterogeneity, e.g., questionnaires, statistics, interviews, videos	• Under construction; gaining importance • Researchers often lacking knowledge about it	• Little developed so far • Few data publications
Medical sciences	• Heterogeneity, e.g., gene analysis, data in hospital information systems, ultrasonic data	• Under construction or established • Third-party funders require RDM	• Challenges regarding large data volumes • Mandatory documentation and retention of data
Natural sciences	• Heterogeneity, e.g., geo data, electrochemical measurement data	• Established • Depends on standards in the respective subdisciplines (heterogeneous handling of research data)	• Specific tools • Important to ensure the quality, value, and integrity of data and other resources associated with scientific publications
Interviewees' roles	**Description**		**Key skills**
(Early career) researcher	Research • Collectors, users, and re-users of data with the help of discipline-specific methods		• Data management planning • Knowledge of data ethics, legal implications, funding guidelines, and other requirements • Publication and citation of data • Data documentation
Research data manager	Support of research • Points of contact for all (interdisciplinary) questions around data management, e.g., ethical questions regarding project administration or technical implementations		• Data management planning • Development and use of open systems for data management • Knowledge of data ethics, legal implications, funding guidelines, and other requirements • Data documentation • Strategy development (internal policies, workflows, etc.)
Executive	Guidance and organization of research • Creators of guidelines and frameworks for action as well as the underlying governance concept		• Providing orientation • Strengthening data culture • Developing strategy • Organizing implementation • Expanding infrastructure • Developing competencies

Source: Whyte et al., 2018.

being able to collect information relevant to the study. Concerning our analysis, heterogeneity allows us to identify important common patterns that cut across variations (Patton, 2002).

Semi-structured interviews

We followed Brinkmann and Kvale's (2014) standard procedures for conducting qualitative semi-structured interviews. The first part of the interview covered information about the interviewees, for example, areas of responsibility. In the second part, we asked open-ended questions to understand the interviewees' experience with RDM, their knowledge of it, and their attitude toward it. For example, we asked how much relevance they attributed to the sustainable handling of research data. We posed in-depth questions about how they were hindered or supported by whom or what in RDM. We asked for details regarding whether and why RDM was or was not being practiced, and, in general, what their experience of academia was like. Furthermore, we used grand tour questions, asking them to provide detailed accounts of their research process, including their handling of research data, and how academia, their research community, and their mindset regarding their job as a researcher at an HEI influenced the described research process. All interviews were conducted from March 2021 to June 2022. They lasted between 30 and 90 min (totaling over 36 h) and were conducted in German or English. All interviews were recorded and transcribed in the language used, and we translated all German quotes used in this study into English.

Data analysis

Our data analysis started with an iterative open coding of the interview transcripts based on the suggested procedures for qualitative data analysis (Gioia et al., 2013; Miles et al., 2020) using MAXQDA. We began by linking our data to first-order codes related to the main topic of this study: how ECRs respond to institutional logics in the context of RDM. To answer our research question, it was necessary to first understand how ECRs engage with RDM. Therefore, we used our interview data to build behavioral profiles of ECRs. The interviews contained rich and varied information. Thus, we were able to increase our understanding of the different handling of RDM among the profiles. The open coding was wide ranging. In this first step of the analysis, we stuck firmly to the interviewees' terms and distilled the categories only marginally (Gioia et al., 2013). Topics raised were, for example, attitudes, assumptions, experiences, processes, practices, and dependencies. By the end of our open coding, we had identified nearly 100 first-order categories. In the next step, we looked for commonalities and differences among these categories to reduce the amount to a manageable number. We labeled these categories and linked our data using first-order codes to build provisional second-order themes. For example, statements showed that some management science ECRs believe that their own research does not benefit society. A feeling of a missing meaningfulness with regard to management science was conveyed, and therefore 'lack of meaningfulness' was selected as a second-order theme that contained all associated first-order codes. Likewise, statements referring to 'intrinsic motivation to do RDM' or 'RDM as part of the scientific claim' initiated the emergence of the second-order theme of 'professional ethics'. We went through our data, first-order codes, and second-order themes several times until no new categories appeared.

Next, we integrated our first-order codes with our second-order themes. We examined our data again to confirm that our provisional second-order themes encompassed researchers' remarks on the aspects influencing their handling of research data. While discussing our second-order themes iteratively, we sometimes abandoned provisional themes. Others we reached a consensus on, and concurrently we developed new themes for the categories that evolved. For example, a provisional second-order theme that we labeled 'RDM awareness of community', depicting the first-order codes of 'networks foster RDM' and 'journal requirements', substantially overlapped with another second-order theme, namely 'community standards', and was thus deleted. In addition, the preliminary theme of 'pressure to publish' lacked precision in terms of the ways in which ECRs feel pressured. As a result, we elaborated this in greater detail and created a category on 'competitive pressure', which contains 'pressure to publish is very high' as well as, for example, 'high number of duties leads to lack of time to do RDM'. After enhancing our set of second-order themes and developing new themes, we evaluated our second-order analysis to ensure that the themes accurately depicted our first-order codes.

After the theoretical saturation point was reached, our last step of data analysis was to analyze the underlying theoretical dimensions of our second-order themes. For example, some second-order themes were indicative of neglecting RDM (e.g., 'competitive pressure'), whereas others represented promoters of RDM (e.g., 'professional ethics'). In total, we were able to develop three different aggregate dimensions – the *conformist*, the *waverer*, and the *resister*. Twenty-six point five percent of the ECRs interviewed could be assigned to the conformist profile, 29.4% to the waverer profile, and 44.1% to the resister profile. Nevertheless, the aggregate dimensions are profiles. Consequently, the assigned interviewees are located on a spectrum and can therefore also be allocated between two profiles. To ensure clarity, however, we have assigned the interviewees precisely to the profiles to which they corresponded most closely.

Finally, to strengthen the qualitative rigor of our inductive research, we consulted two of our colleagues to independently review randomly selected quotations from our data analysis (Gioia et al., 2013), and their agreement with our analysis was very high. Figure 1 summarizes our results and presents our set of first-order codes, second-order themes, and aggregate dimensions.

Subsequently, our data also helped us to identify institutional logics and to understand ECRs' responses involved. With the help of existing literature, we were able to point out the key characteristics and influences of institutional logics within academia (see Table A1). Using this initial framework, we were able to identify different logics reflected in the behavior in our data. Interestingly, when analyzing the three behavioral profiles, we found out how participating ECRs respond to the influence of institutional logics. In addition, we discovered that ECRs differ in their response depending on their behavior toward RDM. Also of note is that these different responses were in line with the different behavioral profiles regarding RDM. In the following, we use sample quotes to illustrate the links between ECRs and the institutional logics as well as the different responses to them.

Profiles of ECRs

Based on the participating ECRs' engagement with RDM, our findings revealed three aggregate dimensions, each of which describes a behavioral profile.

The conformist

This profile accounts for 26.5% of our sample. In general, the participating ECRs who fit this profile were familiar with RDM

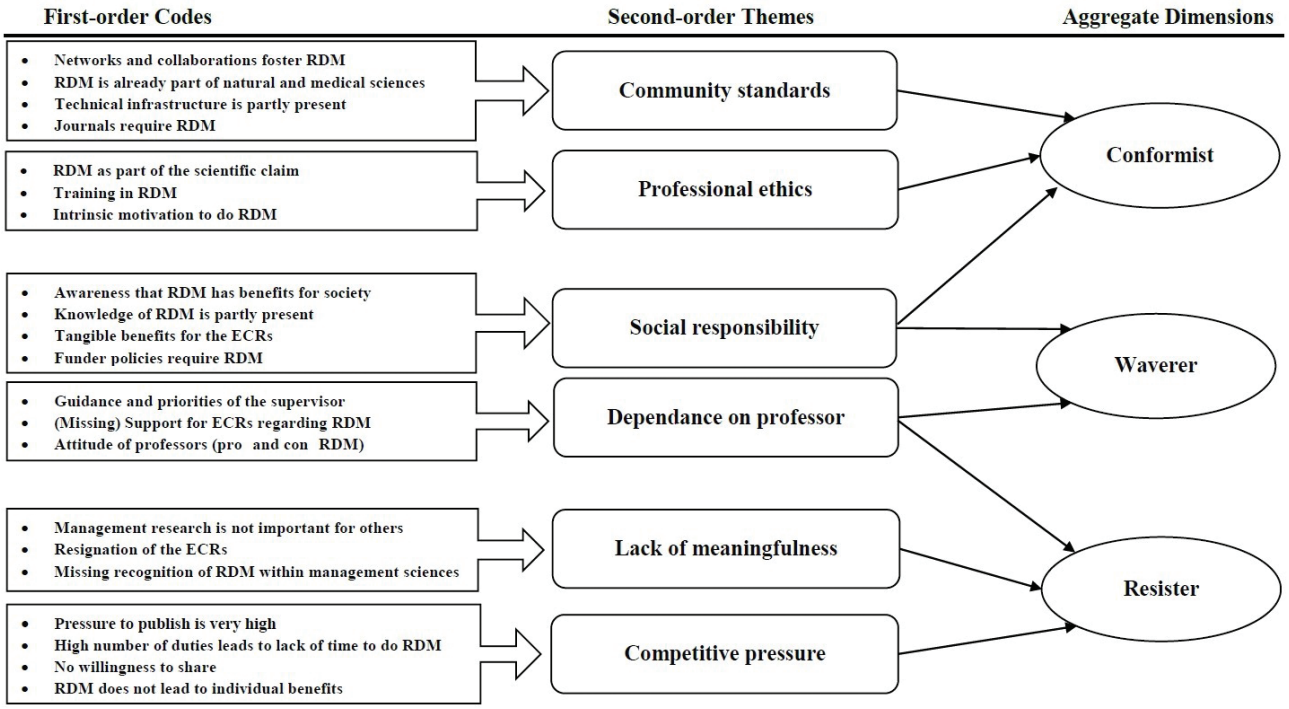

Figure 1. Overview of data structure.
Source: own elaboration, adapted from Gioia et al., 2013.

and named the FAIR principles as its key concept. Based on the interviews, the combination of community standards, professional ethics, and social responsibility provides an ideal environment for RDM and influence conformists to integrate RDM into their day-to-day actions. Funder and journal requirements increase the need for RDM, whereas an existing suitable technical infrastructure, mainly in natural and medical sciences, ensures its execution. For conformists, intrinsic motivation and the conviction that RDM is a part of the scientific claim foster RDM too. Table 3 summarizes the conformist's responses to institutional logics.

Our findings revealed that community standards were an important driver for being a conformist. Disciplines that rely on providing and sharing data globally to conduct high-quality research acknowledge the added value of RDM, as the researchers themselves are affected by it. Although RDM is driven by technical infrastructure, our findings also revealed that networks and collaboration where RDM is necessary are crucial to the conformist. Furthermore, for conformists, the exchange with peers through networks or collaboration involving data handling and sharing within research groups are main drivers to practice RDM. In addition, the availability of trustworthy infrastructure, combined with community norms, lay a foundation for conformists to integrate RDM into their day-to-day actions. Thus, an RDM-promoting context influences the conformist and leads to a compliant response to the community logic.

Journals were found to be closely connected to the research disciplines too. As our findings revealed, when journals require RDM, researchers need to comply. Furthermore, the interviewed ECRs described receiving positive feedback from the reviewers when they made their data available to them. Hence, journals have a strong influence on how RDM is practiced by researchers. Additionally, more and more research project funders formulate clear requirements for RDM in their policies, and researchers with third-party funding have to abide by these requirements.

Beyond the formal requirements of journals or funders, intrinsic motivation and an understanding of RDM as part of the scientific claim are the main characteristics of the conformist's professional ethics. Thus, conformists also respond to the professional and state logics in a compliant way. Although those participants who fit the conformist profile admitted that RDM requires additional effort, all of them recognized the benefit of it. While some of them named their social responsibility as the recipient of tax money to accomplish their scientific work, others mentioned the tangible benefits arising through RDM. By doing RDM, conformists, especially within natural and medical sciences, fulfill the professional claim as well as journal requirements. In this context, conformists are able to combine the market logic with the professional logic.

Table 3. The conformist's responses to institutional logics in the context of RDM

Logic and identified key characteristics	Response	Sample quotes
State • Regulatory framework • Society's interests as a priority	Compliance	I have to document how I get from the question to the goal. That is ultimately my work. When I get the research funds, I deal with this question and everything that I collect within the framework of this, I have to document somehow. That's a nuisance, in part, but I find it really quite essential. (Postdoc, medical sciences)
Market • Market-oriented career development	Combination with professional logic	I think there is a certain self-interest. As someone who is very much dependent on publicly available data, I would be cutting my own throat if I didn't advocate that data be publicly available myself. (Postdoc, natural sciences)
Professional • Aim to advance knowledge • Aim to contribute to high-quality scientific work	Compliance	We have a colloquium where we often present things to each other. Sometimes the question is 'How can we make it [our data] accessible or usable for different people?' (Postdoc, natural sciences) Sometimes reviewers emphasize this as a positive feature of a paper submission. When we say, 'we have the data and the code is completely available', then that is quite often highlighted as something positive. (Postdoc, natural sciences)
Community • Research discipline with its own norms, rules, and values • Community influences	Compliance	In meteorology, it is much more important to handle data sensibly. And I think if you come from a field where you work a lot with other people's data, you know how important RDM is. (Postdoc, natural sciences)

Source: own elaboration.

The waverer

This profile accounts for 29.4% of our sample. Waverers are torn between their social responsibility, which, as with the conformist, encourages RDM, and their strong dependence on their supervisor, who may be both pro and con RDM. On the one hand, waverers interpret RDM as being important and admit the benefits it can bestow. Especially when they are confronted with the requirements of funder policies toward RDM, they try to follow them. On the other hand, ECRs often have a high dependency on their supervisors. In Germany, this dependency has feudal characteristics. The supervisor functions as an employer and as a reviewer of the finished thesis at the same time. Thus, when the supervisor does not treat RDM as an important scientific contribution, the ECR wavers in their practice of RDM. This dynamic underlines that power is an integral part of academia (Jemine et al., 2022). Table 4 summarizes the waverer's responses to institutional logics.

The waverer's knowledge varies from possession of a vague idea about RDM to having a grasp on the requirements of the FAIR principles. Although the ECRs who matched the waverer profile emphasized the benefits of RDM, they admitted lacking knowledge and the potential to improve their data handling. All ECRs must follow funder requirements. While conformists combine these requirements with their community standards and professional ethics, waverers seem to view RDM more as a duty than a natural part of the scientific process.

In relation to professional and community logics, waverers respond with compartmentalization. In other words, they segment their compliance with both logics. In some contexts, waverers comply with the community logic and reject the professional logic, while in others they comply with the professional logic and reject the community logic. Therefore, the waverer enacts both logics but keeps them separate. Primarily, this is done through the influence of the professor. Accordingly, it is enormously important for waverers to have a good relationship with their professor, ideally conforming to all their requirements, wishes, and points of view. Thus, waverers use compartmentalization to gain legitimacy by complying with professional and community logics despite their incompatibility in different contexts.

While conformists operate within an RDM-promoting environment in which they have support from their supervisors, waverers tend to be discouraged from practicing RDM by their supervisors. Although waverers are aware of RDM's importance, they rarely if ever engage in it due to professorial influence and discouragement. The guidance of the supervisor in the context of a dissertation or habilitation, of course, is in many cases also constructive and beneficial for the ECR. However, if RDM is not explicitly referred to or insisted upon, waverers do not apply the FAIR principles as part of their scientific process. The high workload as a condition of neoliberal academia plays a decisive role here. Lacking the support of the supervisor, for whatever reason, can also discourage the practice of RDM among ECRs, especially in the management sciences, where RDM is not a community standard. The supervisor thus has a significant role regarding RDM. ECRs' dependency on their supervisory professors in Germany, coupled with the circumstances of academia's neoliberalization, lead waverers to neglect the sustainable handling of research data despite their awareness of RDM.

Table 4. The waverer's responses to institutional logics in the context of RDM

Logic and identified key characteristics	Response	Sample quotes
State • Output is a value for the society	Ignorance	I sometimes have the impression that people would like to do this [RDM] but have the feeling that other things are valued more highly, so I'll put it that way now. Then you just write another publication before you take care that the dataset is published. If something like that were recognized, it would increase the motivation to deal with it. (Postdoc, natural sciences)
Market • Pressure to publish • Market-oriented career development	Compliance	You also need to think about how it is with competitors. Who can access the data? This is difficult, especially in a world where there is so much pressure to publish. If I store data centrally and use RDM, then I have to be aware of the danger that other people will publish with my data. And then I'm out of the game. (PhD student, natural sciences)
Professional • Aim to contribute to high-quality scientific work	Compartmentalization	In principle, I think I already meet the requirements for the sustainable handling of research data. But I think there is still room for improvement. It's difficult because it takes a long time to do it really effectively and really well. (Postdoc, natural sciences)
Community • Community influences	Compartmentalization	My supervisor says that I can do this [RDM] in my private time, but not during working hours. This should be used to quickly produce publications . . . and RDM needs time. And since I have so much to do anyway, I rarely manage that. I also want to have a life besides work. But I definitely believe that this approach is ethically very important, and it would help a lot. (PhD student, management sciences)

Source: own elaboration.

Moreover, many current professors are shaped by neoliberal academia. Since they have already climbed the upper end of the scientific career ladder, they can be considered experts in terms of career planning. So, if an ECR also wants to reach the ivory tower of German HEIs, career advice is often groundbreaking and gladly accepted. Therefore, the professor's attitude toward RDM influences the advice they give.

In relation to market logic, waverers respond with compliance. Driven by academia as well as their supervisors, the market logic is fully met. However, waverers ignore the state logic; given their lack of awareness of state logic, they neither adopt nor resist it. Indeed, this ignorance is a reflection of market compliance.

The resister

This profile accounts for 44.1% of our sample. The resister is also influenced by a dependence on the professor. Moreover, the second-order themes of 'lack of meaningfulness' and 'competitive pressure' were found to have an impact on ECRs of this profile. Resisters, who are characterized by neglecting RDM, respond in compliance to the market logic due to the pressure to publish under tight timescales. According to some ECRs in our sample, because RDM within their research area is not helpful for society, they show defiance to the state logic. Furthermore, resisters have less knowledge about RDM. Consequently, they often find it difficult to recognize the personal added value of RDM, so there is uncertainty about the meaning of RDM. Their prevailing view of RDM is to equate it with data sharing although there is much more to RDM through the application of FAIR principles, which, in turn, they interpret as a personal disadvantage in terms of their own careers. Their fears regarding stolen ideas are understandable, but these fears also underline these ECRs' limited knowledge about RDM. This partly explains their resistance to RDM. Additionally, due to their strong dependency on their supervisors, resisters ignore the professional logic. Moreover, the lack of knowledge and community standards leads to ignorance as a response to professional logic. Table 5 summarizes the resister's responses to institutional logics.

ECRs have often described the influence of pressure as a barrier regarding RDM. Academia is hypercompetitive, and the institutionalized 'A-journal mindset' (Aguinis et al., 2020, p. 148) affects ECRs' behavior (Willmott, 2011). Moreover, ECRs have a high level of career insecurity. Neoliberal academia with its dominant market logic prevents adequate implementation of RDM in many researchers' day-to-day actions. Accordingly, it is even more important to create incentives, as researchers' individual intrinsic motivation is not sufficient to conduct RDM adequately. On the one hand, there are calls from various actors to practice RDM responsibly rather than neglect it. On the other hand, the necessary framework for realizing this vision has not been established, especially within the management sciences. ECRs' high number of duties and the consequent lack of time, coupled with competition, lead to resistance regarding RDM. To counter this, resisters need individual benefits

Table 5. The resister's responses to institutional logics in the context of RDM

Logic and identified key characteristics	Response	Sample quotes
State • Output is a value for the society	Defiance	I also honestly don't know if what we do here in management science has any societal benefit. In the end, our discipline is just the stirrup holder for neoliberalism. Everything revolves around efficiency and performance. In any case, I don't see any societal need to do RDM here. (Postdoc, management sciences)
Market • Pressure to publish • Market-oriented career development	Compliance	If you want to become a professor, you need good publications. [. . .] A good RDM does nothing for your career, so my boss is not interested in it. It's just a matter of attitude. . . So, why should I go to extra trouble if it doesn't do anything for me? Sure, it's certainly a good thing, but it just doesn't do anything for me personally. My boss isn't interested either, so where are my incentives? (Postdoc, management sciences)
		I find myself in systemic constraints. So, if other people within my area were also doing RDM and sharing their data . . . then maybe I would be more open to that. But I am not measured and evaluated by my RDM. There are other things that matter, and I don't want to intentionally put myself at a disadvantage compared to my competitors by, for example, investing time in something that puts me at a disadvantage. The number of interviews I conduct is important and what I can make out of them, but not how I handle them. (PhD student, management sciences)
Professional • Aim to contribute to high-quality scientific work	Ignorance	My boss is now retiring in 2 months. He was appointed at a time when there was not yet this whole obligation with publications and other things. That means that the interests that are pursued with RDM often have a very singular interest. In any case, he is no longer interested in it. And at our chair, we only follow things that interest the boss and are acceptable. (PhD student, management sciences)
Community • Community influences	Compliance	My professor says that we don't need [RDM]. And yes, she is also very strict about it, I would say. That's why it's not on my horizon at all. But the idea is good. (PhD student, management sciences)

Source: own elaboration.

to handle their data sustainably. It becomes evident that the promotion of prepared datasets could promote not just RDM but also open science. Because ECRs can hardly escape the pressure to publish, the situation could be modified by implementing a reward for FAIR data publications – equivalent to a two-star publication – allowing researchers to meet the demand for publications while being pushed to realize the FAIR principles in the context of their research. Changing existing community standards is therefore a necessity. Our interview results clearly show that ECRs are part of neoliberal academia and that most of them are aware of it. Resisters in particular criticize the prevailing neoliberal mindset and, as a result, also experience a loss of meaningfulness with respect to RDM in their field. Such views espoused by ECRs are emblematic of a crisis of meaningfulness in management research.

ECRs' different responses to institutional logics

Our findings show that our three profiles of ECRs respond differently to institutional logics in the context of RDM. Using Pache and Santos' (2013) repertoire of individuals' responses to competing institutional logics enables us to clarify these different responses. The explanations of the potential different responses by Pache and Santos (2013) allowed us to find them reflected in the behavior in our data and to identify them. When analyzing the profiles, we found out how the assigned ECRs respond to institutional logics and how they differ in their response depending on their profile. Tables 3–5 show sample quotes to illustrate the links between the individual profiles and the institutional logics as well as the allocated responses (Pache & Santos, 2013) to them. Table 6 summarizes our findings regarding ECRs' responses.

Above all, community standards are of utmost importance in the realm of RDM. Due to the different stages of development of RDM's institutionalization in the natural, medical, and management sciences, even resisters respond with compliance to their community logic. It seems that there are variations in community logic across disciplines. While conformists, consisting only of natural and medical researchers, engage in RDM and thereby respond to their community logic with compliance, resisters likewise respond to their community logic with compliance, even though they do not engage in RDM.

Conformists are mainly driven by community standards (community logic), professional ethics (professional logic), and social responsibility (state logic) regarding their behavior and actions related to RDM. They aim to advance knowledge and

Table 6. ECRs' responses to institutional logics in the context of RDM

	Conformist	Waverer	Resister
State logic	Compliance	Ignorance	Defiance
Market logic	Combination	Compliance	Compliance
Professional logic	Compliance	Compartmentalization	Ignorance
Community logic	Compliance	Compartmentalization	Compliance

Source: own elaboration.

to the requirements within their research community and beyond. The community logic, which reflects common understanding, norms, rules, and beliefs (Marquis et al., 2007), equips the conformist with appropriate conditions for RDM. By following the community standards regarding RDM, the conformist responds with compliance to the community logic. Considering that HEIs are pluralist organizations (Spee & Jarzabkowski, 2011), our data revealed variations in community logic within HEIs. While the influence of state, market, and professional logics on ECRs is the same across research disciplines, the community logic depends on the research discipline within an HEI. These disciplines have different understandings, norms, rules, and beliefs in relation to RDM. For this reason, both conformists and resisters comply with their community logic although one engages in RDM and the other does not.

By interpreting RDM as a new tool that ensures good scientific practices, is required by funders, and increases the legitimacy of one's research, the importance of professional ethics increases for the conformist. The conformist responds with compliance to the professional logic. Furthermore, conformists reflect the state logic, which is characterized by the importance of society's interests and the redistribution of resources (Thornton et al., 2012), by practicing publicly funded research and recognizing their social responsibility as researchers. Because RDM contributes to this kind of research, by practicing RDM, conformists also comply with the state logic. As for the market logic, conformists use it as an additional reason to practice RDM. The ECRs in our study who fit the conformist profile mentioned that not following the requirements that have been adopted within one's research community will lead to a disadvantage for one's own research career (Barczak et al., 2022; Guarini et al., 2020), which is a clear interpretation of the typical characteristics of the market logic: profit maximization and competition. Hence, conformists combine market and professional logics and see RDM as part of both.

As our findings reveal, the resister does not practice RDM because of competitive pressure (market logic), lack of meaningfulness (contrary to the state logic), and dependence on the professor (community logic). The dominant market logic within neoliberal academia guides resisters' day-to-day actions, leading them to respond to the state logic with defiance (Pache & Santos, 2013). Although the calls for RDM in Germany have been growing more insistent for some time, resisters refuse to listen to them, explicitly rejecting the values, norms, and practices prescribed by the state logic. However, they fully comply with the market logic. Thus, for these ECRs, the state and market logics are incompatible. In contrast, there is compatibility between the market and community logics, since resisters also comply with their discipline-specific version of the community logic. The resisters identified in our study originated from the management sciences, and in this community, RDM is not yet established, which means that rejecting RDM reflects management sciences' community logic.

We see RDM as a new element of the professional logic because RDM is one way to serve good scientific work. Therefore, by prioritizing the market logic, resisters ignore the professional logic through their 'absence of response due to lack of awareness of the [professional] logic's influence' (Pache & Santos, 2013, p. 12). As long as resisters do not have to be afraid of any negative consequences of this ignorance (e.g., publishing problems), it has no effect on their career, as there are no commitments regarding RDM in their environment (e.g., community). Neoliberal academia leads researchers to prefer their own advantages over the value for society (e.g., data sharing) (Defazio et al., 2022). Critically, this process can lead to a loss of credibility vis-à-vis science and the researchers' profession. But if resisters change their behavior toward RDM, engage in it, and thereby contravene the community standards in the management sciences, they, in turn, can shape the community logic to be compatible with the professional logic.

Waverers are mainly driven by social responsibility (state logic) and dependence on their professor (community logic) regarding their behavior and actions relative to RDM. Like resisters, waverers comply with the market logic. However, waverers respond with ignorance to the state logic as they do not practice conscious resistance (Pache & Santos, 2013). Moreover, waverers respond with compartmentalization to the professional and community logics, thus segmenting their compliance with these logics, primarily through the influence of the professor.

None of the profiles are in defiance or ignorance of the market logic. Given neoliberal academia, this is not surprising: the market logic is the dominant institutional logic within HEIs. Furthermore, ECRs in particular are caught up in this logic as

they have not yet reached the top of their career ladder. If they want to climb the ladder, they must also fulfill expectations – mainly by publishing in high-ranking journals. Therefore, it is no surprise that ECRs' responses to the institutional logic are affirmative, whether in combination with the professional logic (for conformists) or as straightforward compliance (for waverers and resisters).

Discussion

Although all three profiles are confronted with the four institutional logics, we focused on the way they respond to and interpret them differs. On the one hand, ECRs are affected by institutional logics in different ways; on the other hand, ECRs also influence them through their behavior. HEIs assimilate multiple logics or elements of different logics (Boitier & Rivière, 2016), and ECRs need to be selective about which logic to adhere to (Voronov et al., 2013). Our findings suggest that RDM practices varied by ECRs' community, consistent with Glaser et al.'s (2016) findings that individuals develop a stronger association with a logic when they have more experience with it. ECRs' responses may vary and depend on the channels, for example, supervisor, research community, and education, through which they experience their everyday life (Pache & Santos, 2013). Within neoliberal academia, such experiences are mostly characterized by performance targets. Neoliberalism can be seen as culturally hegemonic knowledge (Wieners & Weber, 2020). Thus, it substantiates all human endeavor and action in an entrepreneurial way. Although we locate RDM primarily within the professional logic, it is likely, given that individuals' responses can affect organizations, fields, and institutional logics, that ECRs interpret RDM from within the market logic regardless of which profile they belong to. Such a phenomenon has been interpreted by researchers as the emergence of a hybrid logic (e.g., Grossi et al., 2020; Kallio et al., 2021) – specifically, a mix of the professional and market logics. But we see these microprocesses resulting in some kind of an institutional evolution (Dansou & Langley, 2012) whereby RDM also becomes part of the market logic. It is not only used to generate a benefit for society or to increase the quality of one's scientific work but also to increase performance, or it is refused so as not to impair performance. Therefore, the reinterpretation, as well as the rejection of RDM, leads to a strengthening of the market logic.

Looking to the future, we assume that resisters in particular will trigger a managerial push due to their dismissive attitude toward RDM. In the context of neoliberal academia, HEI management sets goals and allocates resources (Wieners & Weber, 2020), leading to the use of performance measurements. The louder the demand for RDM from various stakeholders in Germany, the more HEIs will include this in the evaluation of researchers. Consequently, resisters will be put in the crosshairs, and managerialism will increase. Paradoxically, resisters' behavior will likely serve to reinforce the dominance of market logic even though they developed these behaviors in the first place because of the already overwhelming market logic.

ECRs, especially waverers and resisters, are closely tied to their supervisors. This raises the question of how far these behaviors are really the results of individual decisions versus imposed by the structure: hierarchy, policies, and supervisors. Notably, the pronouns 'we' and 'they' are predominant in our quotes, and when interviewees use 'I', it is often related to pressures or situations they cannot control. So, do these ECRs actually have the ability to decide differently on their own? The tension between agency and institutional embeddedness has become known as the 'paradox of embedded agency' (Seo & Creed, 2002). The idea within the institutional logics perspective is 'that the plurality of accessible logics affords agents some degree of autonomy of action from structure' (Cardinale, 2018, p. 138). Therefore, 'ordinary individuals or organizations can act outside the confines of their immediate institutional environments' (Thornton et al., 2012, p. 106). Kellogg found that 'managers can accomplish micro-level institutional change in professional organizations using 'subordinate activation tactics'' (2019, p. 928). In our case, ECRs' supervisors can also use such tactics: for the resister, these are deactivation tactics regarding RDM, for the waverer they can be both activating and deactivating, and for the conformist, they are activating. Our data show that ECRs may reproduce the behavior demonstrated by their professors. Given professors' role model function and their influence on subordinate ECRs, they can initiate microprocesses that can be positive (e.g., the promotion of RDM) or negative (e.g., the focus on competition) for academia. Thus, supervisors' importance within microprocesses should not be overlooked. Furthermore, Pache and Santos point out that 'while positive experiences may, over time, strengthen [individual's] identification to a given logic, negative experiences with the enactment of this logic may lead them to progressively detach themselves from (and sometimes reject) this logic' (2013, p. 29). However, it cannot be denied that institutional theory has shortcomings regarding the consideration of power, domination, and oppression (Willmott, 2015).

Our study makes two main contributions. First, we revealed how ECRs interpret institutional logics and respond to them in the context of RDM as a new task in their day-to-day actions. Thus, we offer new insights into institutional logics at the micro-level by providing an in-depth account of ECRs' behaviors, actions, and decisions regarding RDM and the related microprocesses. Our microanalysis of institutional logics deepens our understanding of 'how scholars affect their organizations and influence [institutional logics] through their actions and behaviors' (Kallio et al., 2021, p. 142). Furthermore, with our

study, we tested Pache and Santo's (2013) repertoire in an empirical setting. We found it to be appropriate for empirical studies in the field of micro-level processes, and we were also able to confirm their responses. Future research can use it in other empirical settings and possibly further specify the repertoire.

Second, we broaden previous research on HEIs and RDM by taking neoliberal academia into account. Various recent publications (e.g., Berkowitz & Delacour, 2022; Defazio et al., 2022; Schwarz & Bouckenooghe, 2024; Stieglitz et al., 2020) show that RDM is finally in the management studies discussion. We appreciate this development, but note that neoliberal academia receives insufficient attention with regard to RDM. However, Schwarz and Bouckenooghe (2024) mention that there is often a prevailing fear of RDM in management research, particularly the sharing of research data. One of the reasons they give for this is fear of competition. Our study provides empirical support for this fear. We show that many of the interviewed management ECRs do not practice RDM due to the publish or perish culture within the neoliberal academia. Moreover, neoliberal academia disempowers ECRs by creating a strong dependence on their professors, similar to the vertical risks mentioned by Schwarz and Bouckenooghe (2024), and imposing performance pressure. Therefore, it is crucial to have this in mind regarding RDM.

Conclusion

To explore *how ECRs respond to institutional logics in the context of RDM*, we used a qualitative research design. Based on our investigation of the actions and decisions of ECRs concerning RDM within neoliberal academia, we identified three different behavioral profiles. Furthermore, we discussed these profiles' responses (Pache & Santos, 2013) to institutional logics – state, market, professional, and community. Thus, we pick up the emphases of Cai and Mountford (2022) and Kallio et al. (2021) by focusing on micro-level processes.

Considering the practical implication of our three identified profiles, by teaching RDM to students, conformists have an impact on the next generation of researchers. Additionally, conformists are also able to influence ECRs from other research communities who do not yet practice RDM. Within a collaboration with waverers or resisters, conformists can act as role models by demonstrating the role of RDM in the research process and convincing the naysayers to adopt RDM, at least for the joint research project. Thus, besides the managerial pushes the resisters might produce due to their rejection of RDM, conformists can contribute to RDM becoming a standard within research activities across community boundaries. This is comparable to the 'push through the institution' identified by Schwarz and Bouckenooghe (2024, p. 5) as one of six steps to tackle data sharing fears.

Our findings revealed that management researchers often see their research results as less important than those of researchers in the natural or medical sciences. Although all ECRs in our sample described the high pressure and numerous responsibilities within their working day, management researchers often used this as an explanation for not integrating RDM within their activities. We consider the most likely reason for this to be the lack of an RDM standard within the management science community. Thus, we encourage all research communities – especially the management science community – to consider the insights provided by this study and to critically reflect on their own role in enabling and fostering RDM. RDM represents not only quality assurance and control; it is the foundation for the trustworthiness of researchers and their findings. In the future, we must achieve internationally practiced core values of integrity, transparency, and orientation toward the FAIR principles.

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Appendix

Table A1. Key characteristics and influences of institutional logics within academia

Institutional logic	General key characteristics (Thornton et al., 2012)	Influence on academia	Influence on HEIs	Influence on researchers	RDM context
State logic	• Redistribution of resources • Society's interests as a priority • Creation of a framework of rules, requirements, and opportunities	• Funding of universities in the public interest and ensuring research autonomy versus promoting managerialism (Townley, 1997)	• Legitimacy from following governmental requirements and national priorities (Grossi et al., 2020) • Mission of increasing the common good (Berkowitz & Delacour, 2020)	• Regulatory framework (e.g., funding conditions) • Output representing a value for the society	• Promotion and support of an RDM infrastructure by the state • Requirement for new publicly funded research programs to adopt RDM
Market logic	• Guiding principles of profit maximization, growth, and competition • Prices defined by supply and demand	• Hypercompetitive environment (Bristow et al., 2017) • Performance appraisal systems (Townley, 1997)	• 'A-journal mindset' (Aguinis et al., 2020, p. 148) • Competition with other HEIs (Wieners & Weber, 2020) • Usage of parameters and metrics (e.g., Gumport, 2000; Townley, 1997)	• Pressure to publish, forcing researchers to withhold information (Defazio et al., 2022) • Anxiety or stress (McCann et al., 2020; Nordbäck et al., 2022) • Market-oriented career development mainly through publications (Belkhouja et al., 2022)	• Additional task, increasing researchers' workload (Berkowitz & Delacour, 2022)
Professional logic	• Individuals with high expertise and knowledge within a specific profession • Reputation and status within the profession as driver for development	• Tense job market within the academic profession (Stephan, 2012)	• Aim to advance knowledge, seek the truth, and maintain one's own reputation within the research community (Berman, 2012; Grossi et al., 2020) • Scientific freedom and openness of research results (Guarini et al., 2020; Kallio et al., 2016)	• Aim to advance knowledge, seek the truth, and maintain one's own reputation within the research community (Berman, 2012; Grossi et al., 2020) • Scientific freedom and openness of research results (Guarini et al., 2020; Kallio et al., 2016)	• Additional means for researchers to contribute to research and high-quality scientific work
Community logic	• People who are bound together • Collective relationships between the members • Usage of common definitions, beliefs, norms, and rules	• Professional loyalty to research community more important than membership in HEI (Townley, 1997)	• Membership within a research discipline with its own norms, rules, and values • Norms and values influenced by the community (Kallio et al., 2021)	• Membership within a research discipline with its own norms, rules, and values • Norms and values influenced by the community (Kallio et al., 2021)	• Research disciplines influencing the handling of data • Different progress in the disciplines (European Commission, 2018b)

Source: own elaboration.