Data Management Plan – an example of the form for Gdańsk Tech researchers

1 Data description and collection or re-use of existing data

1.1. How will new data be collected or produced and/or how will existing data be re-used?

A new model of motivation in the management of universities from the paradigm of positive organizational potential and self-determination theory will be verified in terms of mixed methods research design as well as multilevel approach. The substantial preparation of the hybrid research methodology and involves combining qualitative and quantitative data collection and analysis techniques (e.g., procedures, in-depth interviewing, online questionnaires, bibliometric data, thematic analysis and online data visualisation tools).

1.2. What data (for example the kinds, formats, and volumes) will be collected or produced?

About 50 semi-structured interviews will be conducted. All face-to-face interviews will be recorded and transcribed and then uploaded to the NVivo software for analysis. Interviews' data will be stored in mp4 and pdf formats. The codes for thematic analyses will be prepared in the spreadsheet (csv/xls). Bibliometric data will be retrieved from the reference and indexing databases in xls/csv format. Data from online questionnaire will be saved in SPSS and csv/xsl formats. The collected data will take no more than 3GB.

2. Documentation and data quality

2.1. What metadata and documentation (for example methodology or data collection and way of organising data) will accompany data?

All datasets that will be used for the analysis will hold its metadata, consistent with the metadata standards such as DDI in order to facilitate their identification and analysis. Metadata will be described and stored in JSON-LD format in an open repository (MOST Wiedzy Open Research Data Catalog**)**. All authors will be identified and authorized by their ORCID numbers.
The naming and structure of the folders with the datasets will be standardized in order to facilitate their specific recognition.

2.2. What data quality control measures will be used?

The revised data will be cataloged in accordance with the standardized methods that are consistent with the requirements of the FAIR standards. Moreover, data disclosed in the open repository will have DOI number assigned to facilitated access to those files.

3. Storage and backup during the research process

3.1. How will data and metadata be stored and backed up during the research process?

All collected files containing data and metadata will be stored on the team members' computers of and additionally on external drives protected by a strong password. The data will have a backup made for each of the researchers after each data collection and analysis to minimize the risk of data loss.

3.2. How will data security and protection of sensitive data be taken care of during the research?

The raw and analysed data will be stored and protected on University computers, by the individual logins and passwords. The additional backup of all data will be kept on the external drive/s secured by password. The respondents will be treated anonymously and coded to avoid their identification.

4. Legal requirements, codes of conduct

4.1. If personal data are processed, how will compliance with legislation on personal data and on data security be ensured?

All data will be collected and stored in accordance to the General Data Protection Regulation (GDPR). Any data enabling the identification of respondents will not be shared openly.

*The participants will be asked to read and sign a Data Processing Agreement.

Sensitive data will be anonymized to protect privacy.

4.2. How will other legal issues, such as intelectual property rights and ownership, be managed? What legislation is applicable?

Gdańsk University of Technology will be the owner and manager of any intellectual property that will be developed in the project.

Part of the data will be published in scientific journals according to the license agreement. Part of the data (underlying data) and results will be published in the open-access model under the one of the Creative Commons licenses.

Part of the data will be available in the open data repository **MOST Wiedzy Open Research Data Catalog.**

*Some datasets acquired from the commercial databases will not be published due to the copyright agreements.

5. Data sharing and long-term preservation

5.1. How and when will data be shared ? Are there possible restrictions to data sharing or embargo reasons?

The part of the data will be published by the institution (Gdańsk Tech) open research data repository – **MOST Wiedzy Open Research Data Catalog**. The part of the data will be published in scientific journals which may also require raw data

publication. The codes used to compile and analyse the data will be made available as well.

5.2. How will data for preservation be selected, and where will data be preserved long-term (for example a data repository or archive)?

MOST Wiedzy Open Research Data Catalog will be the main data repository and data mentioned above (if permitted) will be stored there. The data provided in the repository will fulfill FAIR requirements and will be categorized and labeled according to standard file formats.
*The raw data collected directly from the survey will be shared on request only (e.g. with journal's editor via privet links).

5.3. What methods or software tools will be needed to access and use the data?

Most of the data generated during the project implementation will have standard formats that can be opened and processed in software installed on the computers of the project team members. Data analysis will require NVivo and SPSS software.

5.4. How will the application of a unique and persistent identifier (such us a Digital Object Identifier (DOI)) to each data set be ensured?

MOST Wiedzy Open Research Data Catalog repository supports obtaining unique DOI number for each of the uploaded datasets. Data stored within this project will be linked with such unique DOI numbers.

6. Data management responsibilities and resources

6.1. Who (for example role, position, and institution) will be responsible for data mangement (i.e the data steward)?

Open Science Competence Center (pg.edu.pl/openscience) - established by Gdańsk Tech will be responsible for DMP and data storage and dissemination. Project PI will be responsible for the procedures assessment and overall data quality.

6.2. What resources (for example financial and time) will be dedicated to data management and ensuring the data will be FAIR (Findable, Accessible, Interoperable, Re-usable)?

No specific allocation within the project for FAIR enforcement is planned. **MOST Wiedzy Open Research Data Catalog** already implements these requirements.