

Daftar Mata Kuliah Wajib

Sistem Manajemen Data Untuk Bisnis

SB153B/II/2



Dengan ini kami sampaikan informasi untuk Kuliah MKP1 - SMDB hari Sabtu, 3 September 2022, sbb:

[MKP1 - SMDB Sesi 1-2] Dr. Arif Imam Suroso

Kuliah pk 13.30-17.10 dengan Online Meeting Zoom. Mohon mahasiswa dapat login dan mengakses Zoom meeting-id sbb:

Meeting ID: 941 7137 8699

Passcode : sbipb

Link : <https://ipb-university.zoom.us/j/94171378699?pwd=SHZlbiJLdTldDhcnJyY0ZpNDhvdz09>

[ESI / E82 / R67]

7x pertemuan.

- Yuli → SI Statistik VH pad. (prosesora HP consultant)
- Hizfra → UGM Icmu Komputer. (bisnis warung makan)
- Johan → Hubungan Internasional
- Desta → Agri Bisnis IPB
- Wicak → matematika IPB
- Gunilar →
- Roma. →

ICM manajemen data. → Relasional data.
Pemanfaatan Big Data. → Big data.

DBS IT dan
DBP 4.0 → Big data.

Tim Pengajar

1. Dr. Irman Hermedi, S.Kom, MS
2. Dr. Ir. Arif Imam Suoso, MSc
3. Dr. Wisnu Ananta Kusuma
4. Fiza Shanti, S.Kom, MEng (dosen tamu)

MK	Hari	Tanggal	Waktu	Tempat	Materi	Sumber/Pustaka	Kelas	Pj
SMDB 021	Sabtu	3 Sep 22	13.30-17.30	online	Data, Informasi & Pengetahuan: Pengelolaan Manajemen Data	Ch 1, 2, 3, 4 MOD 1a	EZ2	AIS/WAK
SMDB 022	Sabtu	17 Sep 22	13.30-17.30	online	Data Modeling: Entity Relationship (ER) Diagram, EER, & Logical Design	Ch 2, 3, 4 MOD 1a	EZ2	RH
SMDB 023	Sabtu	1 Oct 22	13.30-17.30	online	Relational Language: SQL & Advanced SQL	Ch 6, 7 MOD 2a	EZ2	RH
SMDB 024	Kamis	20 Oct 22	13.30-17.30	online	Big Data	Ch 2	WAK	



data yang sudah diorganisasi dapat
dituliskan adalah informasi [ketika data
memiliki perbaikan nilai value.]

"informasi" → Pengumpulan informasi digunakan
untuk membantu mengambil
keputusan.

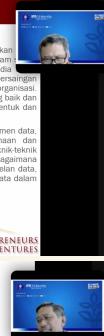
**Deskripsi Mata Kuliah
(Course Description)**
Sistem Manajemen Data Bisnis (SMDB)

Pada era ekonomi digital, data telah menjadi salah satu kapital yang merupakan ekonomi dalam memproduksi produk data juga digital. Data memudahkan dalam proses produksi yang memberikan "feeding" terhadap algoritma yang tersebut dipakai dalam sistem dan teknologi. Selain itu, data juga memudahkan pengambilan keputusan terhadap keberlanjutan terhadap transformasi digital yang dilakukan organisasi. Dengan peran sentral dari data ini maka ditutupnya praktik manajemen yang baik dan kuat dalam sistem manajemen data di suatu organisasi, tanpa membanding bentuk dan ukuran organisasi.

Mata kuliah ini membahas prinsip dan konsep manajemen data, sistem manajemen data, sistem manajemen big data dan berbagai tantangananya dalam penggunaan dan penerapannya dalam dunia bisnis. Mata kuliah ini akan mencakup teknik-teknik pemrosesan data dan analisis data dalam rangka mendukung pengambilan keputusan melalui normalisasi database dan penggunaan DBMS dan Big Data. Pendekatan data, penggunaan teknik dan bahasa query seperti SQL dan penggunaan big data dalam bisnis akan dilaborasi.

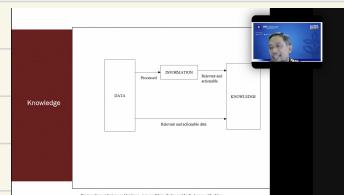
Data, Information & Knowledge

- **Data:** raw facts
- **Information:** collection of facts organized so that they have additional value beyond the value of the facts themselves
- **Knowledge:** awareness and understanding of a set of information and the ways that information can be made useful to support a specific task or reach a decision



Lauden:

Knowledge adalah data yang diolah untuk membantu dalam mengambil keputusan.



As a form of capital,
must be exchangeable
among persons, and
must be able to grow

Knowledge

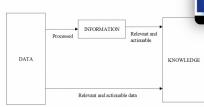
- Information is contextual, relevant, and actionable
- Knowledge is INFORMATION IN ACTION
- Higher than data and information



Keterkaitan data

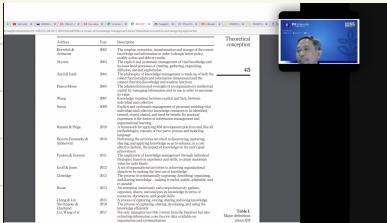
Knowledge

Decision Support Systems and Intelligent Services, Edwin Tatton and Jay E. Aronson, 4th edition.
Copyright 2001, Prentice Hall, Upper Saddle River, NJ.



Cognitif knowledge
Deskriptif knowledge

Issu management knowlage.



Buku NONAKA. (fenomenal) seci.

Tenjibel dan intengibel.

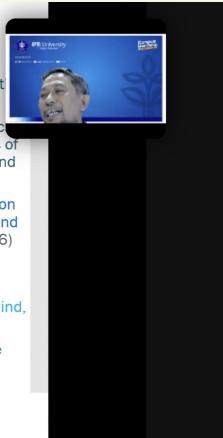
Tecit knowlage.

Explisit knowlage.

What is A KNOWLEDGE ?

Knowledge

- knowledge is a dynamic human resource of justification of the personal beliefs to obtain the truth (Nonaka, 1994)
- knowledge is an invisible or intangible asset, in which its acquisition involves complex cognitive processes of perception, learning, communication, association and reasoning (Epetimehin and Ekundayo, 2011).
- Knowledge is the concept, skill, experience and vision that provides a framework for creating, evaluating and using the information (Soltani and Navimipour, 2016)
- Knowledge : tacit and explicit (Hubert, 1996).
- Tacit knowledge is the personal, context-specific knowledge of a person that resides in the human mind, behavior and perception (Duffy, 2000).
- explicit knowledge means information or knowledge that is set out in tangible form. (Koenig, 2012)

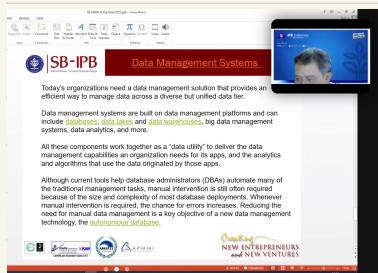


Issue knowlage sharing.

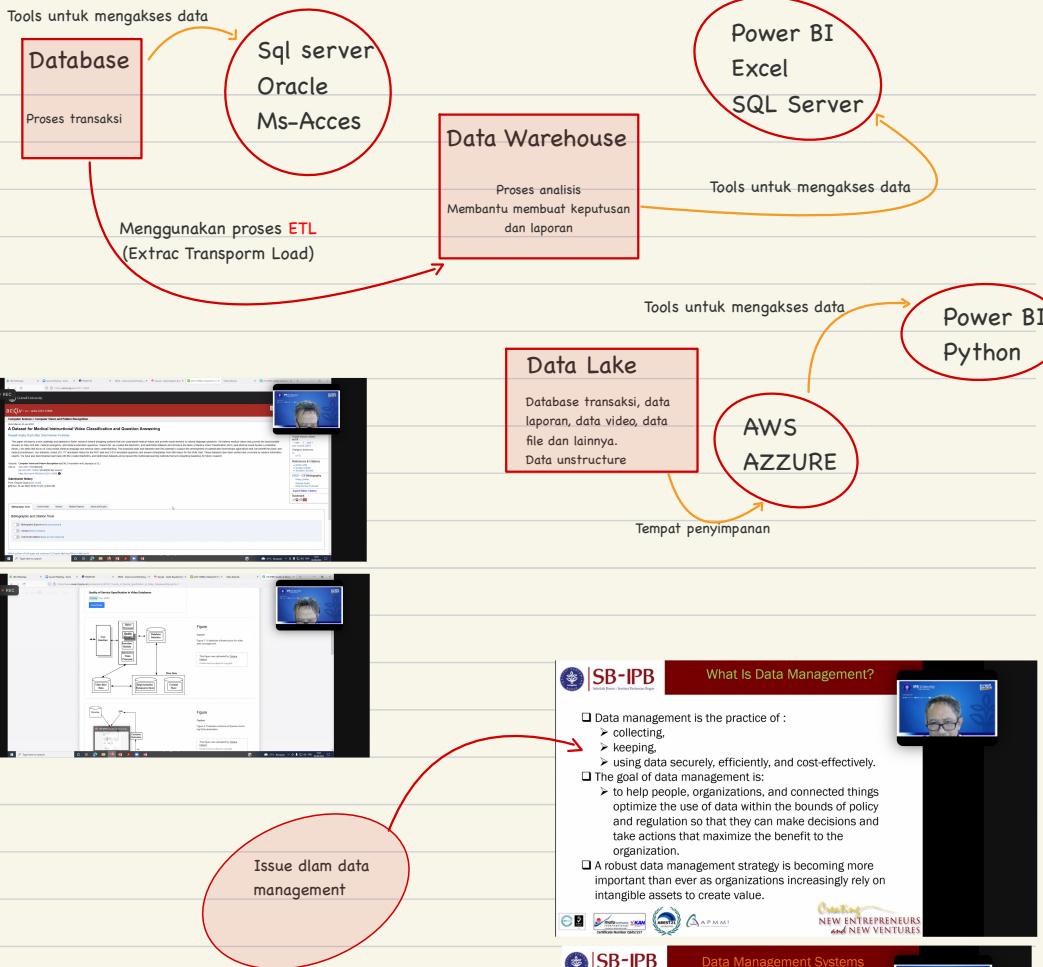
Issue membangun sistem yang berkepentingan dengan explisit knowlage.

Proses tukar gagasan untuk merubah tada tecit menjadi explisit.

Issue data management?



<https://www.youtube.com/watch?v=bSkREem8dM>



Pak wisnu

Banyak research di bidang big data.
Issue modeling dr buku database modern
oleh pak irnan

SB-IPB

What Is Data Management?

- ❑ Data management is the practice of :
 - collecting,
 - keeping,
 - using data securely, efficiently, and cost-effectively.
- ❑ The goal of data management is:
 - to help people, organizations, and connected things optimize the use of data within the bounds of policy and regulation so that they can make decisions and take actions that maximize the benefit to the organization.
- ❑ A robust data management strategy is becoming more important than ever as organizations increasingly rely on intangible assets to create value.

Creating NEW ENTREPRENEURS and NEW VENTURES

SB-IPB

Data Management Systems

Today's organizations need a data management solution that provides an efficient way to manage data across a diverse but unified data tier.

Data management systems are built on data management platforms and can include **databases**, **data lakes** and **data warehouses**, big data management systems, data analytics, and more.

All these components work together as a "data utility" to deliver the data management capabilities an organization needs for its apps, and the analytics and algorithms that use the data originated by those apps.

Although current tools help database administrators (DBAs) automate many of the traditional management tasks, manual intervention is still often required because of the size and complexity of most database deployments. Whenever manual intervention is required, the chance for errors increases. Reducing the need for manual data management is a key objective of a new data management technology, the **autonomous database**.

Creating NEW ENTREPRENEURS and NEW VENTURES

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Big Data Management Systems

Big data

- ❑ Is just what it sounds like—lots and lots of data (Volume).
- a wider variety of forms than traditional data (Variety).
- and is collected at a high rate of speed (Velocity).

❑ Think of all the data you can collect from your mobile phone, from a social media site such as Facebook. The amount, variety, and speed of that data are what make it so valuable to businesses, but they also make it very complex to manage.

❑ As we've seen, big data is not limited to mobile phones or desktops, video cameras, social media, audio recordings, and Internet of Things (IoT) devices; big data management systems have emerged.

❑ There are three main areas in which big data is used:

- **Big data integration** brings in different types of data—from batch to streaming—and transforms it so that it can be consumed by other processes.
- **Big data storage** is the process of storing and processing data in a data lake or data warehouse efficiently, securely, and reliably, often by using object storage.
- **Big data analysis** uncovers new insights with analytics, including **graph analytics**, **text mining**, **image recognition**, and **predictive modeling**.

Companies are using big data to improve and accelerate product development, predictive maintenance, the customer experience, security, operational efficiency, and much more. As big data gets bigger, so will the opportunities.

Creating NEW ENTREPRENEURS and NEW VENTURES

Tugas = state of theart (issue big data dsb.)
Perkembangan dengan data management. Hal yang terbuka itu ap.)
Deadline -> kumpul UAS. Jenis paper.

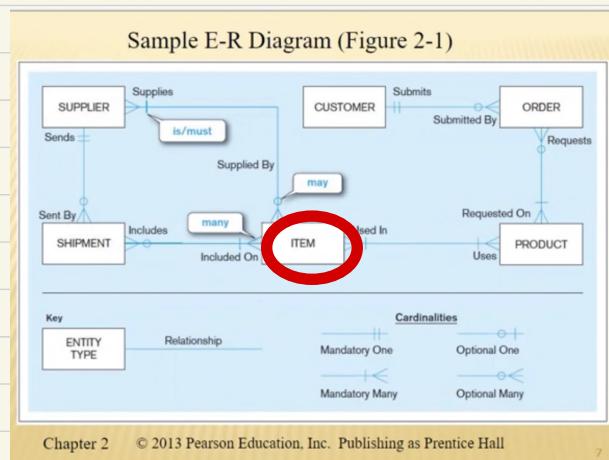
Tugas pak iman

Membuat model data untuk study kasus yang dipilih.

Harapannya msh dapat:

1. Mengidentifikasi entitas2 yang ada dan ketergubungan satu dengan lain (tidak perlu, misalkan nomor id dokter, surat ijin praktek dab. Ini tidak perlu, yang perlu misalkan hanya id dokter) lalu liat keterhubungan satu dengan lain seperti apa?

1. ERD Proses
2. ERD Sistem Informasi.



Lengkapi deskripsi.

Misalkan customer melakukan order, dimana dlm satu order tsb terdapat satu atau banyak produk.

Yth Mahasiswa E82/E81/R67 (Pendalaman Manajemen Sistem Informasi),

Dengan ini kami sampaikan informasi untuk Kuliah MKP1 - SMDB hari Sabtu, 17 September 2022, sbb:

[MKP1 - SMDB Sesi 3-4] Dr. Irman Hermadi

Kuliah dimulai pk 14.30-16.00 dengan Online Meeting Zoom. Mohon mahasiswa dapat login dan mengakses Zoom meeting-id sbb:

Meeting ID: 913 0348 6334

Passcode : sbipb

Link : <https://ipb-university.zoom.us/j/91303486334?pwd=YXNKY3BrOU01ckJNMXhEQTIISTUvdz09>

Adapun sebelumnya mahasiswa dimohon untuk menyimak 2 materi berikut sebelum kuliah dimulai:

1. Modeling Data In the Organization (38 min)

<https://youtu.be/7lUv9xmCFiM>

2. Enhanced ERD: (1 jam 41 min)

<https://youtu.be/NXPZo-NiUi4>

Demikian informasinya

Dengan ini kami sampaikan informasi untuk Kuliah **MKP1 - SMDB hari Sabtu, 01 Oktober 2022**, sbb:

[MKP1 - SMDB Sesi 5-6] Dr. Irman Hermadi

Kuliah pk 13.30-17.10 dengan Online Meeting Zoom. Mohon mahasiswa dapat login dan mengakses Zoom meeting-id sbb:

Meeting ID: 913 5688 5065

Passcode : sbipb

Link : <https://ipb-university.zoom.us/j/91356885065?pwd=a0tydLNHL3dka1RRMU5ZMXR0L0kwUT09>

Dengan ini kami sampaikan revisi informasi untuk Kuliah **MKP1 - SMDB** hari **Sabtu, 01 Oktober 2022**, sbb:

[MKP1 - SMDB Sesi 5-6] Dr. Irman Hermadi

Informasi dari Pak Irman, untuk Sesi 5-6 ini akan membahas mengenai *Relational Language: SQL & Advanced SQL*. Mahasiswa mohon dapat melakukan rangkaian tutorial mengenai SQL pada web berikut:

<https://www.w3schools.com/sql/default.asp>

Mohon dapat melakukan latihan mulai dari HOME / Intro s/d SQL Operators:

(latihan tersebut kira2 akan membutuhkan waktu +/- 2 jam)

Kuliah bersama Pak Irman akan dilakukan secara synchronous mulai pk **16.00-17.10** dengan Online Meeting Zoom.

Mohon mahasiswa dapat login dan mengakses Zoom meeting-id sbb:

Meeting ID: 913 5688 5065

Passcode : sbipb

Link : <https://ipb-university.zoom.us/j/91356885065?pwd=a0tydINHL3dka1RRMU5ZMXR0L0kwUT09>

Demikian informasinya



A screenshot of the w3schools SQL Tutorial page. The sidebar on the left lists various SQL topics from 'SQL HOME' to 'SQL Operators'. A red checkmark is placed next to 'SQL Operators'. The main content area shows a 'SQL Tutorial' section with a dropdown menu for 'Tutorial', currently set to 'SQL'. Below it is a 'SQL Statement' input field containing the query 'SELECT CustomerName, City FROM Customers'. To the right of the statement is a preview window showing a table with columns 'CustomerID', 'CustomerName', 'Address', 'City', and 'Country'.



A diagram illustrating the relationship between tables and their types. On the right, a table titled 'Tablename' lists several tables with their record counts: Customers (91), Categories (8), Employees (10), OrderDetails (518), Orders (196), Products (77), Shippers (3), and Suppliers (29). Red dots are placed next to the first four tables. A purple arrow points from these four tables to a green box labeled 'Jenis tabel' (Table Type). This box contains four categories: 'Jenis tabel' (Master Table), 'Tabel Transaksi' (Transaction Table), 'Tabel Referensi' (Reference Table), and 'Tabel History' (History Table). A green arrow points from the 'Jenis tabel' box to the first four tables in the list.

Tablename	Records
<u>Customers</u>	91
<u>Categories</u>	8
<u>Employees</u>	10
<u>OrderDetails</u>	518
<u>Orders</u>	196
<u>Products</u>	77
<u>Shippers</u>	3
<u>Suppliers</u>	29

Tugas kelompok : 3 kelompok
Diskusikan dengan kelompok,
apakah TRD sama dengan
ERD. Buat ERD dari tabel2 ^

Membuat Data base dapat dilakukan dengan 2 cara.

1. Top Down > pendekatan dari bisnis organisasi
2. Bottom up > berdasarkan transaksi atau catatan yang ada lalu dibuat database

ERD levelnya diatas, dibawahnya ada TRD.

TRD > yang ada di data base itu dipetakan

ERD > hanya entitas bisnis (laporan, user, hak akses tidak termasuk)

ERD ada 3 Level.

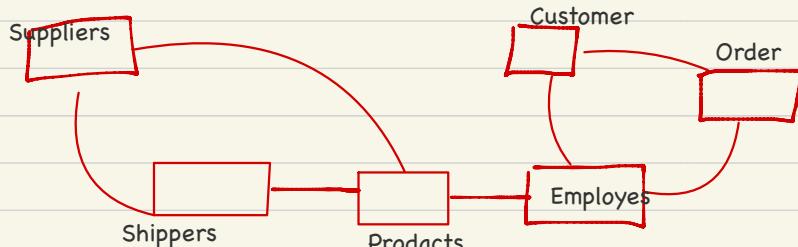
1. Konseptual > untuk user awam hanya memahami dilevel ini. (Karena hanya merupakan entitas bisnis atau domain bisnis)
2. Logical > untuk development dan developer
3. Fisical > untuk development dan developer.

DFD > Untuk View Process.

ERD > untuk Untuk Data

CLAS DIAGRAM > Untuk Object Oriented

SELECT * FROM [customers] >	CustomerID	CustomerName	ContactName	Address	City	PostalCode	Country
SELECT * FROM [Categories]	CategoryID	CategoryName	Description				
SELECT * FROM [Employees] >	EmployeeID	LastName	FirstName	BirthDate	Photo	Notes	
SELECT * FROM [OrderDetails] >	OrderDetailID	OrderID	ProductID	Quantity			
SELECT * FROM [Orders] >	OrderID	CustomerID	EmployeeID	OrderDate	ShipperID		
SELECT * FROM [Products] >	ProductID	ProductName	SupplierID	CategoryID	Unit	Price	
SELECT * FROM [Shippers] >	ShipperID	ShipperName	Phone				
SELECT * FROM [Suppliers] >	SupplierID	SupplierName	ContactName	Address	City	PostalCode	Country



Melakukan

Entity bisnis

- supplier
- shippers
- products
- Employees
- order
- Customers

Entity non Bisnis

- Category Karena digunakan untuk membuat laporan
- OrderDetails

Dengan ini kami sampaikan informasi untuk Kuliah **MKP1 - SMDB hari Kamis, 20 Oktober 2022**, (*Kuliah pada jadwal UTS, dikarenakan utk SMDB tidak ada UTS*) sbb:

[MKP1 - SMDB Sesi 7-8] Dr. Wisnu Ananta Kusuma

Kuliah pk **19.00-22.00** dengan Online Meeting Zoom. Mohon mahasiswa dapat login dan mengakses Zoom meeting-id sbb:

Meeting ID: 931 9018 8206

Passcode : sbipb

Link : <https://ipb-university.zoom.us/j/93190188206?pwd=MVQyZmJKYIZTN2ErVnBBCGdhUXIRUT09>

Demikian informasinya

Yth Mahasiswa E82/E81/R67 (Pendalaman Manajemen Sistem Informasi),

Dengan ini kami sampaikan informasi untuk Kuliah **MKP1 - SMDB hari Sabtu, 22 Oktober 2022**, sbb:

[MKP1 - SMDB Sesi 7-8] Dr. Wisnu Ananta Kusuma

Kuliah pk **13.30-17.10** dengan Online Meeting Zoom. Mohon mahasiswa dapat login dan mengakses Zoom meeting-id sbb:

Meeting ID: 977 9331 6817

Passcode : sbipb

Link : <https://ipb-university.zoom.us/j/97793316817?pwd=cmZHYNVWUVYxcUJibXNidlZ2dWVYdz09>

Demikian informasinya

Yth Mahasiswa E82/E81/R67 (Pendalaman Manajemen Sistem Informasi),

Dengan ini kami sampaikan informasi untuk Kuliah **MKP1 - SMDB hari Sabtu, 29 Oktober 2022**, sbb:

[MKP1 - SMDB Sesi 9-10] Dr. Wisnu Ananta Kusuma

Kuliah pk **13.30-17.10** dengan Online Meeting Zoom. Mohon mahasiswa dapat login dan mengakses Zoom meeting-id sbb:

Meeting ID: 948 1937 8829

Passcode : sbipb

Link : [https://ipb-university.zoom.us/j/94819378829?
pwd=ak1ibFRLdTN5SUZ6ZUpnOWIzYTJxZz09](https://ipb-university.zoom.us/j/94819378829?pwd=ak1ibFRLdTN5SUZ6ZUpnOWIzYTJxZz09)

Demikian informasinya

Terima kasih

Tugas dikuliah terakhir

Buat makalah, Cari kasusu, individu

Kasus khusus mendsign, sebuah solusi tdk perlu detail (seperti proposal) untuk menyelesaikan masalah. (Berupas solusi bigdata)

Nnti de feedback diperbaiki, dan dikumpul pada ujian. (Untuk nilai)

Akan diberi tugas pada pertemuan ini (kelimpok masing2 2 orang)
Kesehatan, manufacture)

Yth Mahasiswa E82/E81/R67 (Pendalaman Manajemen Sistem Informasi),

Dengan ini kami sampaikan revisi informasi untuk Kuliah **MKP1 - SMDB** hari **Sabtu, 29 Oktober 2022**, bahwa kuliah **DITUNDA** dikarenakan Pa Wisnu sakit dan beliau mohon maaf tidak dapat berikan kuliah.

Adapun kuliah pengganti akan dijadwalkan hari **Kamis, 3 Nov pk 19.00-22.00**

Demikian informasinya

Terima kasih

Best Regards,

Academic and Student Affairs

<https://ipb.link/artcomp-kcup22>

Yth Mahasiswa E82/E81/R67 (Pendalaman Manajemen Sistem Informasi),

Dengan ini kami sampaikan informasi untuk Kuliah **MKP1 - SMDB** hari **Kamis, 3 November 2022**, sbb:
(pengganti 29 Okt)

[MKP1 - SMDB Sesi 9-10] Dr. Wisnu Ananta Kusuma

Kuliah pk **13.30-17.10** dengan Online Meeting Zoom. Mohon mahasiswa dapat login dan mengakses Zoom meeting-id sbb:

Meeting ID: 950 4384 0224

Passcode : sbipb

Link : [https://ipb-university.zoom.us/j/95043840224?
pwd=OWRYVHc1eEtmSHplbEtJYTBkTVZSUT09](https://ipb-university.zoom.us/j/95043840224?pwd=OWRYVHc1eEtmSHplbEtJYTBkTVZSUT09)

Demikian informasinya

The world's most valuable resource is no longer oil, but data

“The data economy is here to stay and is growing at record rates”

Perusahaan besar perlu memahami konsep data dan mendukungnya dengan teknologi yang tepat untuk mencapai eksplorasi data yang benar.

Sumber: McKinsey & Company, “Big Data: The Next Frontier of Innovation, Competition, and Productivity”, 2011

Data-intensive Scientific Discovery

Grafik yang menunjukkan pertumbuhan pengetahuan dan penemuan ilmiah.

Tujuan: Penemuan sains dan teknologi berbasis data yang mendukung eksplorasi data.

Kolaborasi antar peneliti.

Sumber: Higgs, Stewart Tamasy, Anne Teller, Published by Harvard University, 2013

Other Examples

Google

Social media posts, pictures and videos

Twitter, Facebook, LinkedIn, YouTube

Digital marketing

Mobile devices & location records

Mobile phone GPS signals

Bigdata yang paling kena adalah Value, Velocity.....

Business Models

- Represent blueprint on how organization creates resources
- Describe how an organization creates and capture value

How companies can use Big Data to improve internal processes:

- Companies can use Big Data to enrich products, services, and experiences.
- Companies can use Big Data to enrich products, services, and experiences.
- Companies can **monetize** their internal data by selling it to other companies.
- Companies can sell data to other companies.

Source: M. Sander, and H. Heidrich, “Big Data Business Models: A Critical Literature Review and Multiple-case Research Framework”, Journal of Management Information Systems, Vol. 30(3), 2014, pp. 107-145.

Business Models Deployment

Business Model	Current research	Promising areas
BDIM1: Revenue	Value creation	Value delivery
BDIM2: Revenue	Acquiring and retaining customers	Value delivery
BDIM3: Revenue	Offering products and services	Value delivery
BDIM4: Revenue	Managing and protecting data	Value delivery
BDIM5: Revenue	Aggregating and analyzing data	Value delivery
BDIM6: Revenue	Offering BD as a product or service	Value delivery
BDIM7: Revenue	Monetizing data	Value delivery
BDIM8: Revenue	Introducing data products	Value delivery
BDIM9: Revenue	Introducing data products	Value delivery
BDIM10: Revenue	Introducing data products	Value delivery

Source: M. Sander, and H. Heidrich, “Big Data Business Models: A Critical Literature Review and Multiple-case Research Framework”, Journal of Management Information Systems, Vol. 30(3), 2014, pp. 107-145.

Table 3. Summary of review results and emerging research priorities.

Review interest	Current research	Current research gap	Promising area
BDIM1: Revenue	Value creation	Value delivery	Value delivery
BDIM2: Revenue	Acquiring and retaining customers	Value delivery	Value delivery
BDIM3: Revenue	Offering products and services	Value delivery	Value delivery
BDIM4: Revenue	Managing and protecting data	Value delivery	Value delivery
BDIM5: Revenue	Aggregating and analyzing data	Value delivery	Value delivery
BDIM6: Revenue	Offering BD as a product or service	Value delivery	Value delivery
BDIM7: Revenue	Monetizing data	Value delivery	Value delivery
BDIM8: Revenue	Introducing data products	Value delivery	Value delivery
BDIM9: Revenue	Introducing data products	Value delivery	Value delivery
BDIM10: Revenue	Introducing data products	Value delivery	Value delivery

Source: M. Sander, and H. Heidrich, “Big Data Business Models: A Critical Literature Review and Multiple-case Research Framework”, Journal of Management Information Systems, Vol. 30(3), 2014, pp. 107-145.

Complex Data Representation

- Deep Learning is more fitting for heterogeneous data integration due to its ability of learning various factors of data and capturing the relationships between them.
- Deep learning has been demonstrated to be very effective in integrating data from different sources.
- Some multi-model deep learning models have been proposed for heterogeneous data integration.

Source: M. Alipourdehkhani, A. Mousavi, “A Survey on Deep Learning for Big Data Analytics”, International Scientific Journal “Technology”, Vol. 20(2), 2015, pp. 1-15.

Fast moving streaming data

- One of the challenges in big data analytics is dealing with streaming and fast-moving input data.
- The data stream is generated at an extremely fast rate, and its distribution characteristics are in high-speed dynamic changes, which makes it difficult to process.
- Therefore, to handle streaming data, there is a need for algorithms that can deal with large amounts of continuous data.
- In recent years, a lot of incremental learning methods have been presented for high-velocity data feature learning.

Source: M. Alipourdehkhani, A. Mousavi, “A Survey on Deep Learning for Big Data Analytics”, International Scientific Journal “Technology”, Vol. 20(2), 2015, pp. 1-15.

Unscalable computation ability

- It is quite often involves a large number of attributes and many class types of samples, so some frequently used data mining and machine learning algorithms do not work well.
- In order to learn features and representations for large complex data sets, some linguistic deep learning models have been developed.
- They can nearly group into three categories, such as part-of-speech (POS) tagging, named entity recognition, and optimized grouping into clusters.

Source: M. Alipourdehkhani, A. Mousavi, “A Survey on Deep Learning for Big Data Analytics”, International Scientific Journal “Technology”, Vol. 20(2), 2015, pp. 1-15.

Noisy and poor-quality data

- There are a huge number of noisy objects, incomplete objects, and missing values in big data.
- This low-quality data is widespread in big data.
- For example, there are over 90% missing attribute values for a large number of data sets.
- Unlike traditional learning algorithms have obviously not been able to handle missing values.
- On the past few years, some methods have been proposed to treat missing values.

Source: M. Alipourdehkhani, A. Mousavi, “A Survey on Deep Learning for Big Data Analytics”, International Scientific Journal “Technology”, Vol. 20(2), 2015, pp. 1-15.

Sistem manajemen data untuk bisnis, kepentingan teknologi dalam real bisnis yang akan dan sekarang dihadapi, dalam hal ini adalah skala bisnis yang masih kecil.

pemanfaatan BigData dalam manajemen bisnis,

Several open issues and research trends

- Most of the integrated learning algorithms that based on updates of parameters or structure are effective only for a hidden, layer, traditional learning model
- There is a need to research the application possibilities of integrated learning algorithms to deep learning models and deep interaction models.
- It is important to investigate reliable deep learning models for low-quality data in the near future, due to the rapid growth of low-quality data.
- There is a need to develop new parallel and distributed algorithms/frameworks for scalable deep learning models

Source: M. Alipourdehkhani, A. Mousavi, “A Survey on Deep Learning in Big Data analysis”, International Scientific Journal “Technology”, Vol. 20(2), 2015, pp. 1-15.

Health Care

Fig 1. Workflow of Big data Analytics. Data warehouses store massive amounts of data generated from various sources. This data is processed using analytic pipelines to deliver accurate and affordable healthcare services.

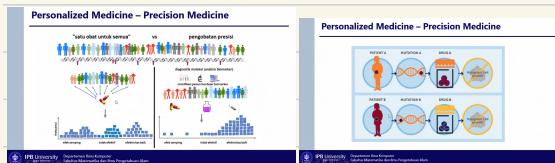
Source: M. Alipourdehkhani, A. Mousavi, “A Survey on Deep Learning in Big Data analysis”, International Scientific Journal “Technology”, Vol. 20(2), 2015, pp. 1-15.

Imprecision Medicine

nature

Imprecision medicine - Time for one person's DNA

Source: M. Alipourdehkhani, A. Mousavi, “A Survey on Deep Learning in Big Data analysis”, International Scientific Journal “Technology”, Vol. 20(2), 2015, pp. 1-15.



Screening of Indonesian herbal. (implementasi deep learning)

Multiscale of Medical System

Time scale: Milliseconds - Years

- Clinical phenome
- Exposome
- Molecular phenome
- Genome to Phenome

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8080033/>

A. Mihai et al., "Data-Driven Strategies in Precision Medicine: Toward a Paradigm Shift in Metabolic Investigations," in *J. Mol. Sci.*, 2018, 37, 170.

Algoritma machine learning AI.

Table 1: List of some of big companies which provide service on big data analysis in healthcare sector		
Company	Description	Web Link
BIG Biotech Health	Provides services on chronic disease and health management, medical device development, and clinical trials.	http://www.biobig.com/
Mediavista	Provides services for advanced measurement solutions, medical device development, and clinical trials along with being able to measure the quality of patient care.	http://www.mediavista.com/
Health Mobility	Provides management software for real-world evidence, medical device development, and clinical trials.	http://www.healthmobility.com/
Risk Analysis	Provides platform for diagnostic test underwriting, medical device development, and clinical trials.	http://www.riskanalysis.com/
Human Health	Provides platform for diagnostics test underwriting, medical device development, and clinical trials.	http://www.humanhealth.com/

Dutta, A. Big Data in Healthcare: opportunities, challenges, and future research. *J Big Data* 2019;6:14.

IPI University
Departemen Biostatistik dan Pengembangan Data

Diskusikan

- Andalkan anda/tim anda bergerak di bidang pengembangan perangkat lunak. Pemerintah menginginkan dibangunnya Healthcare System untuk Penanganan Covid-19 secara komprehensif.
- Diskusikan dengan tim anda dan buatlah rancangan Big Data Analytics untuk Sistem Healthcare penanganan Covid-19
 - Tunjukan fitur-fitur penting dari rancangan anda dan bagaimana Deep Learning digunakan dalam rancangan tersebut
 - Presentasikan rancangan anda dalam waktu 5-10 menit. Dilanjutkan dengan diskusi.
 - Presentasi dan diskusi dilakukan pada sesi ke-2 sore

> Rancangan Big data analisis

- Memanfaat data penyebaran virus Covid.
- Google mobility.
- Teknologi BIG data

> Fitur-Fitur

prediksi analisis data covid di masing-2 daerah.

> Presentasi

1. Rancangan Big Data Analytics:

- Teknologi big data analysis digunakan untuk melakukan tracking dengan data yang bersifat actual dan terkini, serta menganalisis dan memprediksi sejauh mana covid menyebar di masyarakat serta dampaknya.

Mekanisme penanggana COVID-19 memanfatkan big data salah satu contohnya adalah situs web dan aplikasi ponsel yg dapat diunduh

Contohnya adalah google mobility, apple mobiliy, peduli lindungi

2. Fitur-fitur penting dari rancangan:

- Mengidentifikasi data penyebaran orang terinfeksi covid-19
- Menganalisis dan memprediksi sejauh mana covid-19 dapat menyebar di masyarakat dan dampaknya.

Yth Mahasiswa E82/E81/R67 (Pendalaman Manajemen Sistem Informasi),

Dengan ini kami sampaikan informasi untuk Kuliah **MKP1 - SMDB hari Sabtu, 11 November 2022**, sbb:

[MKP1 - SMDB Sesi 11-12] Dr. Wisnu Ananta Kusuma

Kuliah pk **13.30-17.10** dengan Online Meeting Zoom. Mohon mahasiswa dapat login dan mengakses Zoom meeting-id sbb:

Meeting ID: 934 5239 0144

Passcode : sbipb

Link : [https://jpb-university.zoom.us/j/93452390144?
pwd=cmdoMGIIl3BIUG00OGIOOTVMyjZkdz09](https://jpb-university.zoom.us/j/93452390144?pwd=cmdoMGIIl3BIUG00OGIOOTVMyjZkdz09)

Informasi dari Pa Wisnu, mahasiswa mohon mempersiapkan presentasi tugasnya



Pembahasan kelompok, persentasi mengenai Design

Thinking dari bigdata untuk memecahkan masalah.

Kelompok 1.

waze? kelebihan waze. Gmapas dapat melakukan community report.

Berapa sample?

> toko bahan makanan

> apotek.

> tempat kerja? Mana datanya.

> rumah? mn datanya.

Mengapa variable berkendara dan berjalan dibandingkan? (tema mobilitas publik dan persebaran covid)

penelitian terlalu general, mungkin bisa dipersempit, dengan langsung melihat hubungan antara pembatasan mobilitas publik dengan persebarannya. sebaiknya langsung melihat pada titik lokasi seperti stasiun dan titik2 tertentu.

paper bukan merupakan persebaran, tetapi mitigasi dan pembatasan mobilitas. (tapi mengapa yang di ekspose adalah variable yang berkendara)

Perbaikan seperti apa yang akan dilakukan?

Kelompok 2.

"Big data dalam perekrutan karyawan."

Literatur. > Memberikan definisi dr setiap variable penelitian.

Kelompok 3.

Aplikasi Big Data epidemi Covid.

Tujuan dari paper apakah sudah tercapai?

membuat makalah harus menghindari kata2 "untuk pengembangan selanjutnya" karena paper harus konkret.

Clausal analisis, dapat menjadi argumen dalam pembuatan sebuah paper/makalah dengan tujuan menegaskan penelitian/kajian dari paper telah tercapai.

Kel. 4.

Big data GoJek.

Masukan:

- Apakah ada pertimbangan lain dr pemerintah dalam melakukan keputusan tsb.
(Pertimbangan data analisis lain).
- Perjelas masalah angka (data2)
- Perjelas mengenai Bigdata Gojek.
- Data yang dialkurasikan/elaborasi selain dr Non goJek?

UAS. SCPK > kumpul paper 2 lembar plus masukkan file jurnal.

Yth Mahasiswa E82/E81/R67 (Pendalaman Manajemen Sistem Informasi),

Dengan ini kami sampaikan informasi untuk Kuliah MKP1 - SMDB hari Sabtu, 26 November 2022, sbb:

[MKP1 - SMDB Sesi 13-14] Dr. Arif Imam Suroso

Pembicara Tamu : Fiza Anwar Sharif, S.Kom, MM

Kuliah pk 13.30-17.10 dengan Online Meeting Zoom. Mohon mahasiswa dapat login dan mengakses Zoom meeting-id sbb:

Meeting ID: 941 0855 5596

Passcode : sbipb

Link : <https://ipb-university.zoom.us/j/94108555596?pwd=c3FDcWpBc2t3cDB6Ykx3RXhyMnFiZz09>

Demikian informasinya

Terima kasih

Best Regards,

Tamu : Fiza Sharif

Tema Big data.

SB-IPB Opening | Lecturer



Fiza Sharif Skom, MM.

- Education:
 - Mater in Business Administration/Management - IPB University
 - Business Administration/Management - Ganesha University
- Certification:
 - Project Management Professional (PMP)
 - Information System Auditor (ISA)
 - Certified Data Center Professional (CDCP)
 - Computer Network Professional (CNP)
 - Cloud Certified Network Associate (CCNA)
- Professional Experience:
 - Data, Digital & Cloud Manager - PwC SE Consulting
 - Telecommunications Project Manager - PT. Telkomsel
 - Project Manager - PT. Telkomsel
 - Service Delivery Manager - Metro Digital Media (Telkom Subsidiary)
 - IT Project Manager - Shakti Investors / MNC Group

- To uplift student's understanding of typical Big Data Architecture
- To provide a point of view to student on a Big Data Process & Framework
- To introduce Big Data technology used today
- To introduce Big Data Use Case in industrial best practices



SB-IPB Section 1: Introduction to Big Data | Overview



Small Data vs Big Data

The diagram illustrates the difference between Small Data and Big Data. On the left, under 'Small Data', there is a funnel icon with a single data point at the top, labeled 'DATA POINT'. Below it is a bar chart icon labeled 'DATA POINTS'. A red circle with a white 'VS' symbol is positioned between the two. To the right, under 'BIG DATA', there is a funnel icon with many data points at the top, labeled 'DATA POINTS'. Below it is a bar chart icon labeled 'DATA POINTS'.

Data Lake adalah gudang penyimpanan yang dapat menyimpan data terstruktur, semi-terstruktur, dan tidak terstruktur dalam jumlah besar. In! adalah tempat untuk menyimpan semua jenis data dalam format aslinya tanpa batas tetap pada ukuran atau file akun. In! menawarkan kuantitas data yang tinggi untuk meningkatkan kinerja analitik dan integrasi asli.