

## Administrative Data

### 1. 'Are there any related policies'

The University of Pretoria(UP) has policies and procedures in place for Research Data Management. The University states that any research being done belongs to the university and the research data generated by students and researchers is stored for a minimum period of 10 years and the data. The data must be made available on time and not infringe on intellectual property, legal or ethical obligations. UP also has a set research and data management guidelines in place. The policies and procedures includes the following: - Research Policy (S5102/23). - Research Compliance Regulation (S5103/23). - Research Data Management Policy (S 4417/17) and Procedure. - University of Pretoria Intellectual Property Policy. - Protection of Personal Information (POPI) Act. - Ownership Policy. - Survey Policy.

## Data Collection

### 1. 'What data will you collect or create?'

There are various data types (primary & secondary) that will be collected, which includes: - Excel spreadsheets on student's hourly headcounts. - Text data : National Student Survey Comments and Feedback cards. - Audio recordings interviews and focus groups. - The data types include both quantitative (hourly overnight headcounts ,student numbers at each library site) and qualitative (student feedback through surveys, feedback cards, focus groups, etc) data. - The volume of the data will depend on the type of data selected. It can be anticipated that the text data will likely be less than 600MB while the audio data can be less than 1GB. - The above mentioned formats like texts, audio, spreadsheets, databases, etc, are widely compatible, and accessible and will enable the researchers to share their data or files across different platforms and software. - There will be existing data re-used such as historical library usage data stored in the library system.

### 2. 'How will the data be collected or created?'

The community data standard that will be adhered to is FAIR principles. The data will be collected as follows: - The RFID library access system will be used to extract records or data about students entering and exiting the library overnight. - Historical data on library student usage will be collected and examined. This data will be found in the library system. - Create online surveys, questionnaires, and feedback forms using the SurveyMonkey tool. - Audio data (i.e. interviews and focus groups) will be collected via digital voice recorders, applications such as Zoom and Microsoft Teams, and taking detailed notes. Data folders and files will be created and named as follows: Name of the folder: Research Project on University Library Usage - Data Collection - Raw\_Data/ - Interview data: Interview numbers, topic, and date. E.g. Interview1\_library\_usage\_20240531\_v1.mp4. - Hourly headcounts data: Headcounts hours and date. E.g. Headcounts\_8pm\_20230402\_v2.csv. - NSS comments data: NSS topic and date. E.g NSS\_raw\_comments\_complaints\_2023095\_csv) - Feedback data: this will be based on the surveys and interviews conducted. E.g Student\_survey\_responses\_20240324.docx and FB\_interview6\_library\_usage\_20240120\_v2.docx. - Focus groups data: Focus group number, topic and data. E.g Focus\_group5\_library\_times\_20240208.mp3.

## Documentation and Metadata

### 1. 'What documentation and metadata will accompany the data?'

The following is documented: - A list of interviews and questionnaire questions asked & answered and headcounts of students. - Schedule of interviews and focus groups including feedback. - Number of students participating in the interview round and focus groups. The Data Documentation will consist of the following: 1. Project Documentation - Data about the project such as the research objectives, background etc. 2. Methodology Documentation - Detailed procedure of data collected. E.g Description of how interviews and focus groups were conducted and recorded. 3. ReadMe.txt - This will be based on each dataset. 4. Data Directories - Metadata for each recording, including date, participants, and main topics discussed. Example, File: interview2\_20240321\_LianBean\_Library\_usage\_patterns.mp3. Metadata Documentation will consist of the following: 1. Descriptive metadata which includes data on the title, authors, contributors, abstract, keywords, and publication date. 2. Administrative metadata includes data ownership, licensing and usage rights. 3. Provenance metadata includes data lineage and version history, 4. Technical metadata includes file formats, software requirements, and integrity checks. The metadata that will be used is the Dublin Core standard as it is a simple, flexible, and widely recognized standard that enhances data sharing and integration across different domains, ultimately making it suitable for diverse datasets like survey responses and feedback comments.

## Ethics and Legal Compliance

### 1. 'How will you manage any ethical issues?'

Ensure the data is handled securely

### 1. 'How will you manage any ethical issues?'

Ensure the identity of participants is protected

### 1. 'How will you manage any ethical issues?'

Ensure consent is received from participants

### 1. 'How will you manage any ethical issues?'

Only people with rights are entitled to view the data

## **2. 'How will you manage copyright and Intellectual Property Rights (IPR) issues?'**

All the data generated from the research project is owned by the University of Pretoria. Data will be licensed under a Creative Commons Attribution license, allowing for reuse with proper citation. The copyright and the Intellectual Property Right (IPR) of the data are owned and managed by the University of Pretoria (UP). The research data will be shared and stored to the Funder's Open Access repository. The data will then be published and made available in the Open Access repository as soon as the researcher or student shares the final report and it has been uploaded to the university repository. All data sharing practices will comply with the requirements of the Funder, including timely publication and open access provisions. This will ensure that the data is freely accessible to other researchers, policymakers, and the public. There will be no restrictions on the reuse of the data. This means that anyone can use, modify, and share the data for any purpose but ensure that the data of the research is cited accordingly. While the data will be freely available for reuse, the University of Pretoria retains the intellectual property rights to the data. This ensures that the UP's contribution is acknowledged and respected. Clear citation guidelines will be provided to ensure that the original creators and the University of Pretoria receive proper citation. Sharing researcher's data will be postponed until six(6) months, after the publication of the primary research findings to ensure that the University of Pretoria research team can publish the researcher's work. An embargo period of six(6) months will be applied to the data, during which the data will not be shared publicly. After the embargo period, the data will be uploaded to the University of Pretoria's Open Access repository (Figshare).

### **Storage and Backup**

#### **1. 'How will the data be stored and backed up during the research?'**

The University of Pretoria provides unlimited Google Drive space to its researchers where they can store their unpublished raw data. The final data will be uploaded onto the UP Research Data Repository (Figshare platform). The research data will be backed up on the University of Pretoria's Cloud backup storage. During the research, data will be stored securely and backed up to ensure its integrity and availability. The University of Pretoria's IT infrastructure will be utilized for data storage and backup, leveraging institutional resources and protocols to safeguard research data. The data and metadata will be stored in an institutional research data management system (RDMS) or document management system (DMS). The data backups will be performed daily by the University of Pretoria IT support department to minimize the risk of data loss.

#### **2. 'How will you manage access and security?'**

- The research data stored on the University's cloud storage platform, such as Microsoft OneDrive is encrypted using AES encryption, ensuring that data remains protected from unauthorized access or interception. - When accessing the University of Pretoria's research data repository (Figshare) or cloud storage platform, researchers will be required to provide their username and password along with a one-time Passcode sent to their mobile device via SMS or a mobile authentication app. - Azure Role-based access control (RBAC) will be used to assign permissions to researchers within the university. For example, only researchers and project collaborators who are members of the research project may be granted access to the corresponding research data folder on the University's network drive.

### **Selection and Preservation**

#### **1. 'Which data should be retained, shared, and/or preserved?'**

All the data collected by the researcher throughout the project will be retained, shared and preserved. According to the University of Pretoria, data sets are required to be stored for a minimum of ten (10) years after the completion of the original project but if intellectual property is involved, or if there are particular statutory or contractual requirements, a longer period may be required.

#### **2. 'What is the long-term preservation plan for the dataset?'**

The University of Pretoria ensures long-term preservation in UPSpace and institutional archives and the research data will remain accessible for future research and institutional planning.

### **Data Sharing**

#### **1. 'How will you share the data?'**

- The University of Pretoria provides unlimited Google Drive space to its researchers where unpublished raw data can be stored. - The data will be uploaded onto the UP's Research Data Repository (Figshare). This Open Access repository will provide researchers with DOI (Digital Object Identifier) and enables researchers to easily cite and track their data. - The data will be shared and published onto the UPSpace. The UPSpace repository provides a stable platform that can be managed by the University for storage and dissemination of data. It also ensures long-term preservation and accessibility of the data.

#### **2. 'Are any restrictions on data sharing required?'**

There are no restrictions to the data being shared. Data will be made available to researchers, students, and faculty at the University of Pretoria and other academic institution. The data needs to be cited. Personal information from student surveys will be anonymized before data sharing. Informed consent forms will specify the extent and purpose of data sharing. All data being shared will comply with POPIA, ensuring personal data protection. Data sharing practices have been approved by the University of Pretoria's ethics committee.

### **Responsibilities and Resources**

#### **1. 'Who will be responsible for data management?'**

The Researcher or Principal Investigator (PI) will be primarily responsible for the DMP such as the implementation of the DMP, ensuring ethical and legal standards are met, and compliance with all data management policies and guidelines. This ensures that all data management activities are carried out according to the plan. The University of Pretoria (UP) will provide institutional support (such as access to data storage infrastructure, data management tools, training sessions, and guidance on data management policies and practices) for data management through its library services and research departments. Note the

following: The Department of Research and Innovation Support (DRIS) together with the RDM team in the Department of Library Services (DLS) will be responsible for Universitywide communication of this policy. DRIS will also assist researchers with information on funders' requirements with regard to RDM. The Department of Library Services will provide consultation and training services for researchers on research data management, e.g. on compiling research data management plans, metadata standards, reference support for finding and citing of data sets, and data publishing, etc. The Department of Information Technology Services (ITS) will take responsibility for information technology related issues with regard to RDM, e.g. storage, redundancy etc.

## **2. 'What resources will you require to deliver your plan?'**

The resources that are required includes: - Data management systems and research data repository (Figshare) which are already provided by UP. - UP Archives Training is provided by UP: The University of Pretoria provides training for researchers on best practices for data management, including data collection, storage, documentation, and sharing and on specific data management software or tools that will be used in the project (e.g. database management systems, data analysis software). The costs for the data repository are handled by the University of Pretoria (UP).