PERLUNYA PENERAPAN
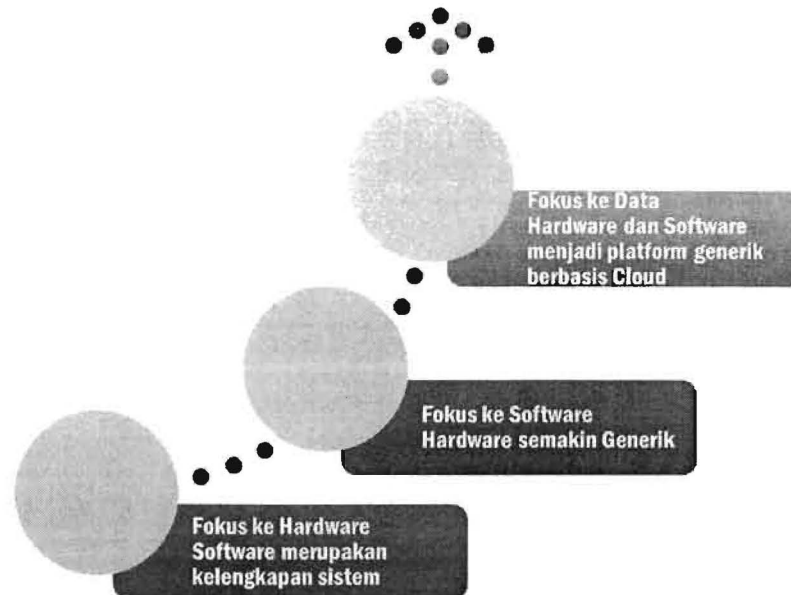# PRAKTEK MANAJEMEN DATA/INFORMASI
UNTUK MENINGKATKAN
KUALITAS INFORMASI INSTITUSI

Arry Akhmad Arman
Direktorat STI ITB
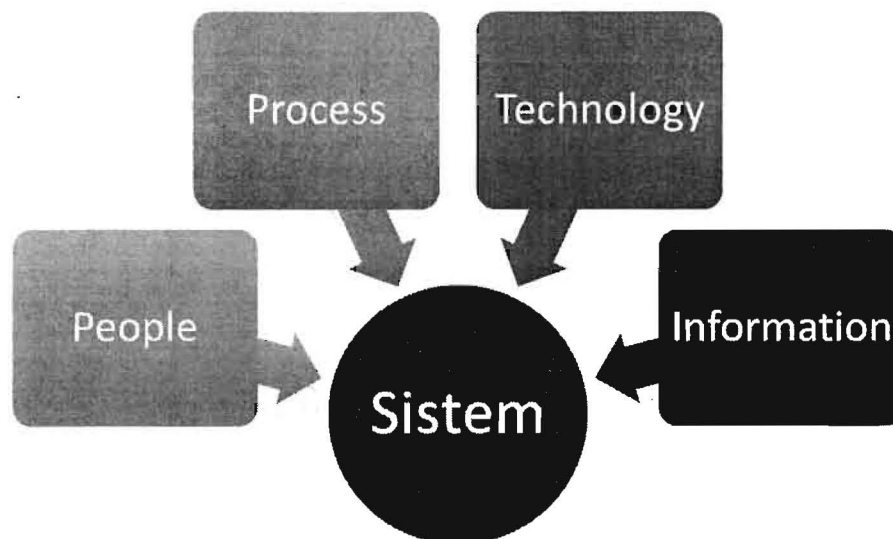

Mengapa Manajemen Data sangat penting dalam sebuah organisasi?

Pergeseran Fokus Penerapan Teknologi Informasi dalam Organisasi

Fokus ke Data
Hardware dan Software
menjadi platform generik
berbasis Cloud

Fokus ke Software
Hardware semakin Generik

Fokus ke Hardware
Software merupakan
kelengkapan sistem

Kelengkapan Sistem Berbasis Komputer

Process
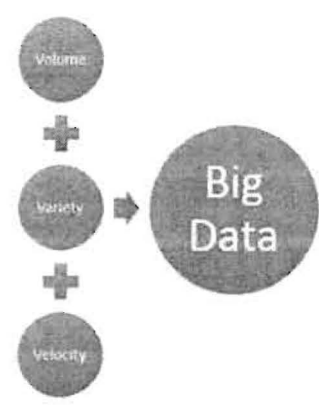
Technology

People

Information

Sistem

Big Data Analytic

Big Data

- Big data is a term for data sets that are so large or complex that traditional data processing applications are inadequate. Challenges include analysis, capture, data curation, search, sharing, storage, transfer, visualization, querying and information privacy.
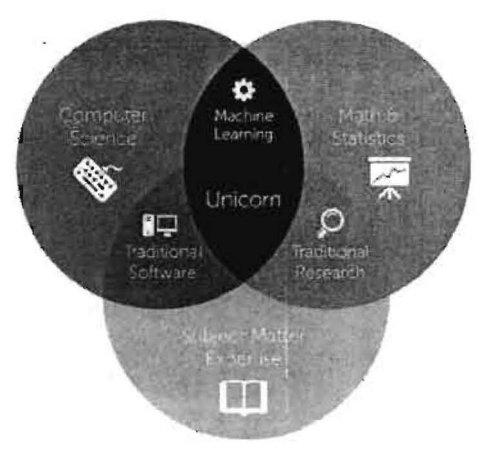

Big Data Analytic

- **Big data** analytics is the use of advanced **analytic** techniques against very large, diverse **data** sets that include different types such as structured/ unstructured and streaming/ batch, and different sizes from terabytes to zettabytes.
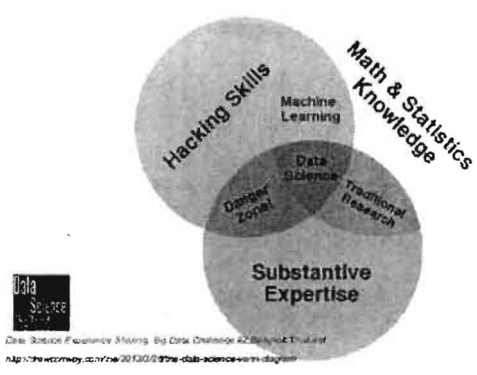

Data Science

What is Data Science?

www.stanford.edu
Pusat knowledge serta kemajuan Science dan Teknologi

www.itb.ac.id
Masih didominasi berita kegiatan

Belum sepenuhnya Bahasa Inggris

Error!

Information Quality

- Intrinsic IQ: <u>accuracy</u>, <u>objectivity</u>, <u>Believability</u>, <u>reputation</u>
- Contextual IQ: <u>relevance</u>, <u>value-added</u>, <u>Timeliness</u>, <u>Completeness</u>, amount of information
- Representational IQ: <u>interpretability</u>, format, coherence, compatibility[4]
- Accessibility IQ: <u>accessibility</u>, access security

Referensi Praktis Manajemen Data

Kegiatan-Kegiatan Data Management
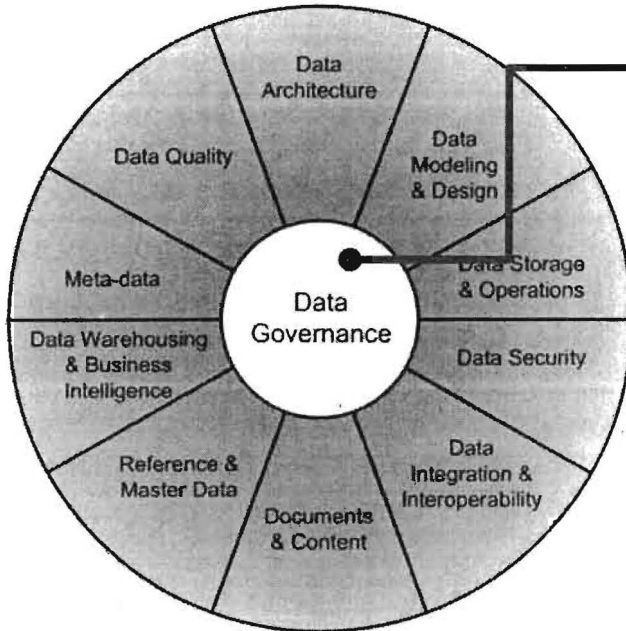
- **Data Governance** – planning, oversight, and control over management of data and the use of data and data-related resources. While we understand that governance covers 'processes', not 'things', the common term for Data Management Governance is Data Governance, and so we will use this term.

Kegiatan-Kegiatan Data Management
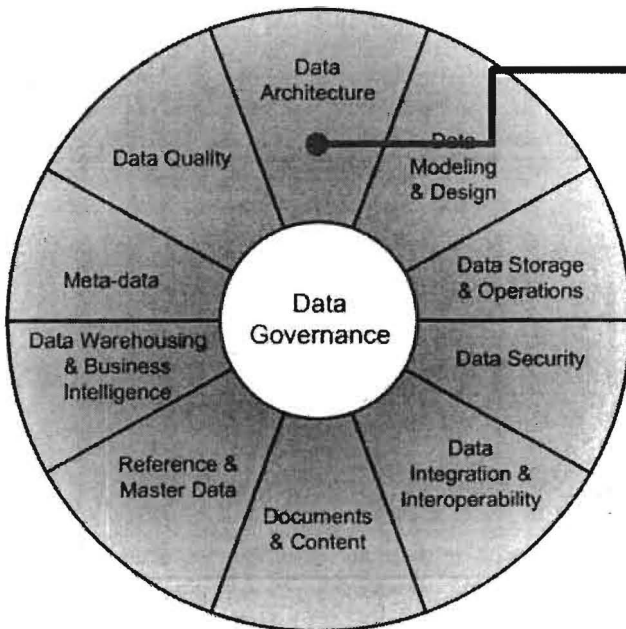
- **Data Architecture** – the overall structure of data and data-related resources as an integral part of the enterprise architecture

Kegiatan-Kegiatan
Data Management
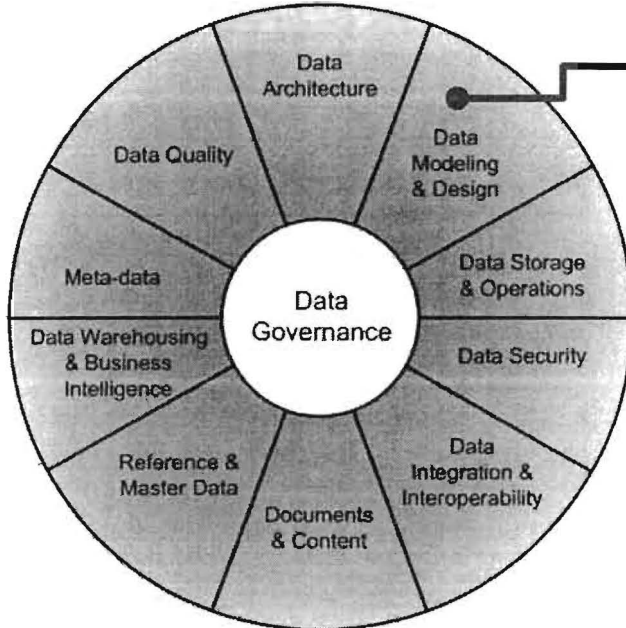
- **Data Modeling & Design** – analysis, design, building, testing, and maintenance (was Data Development in the DAMA-DMBOK 1st edition)

Kegiatan-Kegiatan
Data Management
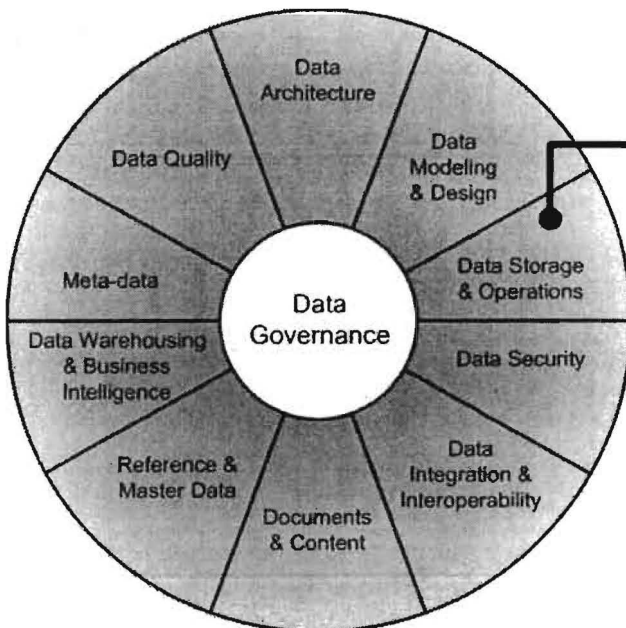
- **Data Storage & Operations** – structured physical data assets storage deployment and management (was Data Operations in the DAMA-DMBOK 1st edition)

Kegiatan-Kegiatan Data Management
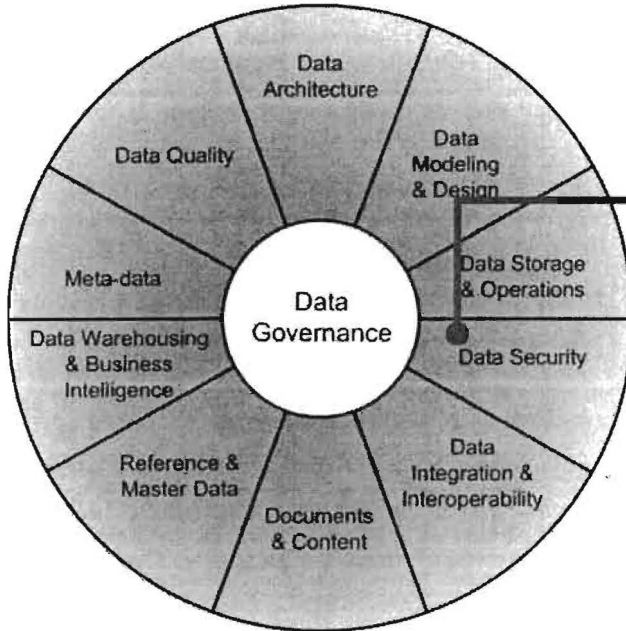
- **Data Security** – ensuring privacy, confidentiality and appropriate access

Kegiatan-Kegiatan Data Management
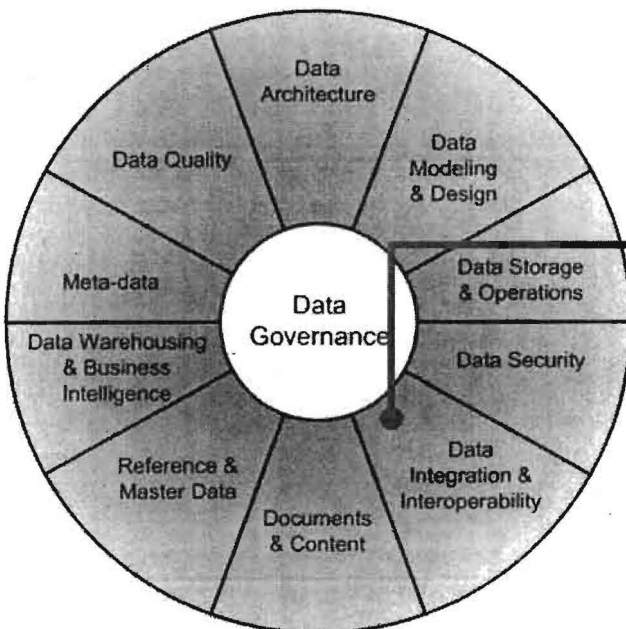
- **Data Integration & Interoperability** –acquisition, extraction, transformation, movement, delivery, replication, federation, virtualization and operational support (a Knowledge Area new in DMBOK2)

Kegiatan-Kegiatan
Data Management

- **Documents & Content –** storing, protecting, indexing, and enabling access to data found in unstructured sources (electronic files and physical records), and making this data available for integration and interoperability with structured (database) data.

Kegiatan-Kegiatan
Data Management
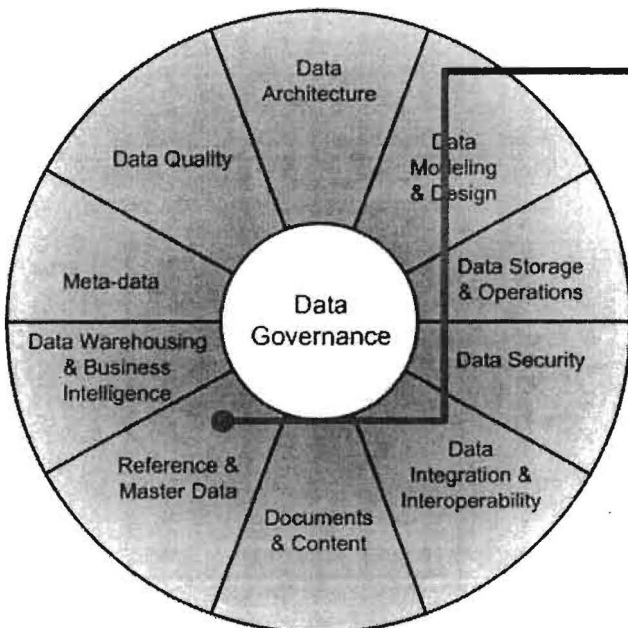
- **Reference & Master Data –** Managing shared data to reduce redundancy and ensure better data quality through standardized definition and use of data values.

Kegiatan-Kegiatan
Data Management
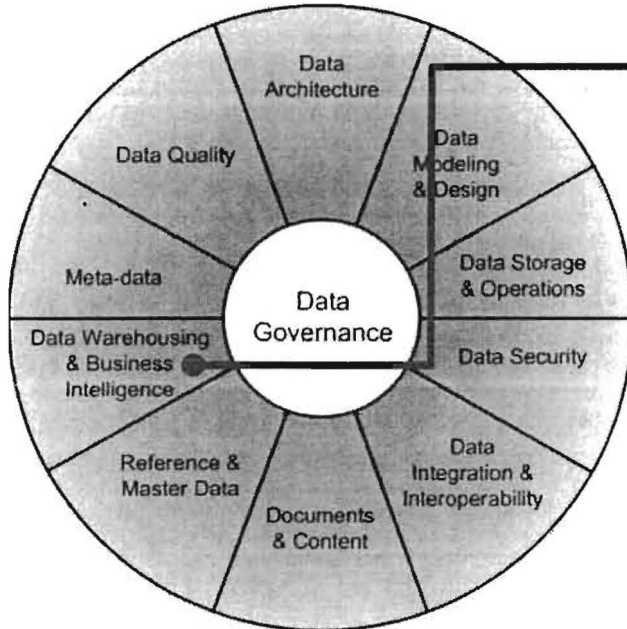
- **Data Warehousing & Business Intelligence** – managing analytical data processing and enabling access to decision support data for reporting and analysis
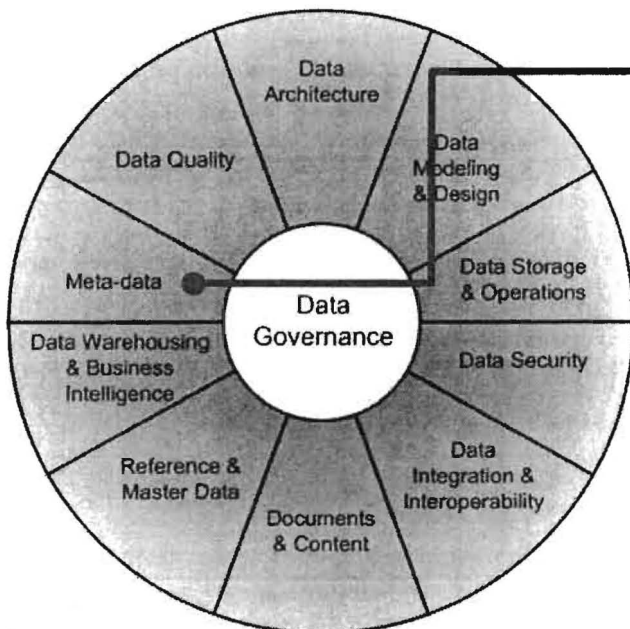
- **Metadata** – collecting, categorizing, maintaining, integrating, controlling, managing, and delivering metadata

Kegiatan-Kegiatan Data Management

Data Architecture

Data Quality

Data Modeling & Design

Meta-data

Data Storage & Operations

Data Governance

Data Security

Data Warehousing & Business Intelligence

Reference & Master Data

Documents & Content

Data Integration & Interoperability
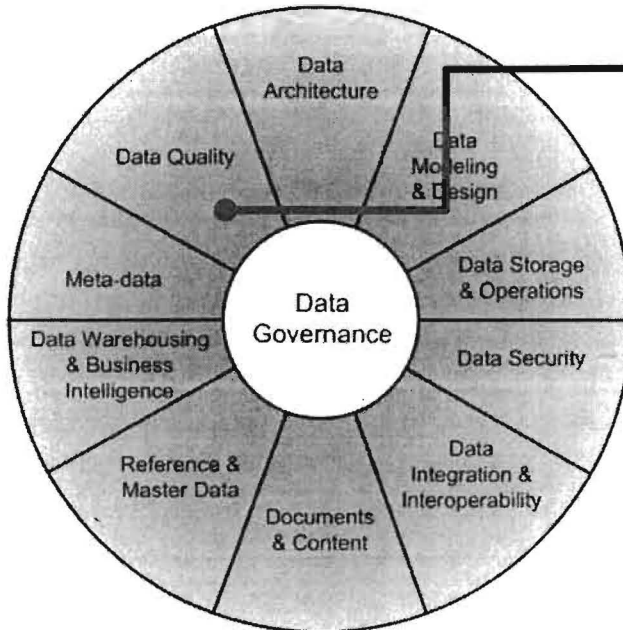
- **Data Quality** – defining, monitoring, maintaining data integrity, and improving data quality

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KIP, Webometric, dan Unirank

Unirank

- **uniRank**™ (formerly 4 International Colleges & Universities or 4icu.org) is an international higher education directory reviewing accredited Universities and Colleges in the world. **uniRank**™ includes **13,000 Colleges and Universities**, ranked by web popularity, in 200 countries.

uniRank™ currently **includes** worldwide higher education institutions which satisfy the following requirements:

•are officially **recognized, licensed** and/or **accredited** by national or regional bodies such as Ministries of Higher Education or government recognized accrediting organizations.
•are officialy licensed or authorised to grant at least **four-year undergraduate degrees** (Bachelor's Degrees) and/or **postgraduate degrees** (Master's and Doctoral Degrees).
•provide higher education courses mainly in a traditional **face-to-face learning format** delivered through on-site facilities. All University and College profiles are included and updated free of charge.

Indicators

- MozRank represents a link popularity score. It reflects the importance of any given web page on the Internet. Pages earn MozRank by the number and quality of other pages that link to them. The higher the quality of the incoming links, the higher the MozRank.

- Alexa ranks sites based primarily on tracking a sample set of internet traffic

- Majestic Referring IP's
  - A Referring IP refers to an IP address which hosts at least one website that contains a link to the given target URL or Domain.

- Majestic Topical Trust Flow
  - This is a Majestic feature which provides website categorization.

2018 Indonesian University Ranking
Versi Unirank

2018 Indonesian University Ranking

Rank ▼	University ▼		Location ▼
1	Universitas Gadjah Mada		Sleman
2	Universitas Indonesia		Depok
3	Universitas Negeri Yogyakarta		Metrup
4	Universitas Brawijaya		Malang
5	Institut Pertanian Bogor		Bogor
6	Universitas Diponegoro		Semarang
7	Universitas Sebelas Maret		Surakarta
8	Universitas Sumatera Utara		Medan
9	Institut Teknologi Bandung		Bandung
10	Universitas Airlangga		Surabaya
11	Universitas Pendidikan Indonesia		Bandung
12	Universitas Lampung		Bandar Lampung
13	Institut Teknologi Sepuluh Nopember		Surabaya
14	Universitas Negeri Semarang		Semarang
15	Universitas Bina Nusantara		Jakarta
16	Universitas Muhammadiyah Surakarta		Surakarta
17	Universitas Padjadjaran		Sumedang
18	Universitas Gunadarma		Depok
19	Universitas Negeri Malang		Malang
20	Universitas Udayana		Badung

Webometric

- Presence : jumlah page yang dapat diambil atau di-index oleh mesin pencari terbesar. Data diambil dengan menggunakan Google (site:url). Bobot penilaian : 30%
- Impact : jumlah semua link dari situs luar yang menuju ke situs Unit Kegiatan Akademik. Data diambil dengan menggunakan Majestic (External Backlink). Bobot penilaian : 30%
- Openess : jumlah Rich Files (.pdf, .doc, .docx, .ppt) yang dipublikasikan dan dapat ditelusur di Google Scholar. Data diambil dengan menggunakan Google Scholar. Bobot penilaian : 30%
- Technology : menggunakan teknologi informasi terkini beserta elemen penunjangnya. Data diambil dengan menggunakan Nibbler. Bobot penilaian : 10%

Webometric Rank 2018

ranking	World Rank	University	Det.	Presence Rank*	Impact Rank*	Openness Rank*	Excellence Rank*
1	888	Universitas Indonesia		111	402	1793	1707
2	924	Universitas Gadjah Mada		47	519	767	1898
3	1255	Institut Teknologi Bandung / Institute of Technology Bandung		462	932	1555	1866
4	1462	Institut Pertanian Bogor / Bogor Agricultural University		45	859	2041	2521
5	1825	Universitas Syiah Kuala		701	1411	2738	2613
6	2122	Universitas Padjadjaran Bandung		347	1401	2126	3346
7	2502	Universitas Hasanuddin		823	2547	3173	3265
8	2579	Universitas Riau		1046	2306	3434	2933
9	2647	Universitas Brawijaya		108	777	9593	3229
10	2853	Universitas Diponegoro		183	619	9593	3715
11	2902	Universitas Airlangga		57	1756	2242	4532
12	2996	Universitas Pendidikan Indonesia		234	1356	1706	4914
13	3231	Universitas Sebelas Maret UNS Surakarta		135	694	9593	4279
14	3268	Universitas Udayana		525	2361	9593	3229
15	3347	Institut Teknologi Sepuluh Nopember Surabaya		500	1369	9593	3839

Keterbukaan Informasi Publik Success Story

- SITH dapat dijadikan sebagai percontohan karena telah memiliki SK PPID Fakultas lengkap disertai jabatan dan nama (score KIP SITH paling tinggi, jauh melampaui unit lain nya)

Penutup

- ITB perlu lebih serius mengelola informasi internal dan external (publikasi), baik dalam bahasa Indonesia, juga dalam bahasa Inggris
- ITB perlu melakukan inisiatif-inisiatif untuk meningkatkan praktek Manajemen Data di lingkungan ITB
- Praktek Manajemen Data dapat berdampak pada:
  - Ketersediaan informasi akurat setiap saat
  - Peningkatan kualitas informasi
  - Data Analitik untuk kebutuhan internal
  - Peningkatan Webometric dan reputasi ITB
  - Peningkatan tanggungjawab ITB kepada public dengan penyediaan informasi public yang lengkap dan berkualitas
- Praktek Manajemen Data perlu didukung oleh:
  - Tersedianya Tata Kelola Data (Data Governance)
  - Dukungan pejabat/staf serta organisasi di pusat maupun di setiap unit kerja yang yang secara khusus menjalankan fungsi Manajemen Data

Terima Kasih