The ETD Management Ecosystem

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Office of Information, Knowledge and Library Services (OIKLS)

Acknowledgements: Dr Xue ZHANG, Ruan Yang (OIKLS)
Outline

• ETDs and Open-Access
  – DR-NTU (Digital Repository)
  – Open Access and Current Status of Open and Restricted-Access ETDs in NTU
  – Initiatives to promote ETDs

• Research Data and Thesis/Dissertation
  - Multi-country RDM (Research Data Management) study
  - DR-NTU(Data) (Open Access Research Data Repository)
  - Initiatives to promote Open Access Research Data Sharing
Outline (continued)

• The ETD Management Ecosystem
  – Definition and Adoption of Digital Ecosystem
  – The ETD Management Ecosystem
  – Scenarios of Use, and Search Results
  – Example: GESIS (Leibniz Institute of Social Sciences)
  – Benefits of ETD Management Ecosystem
DR-NTU (Digital Repository-NTU)

Library

DR-NTU Institutional Repository (research data and papers)

If you would like to refer to NTU staff and students’ research data or papers, you can access them using the relevant repository from the list below:

1. DR-NTU (Open Access)
   
   You can find published works written by NTU scholars such as journal articles, conference paper, book chapters and many more here. These works are free to access for the public.

   If you are a researcher who would like to submit your paper, please click here.

2. DR-NTU (Restricted Access)
   
   You can find unpublished works written by NTU student and scholars such as theses, final year project reports, research reports and many more here. The full-text of these works are only accessible to NTU staff and students.

   If you are a student who would like to submit your thesis or reports, please click here.

3. DR-NTU (Data)
   
   You can find published research data by NTU researchers here.
Open access policies (mandates) are advocated by many universities around the world to make scholarly outputs freely available.

1. **Policy Statement**
   
   1.1 Under this policy, all NTU faculty, staff and higher degree by research students will grant NTU the necessary permission and license to make their publications available for open dissemination and access to members of the scientific community.

2. **Background and Rationale**

   2.1 In line with the growing worldwide trend to make research publications freely available on the Internet, NTU has implemented an open access policy on its research publications with effect from 1 July 2011.

   2.2 The policy will enable the intellectual output of NTU to be collated together in one place and expose NTU research work to a wider worldwide community. This free access to valuable content will benefit other scholars and researchers everywhere and will also lead to greater use and citation of NTU research publications.

### Higher Degree Theses

5.2.1 The full-text of higher degree theses (PhD and masters by research only) will be made available on open access. All PhD and Masters degree (by research only) students are required to submit the complete full-text digital version of their theses to the Library via DR-NTU.

5.2.2 The student shall retain their rights as author of the thesis in compliance with current university regulations and shall grant the rights to the University to publish it in the institutional repository or any other library open access repositories.

5.2.3 Exemptions from compulsory deposit or an imposition of an embargo period will be given to theses that contain information of pending patent applications or where the proprietary nature of the content forbids their publication and dissemination.

### Related Policy – NTU Research Data Policy

5.3 Apart from depositing final peer-reviewed manuscript of journal articles and conference papers electronically to DR-NTU, all NTU faculty and staff are also required to deposit their final research data used for their publications as defined in NTU Research Data Policy document.

Theses, dissertations, journals, conferences, research data ...
5. Policy

5.1 Staff Publications

5.1.1 All NTU faculty and staff must deposit their final peer-reviewed manuscript of journal articles and conference papers electronically to the Digital Repository (DR-NTU) maintained by the Library upon acceptance of their publications, so that these can be made available, whenever possible, for global access through the Internet.

5.1.2 Many journal publishers allow authors to self-archive their publications in open repositories such as DR-NTU. For those that do not, the citation and abstract will be displayed and a link provided in the DR-NTU to the subscribed content whenever appropriate.

Many funding agencies stipulate open access as part of the grant condition!
Initiatives to Promote ETDs

Use of DOI (or equivalent unique handlers) for ETDs to enhance discoverability
Initiatives to Promote ETDs

Open Dissertations Projects

Open Access Theses and Dissertations

Advanced research and scholarship. Theses and dissertations, free to find, free to use.

Search keywords from titles, author names, abstracts

Recent Additions

See all of this week's new additions.

About OATD.org

OATD.org aims to be the best possible resource for finding open access graduate theses and dissertations published around the world. Metadata (information about the theses) comes from over 1100 colleges, universities, and research institutions. OATD currently indexes 4,370,017 theses and dissertations.
1. The changing relationship between the state and museums: A case study of Taiwan (1908-2008)
   
   Subjects: 500

2. Teacher agenda and teacher museum experience: a comparative study of England and Taiwan
   This thesis explored and compared primary school teachers' agendas and museum experiences in English and Taiwanese schools. Its aim was to understand the impacts of schooling contexts on teachers...
The changing relationship between the state and museums: A case study of Taiwan (1908-2008)

Authors: Chu, Chi Jung
Year: 2010
Document Type: Electronic Thesis or Dissertation
Subjects: 500
University: London School of Economics and Political Science (University of London)
URL: http://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.516750
Accession Number: 4871F24D024546BD

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OpenDissertations was funded in part by a grant from The H.W. Wilson Foundation, Inc. in cooperation with EBSCO Information Services and the Congregational Library and Archives.
Title: The changing relationship between the state and museums: A case study of Taiwan (1908-2008)

Author: Chu, Chi-Jung

Awarding Body: London School of Economics and Political Science (University of London)

Current Institution: London School of Economics and Political Science (University of London)

Date of Award: 2010

Availability of Full Text: Access from EThOS

Abstract: No abstract available

Supervisor: Not available

Qualification Name: Not available

ETHOS ID: uk.bl.ethos.518750

Sponsor: Not available

Qualification Level: Doctoral

DOI: Not available

Share: Facebook, Tweet, LinkedIn, Email, CiteULike, Blogger
Initiatives to promote Open Access

Questions asked by participants on open access data sharing:

Click here to see the questions

Poll Question 1: What would motivate/incentivize data sharing?

Click here to see comments by participants

Poll Question 2: How can NTU provide better support in data sharing?

Click here to see the comments by participants

International Open Access Week
24 Oct 2017
Research Data and Thesis/Dissertation

Are we ready to manage our research data generated in a research process?

The awakening and rise of Research Data Management

Source: https://www.pinterest.com/pin/562950022152401281/
Multi-country RDM study

• A global study with more than 30 countries that participated

• **Objectives:** To understand
  – where we are in terms of RDM
  – what the researchers want
  – what needs to be done in terms of systems development vis-à-vis user training and support, etc.

• For NTU, the online survey was conducted from Nov 2017 to Jan 2018 with 643 responses collected

• In total 241 completed responses were included in the analysis
Multi-country RDM study

Number of Respondents by Age Group:
- 18-25: 62
- 26-35: 104
- 36-45: 41
- 46-55: 20
- 56-65: 11
- 65+: 1

Gender:
- Female: 91 (37.8%)
- Male: 148 (61.4%)

Don’t want to disclose: 2
Multi-country RDM study

- Other, 49, 20.3%
- Academic staff, 99, 41.1%
- Research student, 93, 38.6%
- Non-STEM, 73, 30.3%
- STEM, 168, 69.7%
Multi-country RDM study

<table>
<thead>
<tr>
<th>Years involved in research</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-10 years</td>
<td>65</td>
</tr>
<tr>
<td>11-15 years</td>
<td>24</td>
</tr>
<tr>
<td>16-20 years</td>
<td>9</td>
</tr>
<tr>
<td>&gt; 20 years</td>
<td>19</td>
</tr>
<tr>
<td>Never involved in research</td>
<td>18</td>
</tr>
</tbody>
</table>
Data Management Practices in NTU

Storage of Research Data

<table>
<thead>
<tr>
<th>Storage Type</th>
<th>STEM (%)</th>
<th>Non-STEM (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your own</td>
<td>95.2%</td>
<td>95.9%</td>
</tr>
<tr>
<td>Cloud</td>
<td>48.2%</td>
<td>47.9%</td>
</tr>
<tr>
<td>Central</td>
<td>29.8%</td>
<td>17.8%</td>
</tr>
<tr>
<td>Outside</td>
<td>5.4%</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

STEM: Science, Technology, Engineering, Mathematics
Non-STEM: Other disciplines
Data Management Practices in NTU

Sharing of Research Data

<table>
<thead>
<tr>
<th>% of Respondents</th>
<th>Yes, with researchers in the same team</th>
<th>Yes, with researchers in the same university</th>
<th>Yes, with researchers in other institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STEM</td>
<td>Non-STEM</td>
<td>STEM</td>
</tr>
<tr>
<td>No</td>
<td>14.3%</td>
<td>21.9%</td>
<td>70.8%</td>
</tr>
<tr>
<td>Yes, with</td>
<td>31.5%</td>
<td>30.1%</td>
<td>31.5%</td>
</tr>
<tr>
<td>researchers in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the same team</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>researchers in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the same</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>university</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>researchers in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>other institutions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Data Management Practices in NTU

Concerns for Research Data Sharing

<table>
<thead>
<tr>
<th>Concern</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>No concerns</td>
<td>26.8%</td>
</tr>
<tr>
<td>Fear of losing the data</td>
<td>32.7%</td>
</tr>
<tr>
<td>Legal and ethical issues</td>
<td>41.7%</td>
</tr>
<tr>
<td>Misuse of data</td>
<td>43.8%</td>
</tr>
<tr>
<td>Misinterpretation</td>
<td>41.1%</td>
</tr>
<tr>
<td>Lack of resources</td>
<td>29.2%</td>
</tr>
<tr>
<td>Lack of...</td>
<td>15.1%</td>
</tr>
</tbody>
</table>

STEM vs. Non-STEM
DR-NTU(Data) (Open Access Research Data Repository)

• DR-NTU (Data)
  – NTU’s institutional open access research data repository
  – NTU researchers are encouraged to deposit, archive and share their final research data in DR-NTU (Data) in order to make their research data discoverable, accessible and reusable.

• Regular workshops/seminars organized for researchers on managing, sharing and curating research data
# Proposed Research Data Management Framework for Nanyang Technological University

## Policies & Governance
- Institutional research data policy
- Funders’ requirements
- Other relevant policies

## Research Activities Before, During & After a Research Project

### Before
- **Data Management Planning**
  - Planning for sharing
  - Consent & ethics
  - Copyright
  - Roles & responsibilities in data management
  - Planning for resources needed in management of active data

### During
- **Management of Active Data**
  - Documenting data
  - File formats & software
  - Organising data
  - Quality assurance
  - Version control
  - Authenticity
  - Storage
  - Backup
  - Security
  - Sensitive data
  - Transmission
  - Encryption
  - File sharing
  - Disposal

### After
- **Preserving Data**
  - Create metadata & documentation
  - Publish & share data
  - Archive data
  - Digital preservation
  - Data migration to best format, suitable medium

## Technical Infrastructure
- DMP@RIMS
- NTU E-LN (electronic lab notebook)
- Active data management system

## Service Infrastructure
- Open access data repository DR NTU (Data)
- Collaborative curation
- Tracking & reporting

## Other Information
- Open access advocacy
- DMP writing workshops & consultancy
- DMP review / analysis
- Copyright & licensing training
- Guidance & training
- Area commenced and on-going in NTU
- Area not yet done in NTU

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23 June 2017

Nanyang Technological University
Initiatives to promote Open Access Research Data Sharing

Raising Your Research Visibility with Open Research Data: Presentations & Panel Discussion
TAN CHIN TIAN LECTURE THEATRE, NANYANG TECHNOLOGICAL UNIVERSITY
24 Oct 2017 9:30 am

Workshop to promote Open Access and Open Research Data sharing. Participate in the discussions and learn more about the benefits.

MANAGING, SHARING AND CURATING YOUR RESEARCH DATA IN A DIGITAL ENVIRONMENT

The NTU open access research data repository is now available for use. Discover how you can make use of this new platform to manage your research data, link to your paper publications and increase your research visibility.

Presentations by:

- SANNY BIRKHOFF (Research Associate, NIE)
- SORRAH MANSO (Research Associate, NIE)
- SRIJUKTI (Research Associate, NIE)

TOPICS

- Open science guidelines and best practices
- Upcoming features for NTU data repository
- Integrating NTU data repository with other data repositories
- How NTU data repository can be part of research data management
- Success stories in increased visibility and reuse of datasets
- Common data management and curation challenges

TUESDAY
6 MARCH 2018
9AM - 12.30PM
NANYANG TECHNOLOGICAL UNIVERSITY
Lecture Theatre 5
IN02-02-071
MANAGING, SHARING AND CURATING RESEARCH DATA

Have you wondered how the newly launched NTU open access research data repository DR-NTU [Data] can be part of your research data management endeavors?

How do you optimize your research visibility by sharing your data on DR-NTU [Data]?

Come, hear from the research data management experts from Harvard University and NTU, their experiences and tips.

6 March
9:00AM - 12:30PM | Lecture Theatre 5
[SEMINAR] Managing, sharing and curating your research data in a digital environment

8 March
12:00PM - 5:00PM | The Hive, TR +53
[WORKSHOP] Bring your own data: For data producers from COHASS, NBS, IGS, Institutes & Centres (soft sciences)

9 March
12:00PM - 5:00PM | Experimental Medicine Building Seminar Room
[WORKSHOP] Bring your own data: For data producers from COE, COS, LKCMED, Institutes & Centres (hard sciences)
Definition of Digital Ecosystem

• Digital ecosystem is a concept emerging from the natural existence of business ecosystem, which is taken from the concept of biological ecological systems (Saleh & Abel, 2016).

• Digital ecosystem is defined as “an open, loosely coupled, domain clustered, demand-driven, self-organizing, and agent-based environment which each species is proactive and responsive for its own benefit and profit” (Dong & Hussain, 2007).

• In other words, a digital ecosystem is “a distributed, adaptive, open socio-technical system with properties of self-organization, scalability and sustainability inspired from natural ecosystems” (Saleh & Abel, 2016).
Adoption of Digital Ecosystem

- **Business**: Fahri Karakas proposed World 2.0 as an interactive, hyper-connected, immersive, virtual, digital online ecosystem where users create and share knowledge, innovate and collaborate, interact and network with each other, design or buy and sell products, develop projects and express themselves to the world.

- **Education**: Boise State University’s Office of Information Technology organized the Digital Ecosystems Conference in 2017, which brought industry, education, and government audiences together under a shared commitment to advancing the use of digital technology in teaching and learning.

- **Research**: The International Organization for Research Information developed Current Research Information Systems known as euroCRIS. This digital ecosystem stored outputs from all euroCRIS discussion and dissemination activities with free access.
The ETD Management Ecosystem
The ETD Management Ecosystem

• Beyond open-access ETDs, an integrated ecosystem approach is proposed to better manage the whole suite of research generated documents, and to better support open scholarship and open data.
The ETD Management Ecosystem

• All the relevant documents related to the research process should be properly archived, indexed and interlinked for reference.
  – Unique identifiers will be assigned to all researchers and documents
  – Documents endowed with relevant metadata
  – Data interoperability through use of standards
  – Privacy and data protection – open or restricted access
  – ....
The ETD Management Ecosystem

• Accompanied by suite of user-friendly interfaces to support browsing, searching, visualization, discovery, use, re-use, sharing ...

Browsing

Alphabetical List
A | B | C | D | E | F | G |
U | V | W | X | Y | Z | #

Subject List
Art & Design
Business
Citation Databases
Communication Studies
Computer Science
Chinese Studies
Engineering
Humanities
Library & Information Science
Maritime Studies
Medicine
Multidisciplinary
News
Patents
Science
Social Sciences

Searching

Basic Search

Advanced Search

Image Source: https://www.pinterest.com/pin/523895369125307455/?lp=true
The ETD Management Ecosystem
Scenario 1: Student Looking for Own Record of Meeting Minutes

* Mouse over to preview titles of minutes, e.g. meeting on research proposal, meeting on survey questionnaire
Scenario 2: Looking for Related Conferences

PhD Topic
- Environmental Scanning Practices of Travel Agencies in Singapore

References
International Conference on Business and Information (BAI)

Conference website:
http://ibac-conference.org/bai/

Conference proceedings:
2012 2013 2014 2015 2016 2017

Latest Call for Paper
Template for submission ...

Related conferences
International Conference on Business and Information Management (ICBIM)
International Conference on Business Information System (BIS)
International Conference on Business and Internet (ICBI)
...
Search Results: Author and Related Information

Dr. Xue Zhang

- **Thesis**
  - **Master Thesis**: Environmental Scanning and Information Sharing Mechanisms of SMEs in Singapore (2007) [Full Text](#) [Abstract](#) [Data](#)

- **Journal Articles and Conference Presentations**
  - Environmental scanning initiatives of SMEs in Singapore. *Libri, 59*(2), 114-123. [Full Text](#) [Abstract](#)
  - Environmental scanning practices of travel agent companies in Singapore. *Asia Pacific Journal of Tourism Research, 18*(8), 823-848. [Full Text](#) [Abstract](#)
  - More

- **Supervisors**
  - Assoc Prof. Shaheen Majid
  - Prof. Schubert Foo

- **Other Documents (Restricted Access)**
Example: GESIS (Leibniz Institute of Social Sciences) Germany

GESIS Recommendations:

SSOAR
In our Social Science Open Access Repository SSOAR, you can make your unpublished and published works available to a broad readership in an uncomplicated way.

https://search.gesis.org

Dr. Agathe Gebert
Unter Sachsenhausen 6-8
50667 Köln
Tel.: +49 (0221) 47694-218

ZIS
You will find over 200 tried-and-tested, extensively documented social science survey instruments in our Collection of Items and Scales for the Social Sciences, ZIS. As an open access/open publication service, ZIS enables the long-term accessibility of the items and scales, and it documents the theoretical background of the instruments, their development, and their quality criteria taking into account established scientific standards.
Umfrage: Von Open Access zu Open Science - Wissenschaftliche Kommunikation im Rahmen der Digitalisierung

Heise, Christian

Abstract: Wie verändert die Digitalisierung, wie wir auf wissenschaftliche Daten und Informationen zugreifen? Das war Thema in der Befragung im Rahmen der Promotion mit dem Titel: "Von Open Access zu Open... more

Survey among researchers concerning their publication habits (DFG)

Fournier, Johannes; Sack, Dominik; Rahlf, Thomas


Among publications in the DFG-funded projects of the researchers. Themes: 1. Publikations- and Rezeptionsverhalten: Nutzten Publikationen für den in ihrem Fachgebiet: Aufsätze in... more

Linked information: Publications (1)
Metadata (e.g. DOI. No. of Variables, Subject ...)

Survey among researchers concerning their publication habits (DFG)

Fournier, Johannes; Sack, Dominik; Rahlf, Thomas
GESIS Data Archive, Cologne. ZA4390 Data file Version 1.0.0 (2010), doi:10.4232/1.4390


Study number: ZA4390
Current Version: 1.0.0, 2010-04-01, doi:10.4232/1.4390
DOI: doi:10.4232/1.4390
Date of Collection: 10.2004 - 11.2004
Content: Germany
Number of Units: 1028
Number of Variables: 132
Analysis System(s): SPSS

Selection Method: Die Befragung richtete sich an 1.600 Wissenschaftler der Wissenschaftsbereiche Geistes- und Sozialwissenschaften, Lebenswissenschaften, Naturwissenschaften und Ingenieurwissenschaften, die in unterschiedlichen Programmen der DFG gefördert wurden oder werden. Dabei sollte jeder Wissenschaftlerbereich mit der gleichen Zahl zu befragender Personen in die... more

Mode of Collection: Postale Befragung und Online-Erhebung mit standardisiertem Fragebogen
Data Collector: Gesellschaft für empirische Studien, Kassel
Keywords: Science and technology
Entry in the subject portal: Databestandskatalog (DBK)

Related publications (1)
among researchers concerning their publication habits (DFG)

The download of datasets generally requires a login to the data catalog (DBK).

**Datasets**

ZA4390.dta (Datensatz) 237.84 KB  
ZA4390.por (Datensatz) 300.77 KB  
ZA4390.sav (Datensatz) 166.77 KB

**Availability:** A - Data and documents are released for academic purposes. Please note our **terms of use.**

**Questionnaire**

Hinten zum Ausfüllen des Fragebogens

- Bei den meisten Fragen brauchen Sie belastiges ein der untenliegenden Kästchen auszuzeichnen.
- ... oder Ziffern (a. z. 3, 6, 9) in die vergeblichen Felder einzutragen.

Bitte einige Fragen haben wir für Ihre Verwendung geeignet. Geben Sie dazu zu der Frage, die hinter der Antwortkategorie angegeben ist.

Bitte einige Fragen haben wir vorbereitet, mit der Sie Ihre Antworten bestätigen können – z. B.:

**CodeBook**

Download ZA4390_cod.pdf (Codebook)

Please login: Login
Browsing co-authors …discovery continues
Benefits of the ETD Management Ecosystem

• Systematic documentation and management of the whole research process
• Higher availability and visibility through the inter-connections which potentially increases the publicity and impact of the research
• Provides rich discovery potential to meet various research information needs
• ...
References

References


- Suber, P. (2004). *Open access overview - Focusing on open access to peer-reviewed research articles and their preprints.* Retrieved from https://legacy.earlham.edu/~peters/fos/overview.htm
Thank you!

For more information: sfoo@ntu.edu.sg