



**BANK INDONESIA**  
BANK SENTRAL REPUBLIK INDONESIA

# EMPOWERING PUBLIC-PRIVATE DATA PARTNERSHIP FOR DATA ON DIGITAL ECONOMY: CASE OF BANK INDONESIA



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*The views expressed here are those of the authors and do not necessarily reflect the views of Bank Indonesia*

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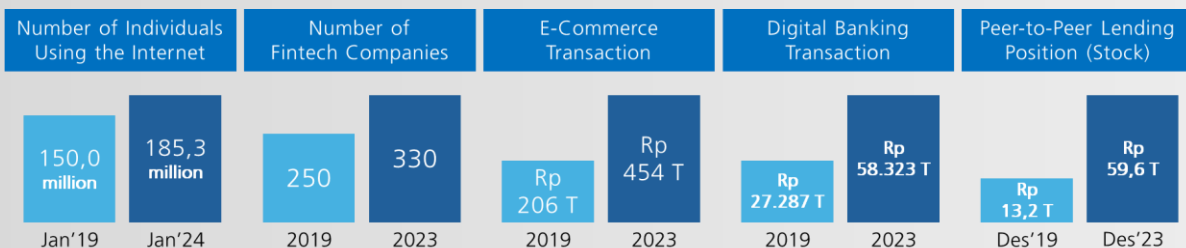
CONCLUSION



# WHAT ARE FACTORS THAT DRIVE PUBLIC - PRIVATE DATA PARTNERSHIP?

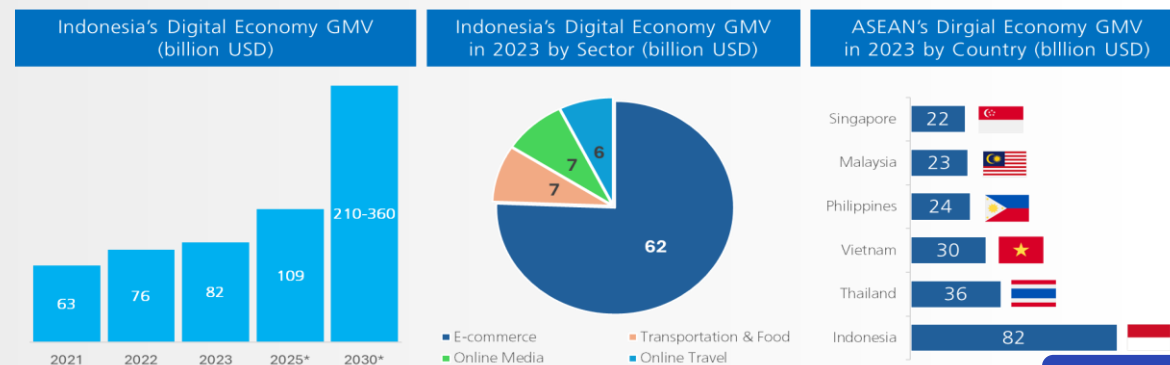
- In the digital era, **data has become a crucial asset**, offering valuable insights and competitive advantages, but **private sectors have exclusive control**.
- Digitalization is transforming various aspects of life, particularly in Indonesia's economic and financial sectors, where digital transactions and innovations in banking and fintech are increasingly replacing or complementing traditional methods.
- **Indonesia's digital economy, led by e-commerce sector, is the largest in Southeast Asia and is projected to grow significantly, reaching up to USD360 bio by 2030.**
- Central banks face increasing complexity and uncertainty in their strategic environment, requiring continuous innovation in policy formulation, implementation, and supervision. **This challenging task requires central banks' ability to adopt and optimize the use of data to support policy including to fulfill the needs of data through public-private partnership.**
- For this paper we choose to use definition from (Susha et al., 2019) and combine it with our focus in this paper which is public-private or business to government (B2G) data partnership. Thus, the definition we use is, **data-driven partnership between actors from public and private sectors to leverage data from different parties, at any stage of its lifecycle for public benefit in policy and science.**

## THE DEVELOPMENT OF INDONESIA'S DIGITAL ECONOMY



Sources: BI, Indonesia Financial Services Authority (OJK), Indonesia Fintech Association (AFTECH), We are social

## DIGITAL ECONOMY IN INDONESIA AND ASEAN



Sources: Google et al. (2023)

# METHODS OF DATA COLLECTION

## METHODS OF DATA COLLECTION

Internal data	External data				
	Voluntary		Mandatory	Commercial	Publicly accessible
Data integration from internal systems	Data partnership (G2G, B2G, B2Gs)	Survey	Regulatory reporting	Data purchase / subscription	Public API
		Direct request			Web scraping

Surveys and direct requests can be voluntary or mandatory, depending on the context.

- BI is empowered by law to perform **data collection, data processing, and data dissemination**, which need to be directly tied to the fulfilment BI's mandates on monetary, payment systems, and macroprudential policy.
- Based on this legal basis, several options are available and have been employed by Bank Indonesia to collect data, including: **data collection (i.e. integration) from internal systems , regulatory reportings , surveys, direct requests to external parties, data partnerships, data purchases/subscriptions, other methods such as web scraping and public APIs**

## When might B2G Data Partnership be the most suitable method for data collection?

- No alternative data collection is available
- Private data serves as a proxy and validation of existing indicators
- Data private is outside of direct authority of the central bank
- Few large players

The Statistics Department of BI has established **21 data partnership agreements** with various public (G2G) and private (B2G) institutions.

The primary objective is to **foster collaborations** that enable BI to **leverage external data sources**, thereby **providing valuable insights for policy formulation**.

### 6 G2G Data Partnerships

Ministries/Government Agencies  
e.g. National Statistics Office (BPS), Ministry of Finance

### 15 B2G Data Partnerships

E-commerce, Ride Hailing Services, Online Travel Agents, or Online Portals

# BUILDING PUBLIC - PRIVATE DATA PARTNERSHIP



# DATA PARTNERSHIP ARRANGEMENT PROCESS

APPS as stages for data partnership  
arrangement process..

1

## Agreeing the partnership

- Identification of needs
- Identifying potential partner
- Developing formal agreements

2

## Processing the data

- Developing technical infrastructure
- Operational framework

3

## Protecting the data

- Implementing data governance
- Ensuring security measures

4

## Sustaining the partnership

- Fostering collaboration
- Maintaining communication





# USE CASE: DATA PARTNERSHIP WITH DIGITAL ECONOMY PLAYERS

## E-commerce Indicator

E-commerce & FinTech growth indicators that provides transaction dynamics and prompt indicators of consumption and investments activities, spatial dimension of transactions, structure of consumer preferences, and dynamics of goods and services prices.

**Data Sources:**  
Several largest digital economy  
players in Indonesia

**Methodology:**  
Data Mining on granular data  
(transaction)

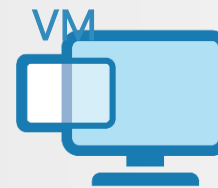
**Data Frequency:** Monthly



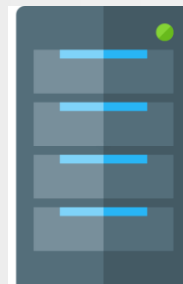
### Data Acquisition



File Sharing from  
E-Commerce



Virtual Machine



**CLUDERA**  
Data Platform

### Pre-Processing

- Data transformation
- Category product mapping
- Location seller & buyer mapping
- Payment method mapping

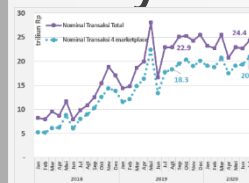


### Processing

- ETL table payment
  - ETL table transaction
  - ETL table transaction detail
- ETL: Extract Transform Load*



### Analysis



# CHALLENGES IN PUBLIC-PRIVATE DATA PARTNERSHIP

## COST BENEFIT ANALYSIS

- Establishing and maintaining these partnerships requires approaching each potential partner individually to negotiate agreements.
- This process can be time-consuming and resource-intensive, as it involves assessing the potential benefits against the costs for BI and for each partner.
- Dedicated personnel are essential to navigate these negotiations effectively and ensure that the partnerships are beneficial for all parties involved.

## COMMUNICATION

- Clear and effective communication is essential to reconcile the needs of one party with the data available from another.
- Effective communication strategies must be employed to align with **value proposition that benefits all data partners** and ensure mutual understanding.

## CONTINUITY AND UNIFORMITY DATA

- Consistent data flow and structure are crucial for the reliability and usability of the shared data.
- The possibility of termination of the partnership, e.g. because of management or business strategy changes in the partner.

## TECHNOLOGY

- **Technology** plays a vital role in ensuring the integrity, governance, security, and access of shared data in B2G partnerships.
- Implementing robust technological solutions is essential for maintaining trust among partners.
- These solutions must also support compliance with relevant regulations governing privacy and protection of sensitive information.

## SCALING AND EXPANDING PARTNERSHIP

- Successful public-private data partnership can be scaled up to involve more data sources or expand the scope of data sharing.
- This requires careful planning and management to ensure that the expanded partnerships remain effective and beneficial for all parties involved.



# CONCLUSION

This paper discusses the evolution of the digital economy and the data revolution, highlighting the **necessity for policy-makers to collaborate with businesses in gathering new datasets.**

Public-private data partnerships are deemed **inefficient and ineffective for data collection unless no other methods are available**, with specific conditions outlined for their suitability.

We have successfully **established several public-private data partnerships for digital economic activity data**, regularly used for policy-making, but sustaining these partnerships can be challenging. To build this partnership required a **4-stage process: Agreeing, Processing, Protecting, and Sustaining (APPS).**

Going forward we will likely **continue to explore more public-private data partnerships**, as the data that they offer provide us with unique insights hardly attainable elsewhere



# Thank You!

