
SUSTAINABILITY IN THE SUPPLY CHAIN; FROM ANECDOTAL EVIDENCE TO AN OBJECTIVE EMPIRICAL FRAMEWORK.

A Data Management Plan created using DMPonline.be

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Project abstract:

Sustainability is the one metric where both consumers and firms are "Supply-Chain-aware"; that is, buying decisions do not depend exclusively on product or financial considerations but also on the sustainability performance of the *entire* supply chain. (For example, fashion consumers are becoming more and more sensitive about the conditions of workers all along the supply chain and alter their behaviour accordingly.)

However, empirical research in supply chain management is, at the moment, behind these developments. The main reason is that supply chain sustainability is hard to measure in an objective way: (1) Data availability is very poor -- often relying on self-reporting; (2) if data is available, it's typically at the firm-level (not SC); (3) furthermore, if data is available it is typically not transparent -- it typically consists of opaque proprietary that do not allow for the study of different aspects of sustainability.

In this project we address these issues. First, we identify several sources of objective firm-level sustainability data that can be combined with existing supply-chain data to construct a large supply-chain-level sustainability dataset. Second, we propose a descriptive empirical study to understand how sustainability has evolved within the last decade, when looking at it at the supply-chain level. Finally, we describe a study to link these sustainability observations to the evolution of firm and supply-chain financial performance.

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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.

				Only for digital data	Only for digital data	Only for digital data	Only for physical data
Dataset Name	Description	New or reused	Digital or Physical	Digital Data Type	Digital Data format	Digital data volume (MB/GB/TB)	Physical volume
Factset project database	Secondary data provided by the vendor: Factset.	<ul style="list-style-type: none"> Reuse existing data 	<ul style="list-style-type: none"> Digital 	<ul style="list-style-type: none"> Observational Compiled/aggregated data 	.csv	<ul style="list-style-type: none"> <10TB 	
Scripts and code	Code written during the project	Newly generated data	Digital	Code written in python, stata, Matlab, and Mathematica for research purposes	.py; .m; .do	<10Gb	

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:

All data is provided by the vendor fastest. They compile and repackage firm-level information of publicly owned firms globally. The data is updated with a daily frequency when new information is available. The repositories are not publicly available, the data is transferred to a KU Leuven server managed by the FEB library.

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 cannot be shared in raw form, only derived data is able to be shared. All the projects contemplate the creation of such derived data (e.g., by using a temporal aggregation).

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).

Derivative data generated in the project will be shared upon the publication of the research. To this end, README.txt files will be made available to properly document the research process. Individual scripts and code will be made available and referenced in the README files.

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

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

Where will the data be stored?

The main database is stored in a KUL server managed by the FEB Library.

How will the data be backed up?

Regular back ups of the data are to be stored in KU Leuven shared drives. Note that backups are not critical given that the vendor (fastest) provides the data and they have ample back up capacity as well. There is no risk of data loss.

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

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

The data can only be accessed by the project participants. Due to a secure connection to the SQL server.

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

Costs are negligible and covered by research funds of the PI.

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...).

All data used for published research will be kept for 5-years. All data is external, thus it is permanent and can be accessed by any researcher who wishes to purchase the databases for replication purposes.

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

Backups will be kept of derivative datasets created by the research team. The raw data is proprietary and will be available in perpetuity by the vendor. Thus, data longevity is not a problem.

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

The data volume is relatively small and thus costs are to be covered by the PI's own research funds.

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.

- Yes, in a restricted access repository (after approval, institutional access only, ...)

Derived data is allowed to be shared as per the contract with the vendor. This will be done through the RDM, with fully open metadata and restricted access to the full data.

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

University researchers. (Non-profit).

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, Intellectual Property Rights

As per the legal requirements of the vendor only derivative data can be shared. No raw data is available to be shared. Raw data is, however, free to be purchased from the vendor -- thus this does not represent an obstacle to proper reproducibility.

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

KUL RDR

When will the data be made available?

After the publication of each article.

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

Custom KU Leuven data sharing agreement.

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.

- Yes

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

Negligible costs are expected. All to be covered by the PI's own research budget.

6. Responsibilities

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

Maximiliano Udenio

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

Maximiliano Udenio

Who will manage data preservation and sharing?

Maximiliano Udenio

Who will update and implement this DMP?

Maximiliano Udenio

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