Permeability of firm boundaries: new policy and managerial perspectives

A Data Management Plan created using DMPonline.be

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Project abstract:

The Open Innovation model states that firms should not just draw on their own resources for developing innovations. Rather, firms should collaborate with others, build on external ideas, and spin out technologies when they cannot commercialize them profitably themselves. While the extant literature extensively documents the advantages of openness, some core questions on how it improves innovation performance have as of yet remained understudied.

The overarching goal of this project is further understanding of Open Innovation by investigating how inflows and outflows of knowledge across organizational boundaries can be orchestrated to enhance innovation performance. First, the project assesses what are the innovation performance benefits of knowledge exchanges with academic institutions, with a focus on distinct kinds of industry-science interactions and on subsidized collaboration. Second, it examines to what extent strategies that prevent outward flows of knowledge through skilled labour influence firms' innovation performance and openness. Lastly, it clarifies how skills shortage and innovation openness are intertwined. This project will add new perspectives to the literature on Open Innovation and will shed light on the policy and managerial implications of the envisaged results.

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FWO DMP (Flemish Standard DMP)

1. Research Data Summary

List and describe all datasets or research materials that you plan to generate/collect or reuse during your research project. For each dataset or data type (observational, experimental etc.), provide a short name & description (sufficient for yourself to know what data it is about), indicate whether the data are newly generated/collected or reused, digital or physical, also indicate the type of the data (the kind of content), its technical format (file extension), and an estimate of the upper limit of the volume of the data.

Dataset Name	Description	New or reused	Digital or Physical	Only for digital data Digital Data Type	Only for digital data Digital Data format	Only for digital data Digital data volume (MB/GB/TB)	Only for physical data Physical volume
Mannheim Innovation Panel (MIP), ZEW, Mannheim, Germany	The MIP represents the German contribution to the Community Innovation Survey (CIS), which is supervised by the Statistical Office of the European Commission (Eurostat). It is administered by the Leibniz Centre for European Economic Research (ZEW). While the CIS is a biannual survey, the German CIS is conducted annually and adopts a panel approach, hence allowing to track firms' innovation behaviour over time. Each survey wave collects data of around 8,000 different firms every year. The survey is voluntary (25%-30% response rate) and is usually completed by CEOs or innovation managers. It is based on a stratified random sample. (Behrens, V., M. Berger, M. Hud, P. Hünermund, Y. Iferd, B. Peters, C. Rammer, and T. Schubert. 2017. Innovation Activities of Firms in Germany – Results of the German CIS 2012 and 2014. ZEW Documentation No. 17-04. Mannheim)	Reuse existing data	Digital	Observational (survey data)	*.dta* (tabular data)	<100MB	

If you reuse existing data, please specify the source, preferably by using a persistent identifier (e.g. DOI, Handle, URL etc.) per dataset or data type:

Source of the Mannheim Innovation Panel:
[Mannheim Innovation Panel - the Annual German Innovation Survey | ZEW](#)
These data were received from ZEW under a data transfer agreement.

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? Describe these issues in the comment section. Please refer to specific datasets or data types when appropriate.

- No

Will you process personal data? If so, briefly describe the kind of personal data you will use in the comment section. Please refer to specific datasets or data types when appropriate.

- No

Does your work have potential for commercial valorization (e.g. tech transfer, for example spin-offs, commercial exploitation, …)? If so, please comment per dataset or data type where appropriate.

- No

Do existing 3rd party agreements restrict exploitation or dissemination of the data you (re)use (e.g. Material/Data transfer agreements/ research collaboration agreements)? If so, please explain in the comment section to what data they relate and what restrictions are in place.

- Yes

The data transfer agreements ("User agreement") relate to the Mannheim Innovation Panel data. Below I summarize the restrictions that are in place:
- The database may not be processed or used for purposes that are different from the research project; in particular commercial or any other business purposes involving expert opinions – free of charge or against payment – for private or public clients is not permitted.
- Individual statistical data from other sources must not be combined with the database.
- The Data Recipient shall refrain from any actions which is intended or suited to deanonymize the individual statistical data contained in the database.
- The Data Recipient may not commission third parties (sub-contractors, self-employed persons, or free-lancers) to process or use the database.
- The Data Recipient is obliged to announce any loss or deterioration of the database and any infringements of the database by third parties to the Data Provider.
- The Data Recipient shall be obliged to delete the database and any backup copies, selected files and auxiliary files at the latest at the end of the research project or upon the termination of the User Agreement.

Are there any other legal issues, such as intellectual property rights and ownership, to be managed related to the data you (re)use? If so, please explain in the comment section to what data they relate and which restrictions will be asserted.

- No

2. Documentation and Metadata

Clearly describe what approach will be followed to capture the accompanying information necessary to keep data understandable and usable, for yourself and others, now and in the future (e.g., in terms of documentation levels and types required, procedures used, Electronic Lab Notebooks, README.txt files, Codebook.tsv etc. where this information is recorded).

A codebook will be generated for the survey data, containing any relevant variable-level information.

Will a metadata standard be used to make it easier to find and reuse the data? If so, please specify (where appropriate per dataset or data type) which metadata standard will be used. If not, please specify (where appropriate per dataset or data type) which metadata will be created to make the data easier to find and reuse.

- No

While we do not rule out the use of a standard, there are no concrete plans nor choices made to that effect at this point.

3. Data storage & back-up during the research project

Where will the data be stored?

During the project, I will use the range of storage solutions provided by KU Leuven: a KUL-managed computer, desktop file storage, KUL OneDrive. These storage types are encrypted by a personal password. In addition, the data will be stored on external hard drives, kept in separate locations.

How will the data be backed up?

The data will be stored on our KU Leuven research unit's central storage facility as well as on external hard drives, kept in separate locations.

Is there currently sufficient storage & backup capacity during the project? If yes, specify concisely.
If no or insufficient storage or backup capacities are available, then explain how this will be taken care of.

- Yes

Capacity is not an issue, since the digital data volume is lower than 100 MB.

How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

The data is stored on the secured university storage and on external hard drives.

What are the expected costs for data storage and backup during the research project? How will these costs be covered?

Costs are minimal given the small size of the dataset. The bench fee in the FWO grant
will be partly used for hardware costs (e.g., purchase of external hard drives).

4. Data preservation after the end of the research project

Which data will be retained for at least five years (or longer, in agreement with other retention policies that are applicable) after the end of the project? In case some data cannot be preserved, clearly state the reasons for this (e.g. legal or contractual restrictions, storage/budget issues, institutional policies...).

The data from the Mannheim Innovation Panel (MIP) will be accessible for scientific use at ZEW's Research Data Centre.

Where will these data be archived (stored and curated for the long-term)?

The data from the Mannheim Innovation Panel (MIP) will be accessible for scientific use at ZEW's Research Data Centre.

What are the expected costs for data preservation during the expected retention period? How will these costs be covered?

ZEW will preserve the data from the Mannheim Innovation Panel (MIP) for scientific use.

5. Data sharing and reuse

Will the data (or part of the data) be made available for reuse after/during the project? In the comment section please explain per dataset or data type which data will be made available.

- Other, please specify:

The data transfer agreements ("User agreement") of the Mannheim Innovation Panel indicates that "the database may not be processed or used for purposes that are different from the research project; in particular commercial or any other business purposes involving expert opinions – free of charge or against payment – for private or public clients is not permitted". However, it will be possible to access the data from the Mannheim Innovation Panel (MIP) for scientific use at ZEW's Research Data Centre.

If access is restricted, please specify who will be able to access the data and under what conditions.

Only upon request, only for research purposes and at ZEW's Research Data Centre.

Are there any factors that restrict or prevent the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)? Please explain in the comment section per dataset or data type where appropriate.

- Yes, Other

Restrictions specified in the Data Transfer agreement:
- The database may not be processed or used for purposes that are different from the research project; in particular commercial or any other business purposes involving expert opinions – free of charge or against payment – for private or public clients is not permitted.
- The Data Recipient may not commission third parties (sub-contractors, self-employed
persons, or free-lancers) to process or use the database.

Where will the data be made available? If already known, please provide a repository per dataset or data type.

The data from the Mannheim Innovation Panel (MIP) will be available for scientific use at ZEW's Research Data Centre.

When will the data be made available?

Upon publication of research results.

Which data usage licenses are you going to provide? If none, please explain why.

Restrictions specified in the Data Transfer agreement:
- The database may not be processed or used for purposes that are different from the research project; in particular commercial or any other business purposes involving expert opinions – free of charge or against payment – for private or public clients is not permitted.
- The Data Recipient may not commission third parties (sub-contractors, self-employed
persons, or free-lancers) to process or use the database.

Do you intend to add a PID/DOI/accession number to your dataset(s)? If already available, you have the option to provide it in the comment section.

- No

What are the expected costs for data sharing? How will these costs be covered?

N.A.

6. Responsibilities

Who will manage data documentation and metadata during the research project?

Paolo Carioli

Who will manage data storage and backup during the research project?

Paolo Carioli

Who will manage data preservation and sharing?

Paolo Carioli

Who will update and implement this DMP?

The Supervisor bears the end responsibility of updating and implementing this DMP.