CHALLENGES: BETWEEN WHAT IS AND WHAT SHOULD BE

CURRENT CONDITION

Official Statistics of Indonesia is Already High Quality, however:
- Not meeting all user needs.
- Limited estimation (only a few surveys reach district/municipality level).
- Limited collection frequency.

Respondent Burden
- Overlapping surveys/reporting (internal & external).
- Low respondent awareness.
- Too many and rigid questions.
- Inappropriate timing of data collection.

Internal Burden
- Too many business-based surveys.
- Output lag differences.
- Use of multiple applications.
- Overlapping schedules
- Limited human resources.
- Administrative difficulties due to overlapping schedules.

DESIRED CONDITION

Data Quality Improvement
- Expanded coverage for all business categories
- Estimation at provincial level
- Quarterly and annual data collection

Currently, the available indicator is GDP, but additional measures are needed such as production performance, employment absorption, and profit margins.

Reducing Respondent Burden
- Implementation (developing) of communication strategies
- Non-overlapping surveys
- Methodology development and SBR profiling
- Instrument integration supported by modules/supplements

Reducing Internal Burden
- Reducing the number of surveys
- Integrated instruments
- Integrated schedules
- More accurate HR mapping
- Simplified administration through non-overlapping schedules and assignments

BETTER

FASTER

CHEAPER

EASIER

CHALLENGES AND GREAT OPPORTUNITIES
BPS MUST UNDERGO TRANSFORMATION

BPS Moving Up a Level

Presidential Regulation No. 1 of 2025

- ✓ **Strengthens BPS's role** (equivalent to a Ministry) in supporting data-based policy and enhances BPS's capacity in managing national statistical functions.
- ✓ Enables BPS **to lead the provision of accurate and integrated national statistics** (effective from January 20, 2025).

Transformation of National Statistics

Statistical Modernization

- ✓ Shift from conventional practices to the use of technology (e.g., Big Data, AI).
- ✓ **Integration of various BPS surveys with administrative data to reinforce official statistics.**

First-Ever Milestone in History

National Single Data on Socioeconomic Conditions (Based on Presidential Instruction No. 4 of 2025)

- ✓ BPS receives and integrates data by name by address from ministries/agencies to produce national single data used for **targeting government programs**.
- ✓ BPS reported this milestone achievement to the Minister of National Development Planning/Head of Bappenas, the Coordinating Minister for Human Development and Cultural Affairs, and the Minister of Social Affairs.

"The higher you soar, the stronger the wind you face;
the faster the world changes, the quicker we must take steps."

CONVENTIONAL PRACTICE IN STATISTICS

Conventional Practice

Standard or traditional way of doing something that has become widely accepted over time.

Why we need move on?

It is more time-consuming and expensive.

The data revolution is creating a demand for adaptive data provision

- *More Timely*
- *More Granular*
- *More Relevant*

TRANSITION FROM CONVENTIONAL PRACTICE...

Full Enumeration Census	➜ Registered-Based Census
Paper-Based Surveys & Face-to-Face Interviews	➜ CAPI, CATI, CAWI
Large-Scale Sample Surveys	➜ Big Data Analytics & Small Area Estimation (SAE)
Manual Data Processing	➜ Optical Character Recognition (OCR, Machine Learning & Artificial Intelligence
Printed Statistical Reports	➜ Statistical Dashboards & Open Data Portals, API-Based Data Access
Decennial Census	➜ Dynamic & Continuous Data Collection using Administration Data

STATISTICAL BUSINESS FRAMEWORK AND ARCHITECTURE (SBFA)

Since 2016, BPS has been committed to modernizing its statistical business processes, as outlined in the **Statistical Business Framework and Architecture (SBFA).**

SBFA is a strategic blueprint for modernizing BPS's statistical production processes that:
- ✔ provides guidance for integration and standardization with modern technology
- ✔ implements the Generic Statistical Business Process Model (GSBPM) as its framework, and
- ✔ sets out eight core principles to be achieved in the long term.
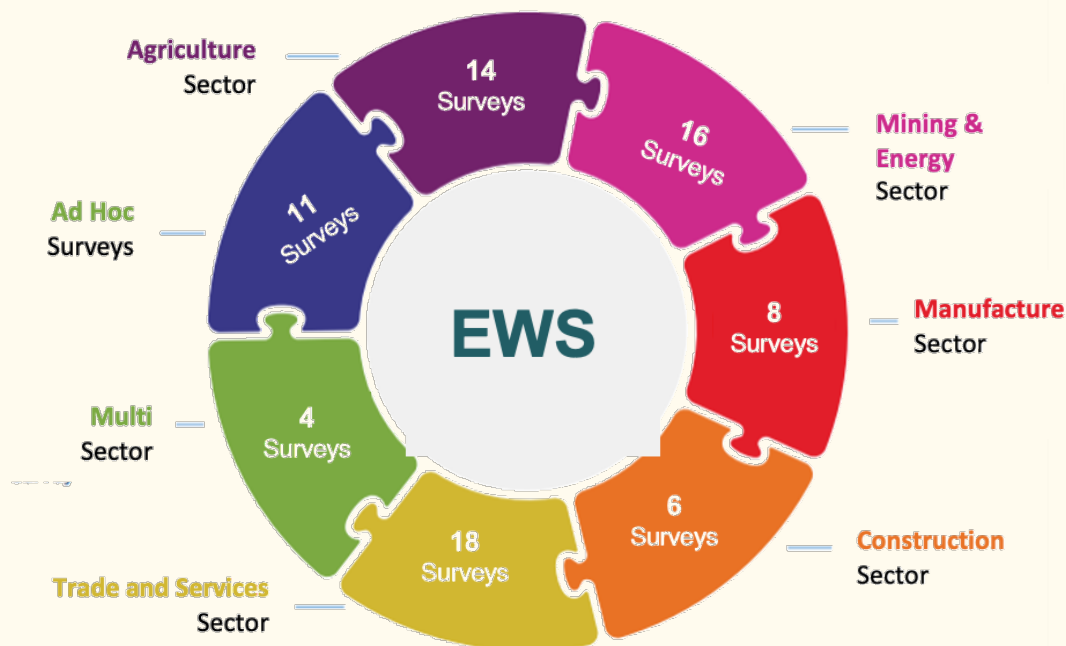
CORE PRICIPLES OF SBFA

→ **Integration for National Accounts & Macro Statistics** :
National Accounts and Macro Statistics are the primary beneficiaries for statistical integration

→ **Multi-purpose surveys**: *Each survey serves multiple purposes*

→ **Preference for administrative data**:
Preference for registration and administrative data over surveys

→ **Integrated survey operations**

→ **Use of SBR & LBU**: *Integrated Business Register and Large Business Unit*

→ **Recentralization of IT**: *Recentralise IT away from subject matter areas*

→ **Paperless data collection**: *Use paperless data collection*

→ **Continuous surveying**

From the eight key principles, **the challenges for BPS** are:
- ✔ Meeting the needs of National Accounts and Macro Statistics (1)
- ✔ Reducing the number of surveys (3)
- ✔ Integrating survey operations (4)

MODERNIZATION IN ACTION: LESSONS FROM BPS-STATISTICS INDONESIA

ECONOMY WIDE SURVEY (EWS):
DRIVING BUSINESS-BASED SURVEY INTEGRATION AT BPS-STATISTICS INDONESIA

> The Economy Wide Survey (EWS) is the rationalization of business-based surveys that consolidates **several routine BPS surveys (77) into a single integrated activity** covering all categories of economic activity, with the main objective of **measuring Indonesia's economic performance through the lens of enterprises**.

Agriculture Sector — 14 Surveys

Mining & Energy Sector — 16 Surveys

Ad Hoc Surveys — 11 Surveys

EWS

Manufacture Sector — 8 Surveys

Multi Sector — 4 Surveys

Trade and Services Sector — 18 Surveys

Construction Sector — 6 Surveys

STATISTICAL BUSINESS REGISTER (SBR):
THE BACKBONE OF BUSINESS STATISTICS

> **The Statistical Business Register (SBR)** is a structured and regularly updated list of economic units, managed by BPS for statistical purposes. SBR can also serve as an **integrated business registration database**.

Role of SBR

→ **Sampling Frame**
SBR data is used as the sampling frame for business/enterprise-based surveys.

→ **Minimum Sample**
SBR data is used as the basis for calculating the minimum sample size for business/enterprise-based surveys.

→ **Business Statistics Demography**
Live SBR data can be used as a reference for business statistics demography.

Data Sources

✔ **Administrative data:**
As part of data integration and towards an integrated business-based census.

djp | MINISTRY OF TRADE REPUBLIC OF INDONESIA | |
Kementerian Perindustrian REPUBLIK INDONESIA | KEMENKOPUKM |
LKPP Lembaga Kebijakan Pengadaan Barang/Jasa Pemerintah | Pendataan Lengkap KUMKM2023 KOPERASI DAN USAHA MIKRO, KECIL, DAN MENENGAH

✔ **Statistics:**
Sourced from censuses, surveys, and profiling

NATIONAL SINGLE DATA ON SOCIOECONOMIC CONDITIONS (DTSEN): FOUNDATION FOR SOCIAL PROTECTION AND INTEGRATED NATIONAL DEVELOPMENT

Presidential Instruction No. 4 of 2025 concerning DTSEN
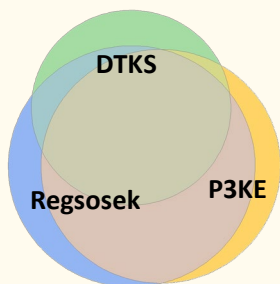
DTSEN is a **single database of individuals and/or households** containing the socioeconomic conditions of Indonesia's population and has been matched with population data.

✓ DTSEN **integrates three socioeconomic datasets**: Regsosek, DTKS, and P3KE.*

DTKS

Regsosek   P3KE

Utilization of DTSEN for Program Interventions

Decile 10	Top 10% with the **highest welfare**
Decile 9	
Decile 8	
Decile 7	
Decile 6	
Decile 5	
Decile 4	
Decile 3	
Decile 2	
Decile 1	Bottom 10% with the **lowest welfare**

- ✓ DTSEN provides data on all households (not only the poor), **ranked by their welfare level** (Deciles 1–10).
- ✓ This enables Ministries/Institutions/Regions **to target various program**s, as mandated by Presidential Instruction No. 4 of 2025.

MOBILE POSITIONING DATA (MPD) UTILIZATION: TURNING MOBILITY INTO TOURISM INSIGHTS

" Mobile Positioning Data (MPD) is **location data generated from mobile device signals**, which can be used to monitor population mobility, tourist travel patterns, or movement during disasters.

1 Domestic Tourism

Number of trips based on *Origin and Destination Matrix* (ODM)

2 Inbound Visitor

Number of visits at the national border

3 Outbound Tourism

Proportion of outbound trips by country of destination

Fully traditional survey

- ✓ Initially attached in the Socio Economy Survey.
- ✓ Using independent direct interview survey from 2017 until 2019

MPD Utilization

- ✓ Utilize mobile positioning data **to obtain mobility data**
- ✓ Study initially in 2016 with MoT to obtained cross-border inbound data
- ✓ 2018-2019, BPS studied of MPD utilization for domestic tourism
- ✓ 2020 **officially used as new source data for official statistics** to complement digital surveys.

*Regsosek: Socio-Economic Registration, **DTKS**: Integrated Social Welfare Data, **P3KE**: Acceleration of Extreme Poverty Eradication

... and many more.

AI'S IMPLEMENTATION ALREADY HAPPENING

Specify Need	Design	Build	Collect	Process	Analyze	Disseminate	Evaluate

Quality Assurance Framework through Quality Gate*

Meaningful and Impactful Statistics

Relevancy	Accuracy
Timeliness and Punctuality	Coherence and Comparability
Accessibility	Interpretability

AI/AI-POWERED APPLICATION

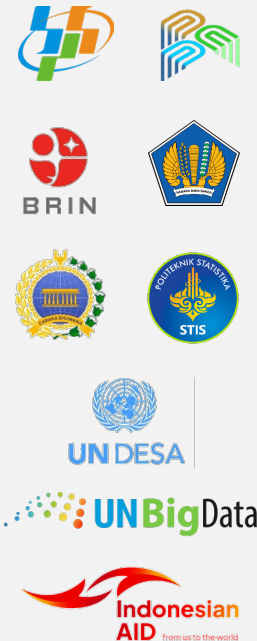| ISIC Classifier	Chatbot AI-Powered	Data Collection Instrument Builder	Data Analytical Software
FASIH	Bung Itung	FASIH	IPAS

UN HUBS FOR BIG DATA AND DATA SCIENCE

The Regional Hub for Big Data in Indonesia aims to support Asia-Pacific countries by **strengthening their capacity to modernize the use of big data for official statistics**, with a particular focus on human resource readiness. Indonesia's long-standing regional cooperation serves as a foundation for these initiatives.

Indonesia will be a catalyst for the development of big data and data science for official statistics in Asia and the Pacific, with the support and collaboration with all parties

The Establishment of Regional Hub
24 Nov 23

Webinar on Rice Estimation using Earth Observation Data
6 Feb 24

Webinar "From MPD to Official Statistics: A Journey"
22 Mar 24

✓ Data Cube training
✓ Field visit (West Java)
✓ Technical discussion
2 - 16 Jul 24

Web Scraping Prices for CPI Training Program
May-Sept 24

Workshop "Machine Learning for Official Statistics"
3 - 7 Feb 25

Pilot Project MPD for Official Statistics
2026

21-24 Nov 23
Workshop "Introduction to Remote Sensing and Land Cover Classification"

4-8 Mar 24
Technical Workshop from ESCAP & FAO

7 Jun 24
Expert round table – webinar (ESCAP & Global Experts)

29 Jul-2 August 24
Workshop "MPD Processing and Analytic for Official Statistics"

Jul-Sept 24
Datathon in Collaboration with Prospera and ABS

2025
Executive Training & Short Course MPD for Official Statistics

STATISTICAL REFORM IN INDONESIA:
STRENGTHENING THE LAW, KEEPING PACE WITH CHANGE

SUPPORT FROM THE UN STATISTICS DIVISION (UNSD)

Strengthening the role and responsibilities of National Statistical Offices to adapt to the evolving data ecosystem and to advance the Sustainable Development Goals (SDGs).

United Nations ⊕ Nations Unies

OFFICE OF THE DIRECTOR
STATISTICS DIVISION (UNSD)
DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
TWO UNITED NATIONS PLAZA, DC2-1670, NEW YORK, NY 10017
TELEPHONE NO: 1 (917) 367-4130; FAX NO: 1 (212) 963-9851
Internet location: unstats.un.org/unsd

DESA/STAT 244   21 June 2022

Dear Mr. Yuwono,

Re: Access to administrative data and big data for official statistics

I am pleased to provide you with information on the developments in recent years regarding the changing data landscape in society and the corresponding adjustments in the role and responsibilities of the community of official statistics. As will be outlined below, an essential change is that a national statistical office nowadays needs to acquire access to administrative and private sector data, which will enable the office to deliver more timely, more detailed and therefore more relevant statistics amid a rapidly changing socio-economic environment.

Indonesia is currently in the **process of drafting the Statistical Bill** in collaboration with the Legislature to ensure that it is **aligned with current developments and needs.**

1

Data Acquisition
*Obtaining **copies of data** from the original source **without transferring or taking over the ownership** rights of the data.*

Examples of Data Acquisition Issues:
1. Mobile Positioning Data (MPD) for Tourism Statistics.
2. Data Administration for Updating DTSEN.

2

Provision of National Statistical Infrastructure and Development of a Statistical Data Center

There is a need to provide BPS-Statistics Indonesia with greater authority to independently own and manage the Statistical Data Center.

3

*Expanding the BPS-Statistics Indonesia's authority to **exchange microdata by name by address** with Ministries/Institutions for development program purposes, e.g. social assistance.*

Note:
Under Law No. 16 of 1997 on Statistics, BPS only disseminates aggregated macro data. This requires change.

"To support the emerging data ecosystem, NSOs need, in particular, to strengthen their operational processes and develop their digital capabilities."

— OECD / PARIS21, Digital Transformation of National Statistical Offices

"National statistical offices can only respond to the challenges by embracing the changes brought about by the digital era through digitization and modernization of the office."

— The Digital Era and Data