Towards an Institutional Research Data Policy:
Taking a Journey at Singapore Management University

DONG Danping
Librarian, Scholarly Communication

YEO Pin Pin
Head, Scholarly Communication

SMU
SINGAPORE MANAGEMENT UNIVERSITY

SMU schools and research areas

School of Accountancy
- Corporate Reporting & Disclosure
- Corporate Governance, Auditing & Risk Management
- Financial Intermediation & Information
- Financial Performance Analysis
- Accounting Information System

Lee Kong Chian School of Business
- Organisational Behavior & Human Resources
- Strategy & Organization
- Finance
- Quantitative Finance
- Operations Management
- Marketing
- Corporate Communication

Integrative Research Areas:

Asian & ASEAN Initiatives/ Social Inclusion and Innovation/ Natural Resources and Sustainable Businessess/ Business Models and Innovation/ Corporate Social Responsibility

School of Economics
- Economics Theory
- Econometrics
- Applied Microeconomics
- International Economics
- Macroeconomics

School of Social Sciences
- Sociology
- Political Science
- Psychology
- Humanities

Integrative Research Areas:

Contemporary Asian Society/ Urban Management & Urbanization/ Resources, Environment & Sustainability/ Social & Societal Impacts of Ageing/ Social Inclusion & Exclusion/ Gender Identity & Diversity / Individual & Collect Well-being

School of Law
- Asian and Comparative Legal Systems
- Public International Law, Regional and Trade Law
- Corporate Finance and Securities Law
- Private Law
- Innovation, Technology and the Law
- Dispute Resolution
- Legal Theory, Ethics and Legal Education
- Public Interest Law, Community and Social Justice
- Public Law

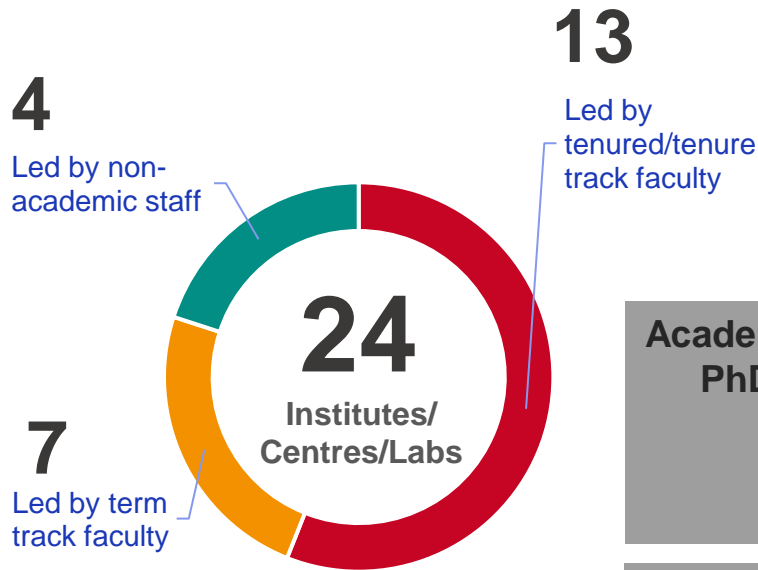## School of Information Systems
- Data Science & Engineering
- Cybersecurity
- Information Systems & Management
- Intelligent Systems & Optimization
- Software & Cyberphysical Systems

Integrative Research Areas:

Learning & Pedagogy/ Urban Systems & Operations/ Active Citizenry & Communities/ Safety & Security

Home to over 9,800 students (undergrad + post-grad), across 6 schools

SMU at a glance, across the 6 schools

Full-time Faculty

361

13
Led by tenured/tenure track faculty

4
Led by non-academic staff

7
Led by term track faculty

24
Institutes/
Centres/Labs

Professional Master's Students

1,549

Professional Master's Programmes

20

Academic Research PhD Students

175

Professional Doctorate Students

142

Doctoral Programmes

9 Academic Research

3 Professional Doctorate

Undergraduates

8,000

Undergraduate Majors
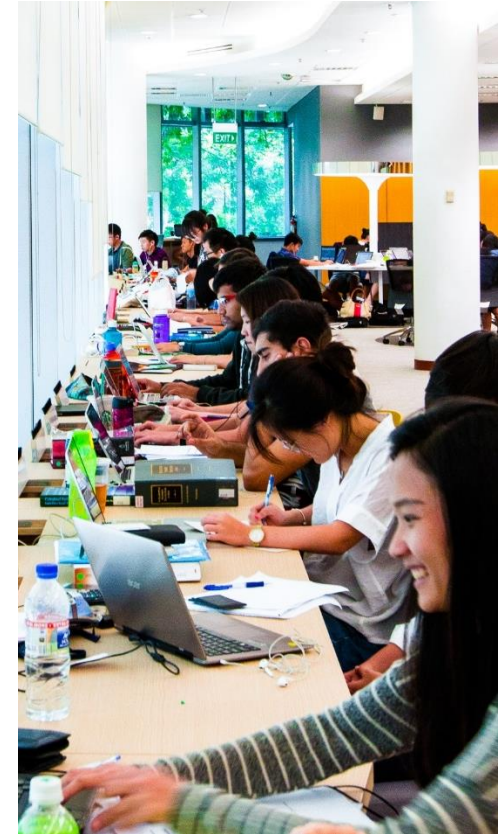
24

Undergraduate Programmes

6

SMU Libraries

Quick facts: SMU Libraries

- Over 462,000 books (Over 400,000 e-books)

- Access to 80,000+ e-journals

- 170+ electronic databases

- More than 3 million downloads from institutional repository

- Over 1.27 million visitors in 2018

- 38 staff: 23 professional librarians

Scholarly Communication

Yeo Pin Pin
Head, Scholarly Communication
ppyeo@smu.edu.sg
(65) 6828 0110

Dong Danping
Librarian, Scholarly
Communication
dpdong@smu.edu.sg
(65) 6828 0495

Cheryl Delos Santos
Library Specialist
cherylds@smu.edu.sg
(65) 6828 9631

Overview

- National and institutional context for Research Data Management (RDM)

- How the journey started

- Draft policy & engagement efforts

- Looking forward & Reflections

National Context in Singapore

- No national mandate or initiatives on open data

- It's still rare for funders and grants to include requirements **open data**

- Universities adopt different approaches for research data policy and services

- Singapore RDM Interest Group meeting – mainly consist of librarians working in RDM area

Before we have an institutional RDM policy…

- Prior to 2010, enquiries related to datasets

- In 2010, SMU Libraries engaged a consultant to investigate our institutional needs on RDM (Bennett, 2010)

  - SMU Libraries "should initiate a distinct research data services function…"

- A headcount on Research Data Management providing basic RDM services and support

  - developed an online RDM guide

  - Provided basic training & consultation on RDM

  - Maintained a small research data collection on institutional repository

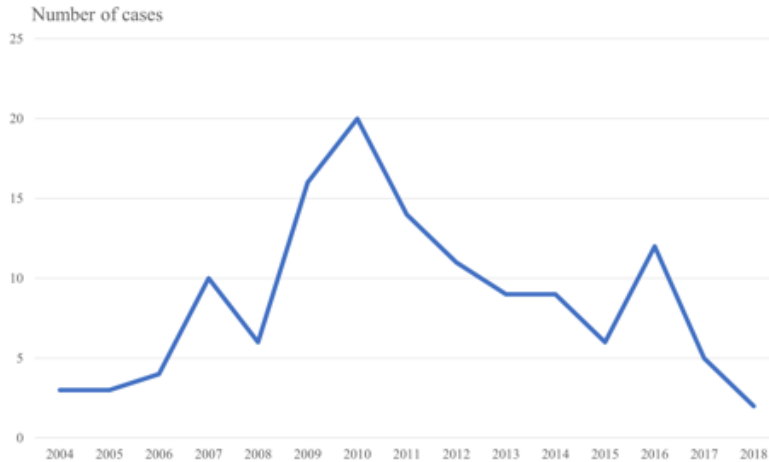# An important driver: Singapore Joint Statement on Research Integrity Relating to Scholarly Publications

Fig. 1. Number of cases in Retraction Watch for Singapore

Reproducibility: Research personnel must maintain accurate and detailed research records of procedures and results (for a minimum of 10 years[3]), to allow others to replicate the work, and ensure reproducibility of one's experimental results.

Data Sharing Requirements from Journal Publishers

"Econometrica has the policy that all empirical, experimental and simulation results must be **replicable**. Therefore, authors of accepted papers must submit **data sets, programs, and information** on empirical analysis, experiments and simulations that are needed for replication."

— Econometrica

"PLOS journals require authors to make all data underlying the findings described in their manuscript fully available without restriction, with rare exception."

— PLoS ONE

"The **raw data and related coding** information underlying all findings of empirically-based publications will be shared consistent with SPSP's (2013) Data Sharing Policy."

— Personality and Social Psychology Bulletin

"Every effort should be made to enable the **code and the datasets** (or their closest publicly available equivalents) and all relevant parameter specifications available to reviewers and readers so that the results can be independently **replicated**.

— IEEE International Conference on Data Mining

Starting the journey

- There was a close relationship between SMU Libraries and Office of Research & Tech Transfer (ORTT)

- Started a project on Research Data Policy in end 2017

  - Studied local and overseas institutional RDM policies

  - Studied the data policies of journals where SMU faculty tend to publish in

  - Feasibility study of data repository solutions

- Draft policy proposed to Council of Deans in July 2018 for endorsement, planned to be effective in Jan 2020 together with the SMU Research Data Repository

Engagement with stakeholders

- ORTT engaged the School Deans and Vice-Deans of Research for feedback

- Consulted the Academic Faculty Senate

- Interviews with faculty on their research data by SMU Libraries

Interviews with faculty on their research data

- **Objective**

  - to understand the research workflow and nature of research data produced from the major disciplines of SMU (business, finance and management, computer science, social sciences, economics, accounting and law)

  - and their current data management practices

  - get feedback on draft policy

- **Interviewed 18 faculty from all 6 Schools**

  - Jointly conducted by liaison librarian & RDM librarian

  - Transcripts were coded for analysis

Themes and categories

Data Characteristics	Documentation	Storage, Backup and Archival

Ownership	Data Repository	Reproducibility	Data Sharing

Documentation

The spectrum of current practices in data documentation…

"It's all in the paper!"

- reading the paper could help understand the dataset
- Expect other researchers to figure out the meaning on their own
- Too much effort with little gain

"I keep some notes for myself…"
- Some simple notes within software for self
- Some codes may be available, but may not be easily understood
- No additional effort to describe the data for others to understand

"I've got everything!"

- Codes are available and comprehensive which captures almost all steps of research
- Data is understandable or codebook available
- Reproducible research

Takeaways from the interviews

- Research data management is highly discipline-specific. There is no uniform approach to achieve reproducibility.

- Useful insights on revisions to the draft policy

- Gain a better understanding of a typical 'data workflow', and nature & characteristics of SMU's research data

- Valuable information for future RDM work

Work-in-progress & looking forward

- **Revisions to the policy based on feedback**

- **SMU Data Repository Project work-in-progress**

- **Policy & repository to be formally launched in Jan 2020**

- **Focus on communication and engagement**

Reflections on the journey

- Critical to get the support and buy-in from senior management

- Collaboration between research office, IT department and the library to have widespread and sustainable impact

- Engagement with stakeholders should not be overlooked

Thank you

THANK YOU

Any questions?