National Statistical Office

SDMX Innovation: Enhancing Data's Value

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Referring to the proposal of
- Ms. Natthamon Mayurasakhon and
- Mr. Veerapat Taweesapaya

Session "Innovation in SDMX data visualization"
9th SDMX Global Conference
28 Oct - 2 Nov 2023

Contents

- Background of Thailand NSO in data exchange

- Experience in working on SDMX

- SDMX Innovation in TNSO

- Chalenges

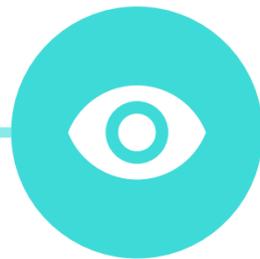- Future Work

Background

SDG (2015-2030)

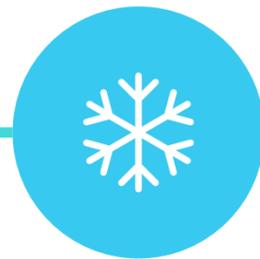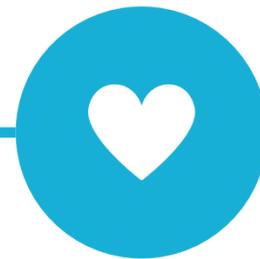**statXchange version 1.0**

The UNSD-DFID Project for MDGs exchange

Implementing SDMX in statXchange version 2.0

- **Implementing SDMX with our new platform**
- **The KSTA-9646 Data for Devlelopment Phase II Project for SDGs exchange**

stat✗change

2010 ⭐

2013 👁

2014 ❄

2020 ❤

2022 ⭐

2023 🎤

2013

National Statistical Office Thailand — "ADVANCED XML TECHNOLOGIES FOR STATISTICAL APPLICATIONS IN SUPPORTING SDMX"

"ADVANCED XML TECHNOLOGIES FOR STATISTICAL APPLICATIONS IN SUPPORTING SDMX"

BANGKOK , THAILAND 14-18 October , 2013

2022

Statistical Data and Metadata eXchange (SDMX) and Data Structure Definition (DSD) Customization — November

2023

Experience in working on SDMX

- ✓ The Mission of TNSO's Statistical Data Services
- ✓ Driving Data Governance in Thailand
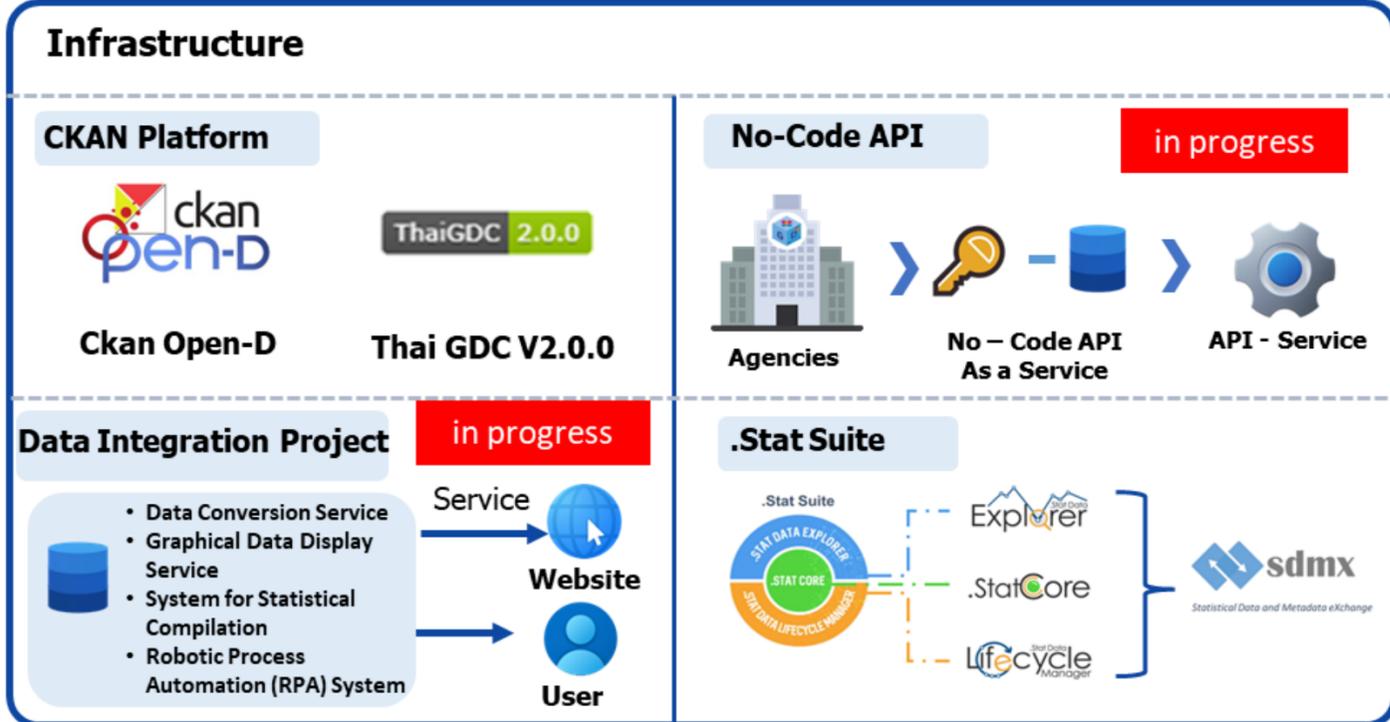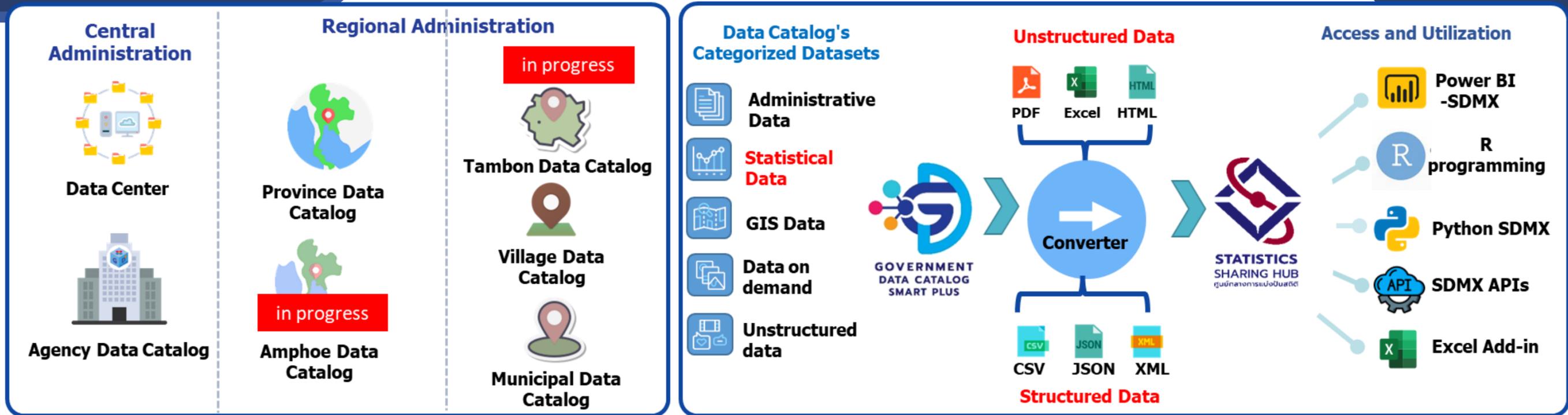- ✓ Exchanging SDGs with International Organizations

Statistics Sharing Hub

The National Statistical Office has established the Statistics Sharing Hub platform to efficiently exchange and share international indicators, national strategic data, and official statistics in accordance with SDMX standards, in alignment with the national strategic goals.

STATISTICS SHARING HUB
ศูนย์กลางการแบ่งปันสถิติ

Experience in working on SDMX

Central Administration

Data Center

Agency Data Catalog

Regional Administration

Province Data Catalog

in progress
Amphoe Data Catalog

in progress
Tambon Data Catalog

Village Data Catalog

Municipal Data Catalog

Data Catalog's Categorized Datasets

Administrative Data

Statistical Data

GIS Data

Data on demand

Unstructured data

GOVERNMENT DATA CATALOG SMART PLUS

Converter

STATISTICS SHARING HUB ศูนย์กลางการแบ่งปันสถิติ

Unstructured Data

PDF Excel HTML

CSV JSON XML

Structured Data

Access and Utilization

Power BI -SDMX

R programming

Python SDMX

SDMX APIs

Excel Add-in

Infrastructure

CKAN Platform

ckan Open-D

ThaiGDC 2.0.0

Ckan Open-D

Thai GDC V2.0.0

No-Code API

in progress

Agencies

No – Code API As a Service

API - Service

Data Integration Project

in progress

- Data Conversion Service
- Graphical Data Display Service
- System for Statistical Compilation
- Robotic Process Automation (RPA) System

Service

Website

User

.Stat Suite

.Stat Suite

Explorer

.StatCore

Lifecycle Manager

sdmx
Statistical Data and Metadata eXchange

The government digital standard of guidelines for public sector data catalog (มรด. 3-1/2565)
The government digital standard on guidelines for public sector data registration (มรด. 3-2/2565)
Statistical Data and Metadata eXchange : SDMX

Service ▶ **https://stathub.nso.go.th/**

Explorer

Codelists

https://sdmx.nso.go.th

User can select dimensions as needed

Table
Chart
Download
Developer API
Share

SDMX Innovation in TNSO

Enhancing the Utilization of Data from the Statistics Sharing Hub

1. **Creating an Interactive Dashboard with Microsoft Power BI**
2. **Chatbot on https://directory.gdcatalog.go.th**

SDMX Innovation in TNSO

Data Visualization (Using MS Power BI)

We learned how to connect data and leverage it from online social media.

We share and collaborate to further enhance the utilization with our colleagues.

We collaborate in creating data visualization both at the central level and in the statistical offices of 76 provinces.

K P I

TNSO sets **KPIs** for the statistical offices of 76 provinces to create dashboards by pulling data from the Statistics Sharing Hub **(SDMX APIs)** and the Government Data Catalog **(CKAN APIs).**

The data visualization created must be able to align with both the national and regional-level strategies.

Examples of our results

SDMX Innovation in TNSO

example: https://www.nso.go.th/nsoweb/nso/interactive_view/7J

Data Visualization (Using MS Power BI)

SDMX APIs enable quick, accurate, and flexible access to data for use in various applications and services.
They also facilitate data processing, automatic updates, and collaboration for efficient data utilization."

All of our data visualizations have been published on the Government Data catalog and the website of the National Statistical Office.

Work in Progress

SDMX Innovation in TNSO

Chatbot on https://directory.gdcatalog.go.th

The Thai NSO aims to maximize public access to data. To achieve this, we have taken the following steps:

1. We have integrated a chatbot that **retrieves data from the Statistics Sharing Hub** and publishes it on the directory.gdcatalog.go.th website.

2. This website operates within the framework of **the government's mobile application**.

3. We initiated the initial phases by retrieving **population and migration datasets** from the Statistics Sharing Hub.
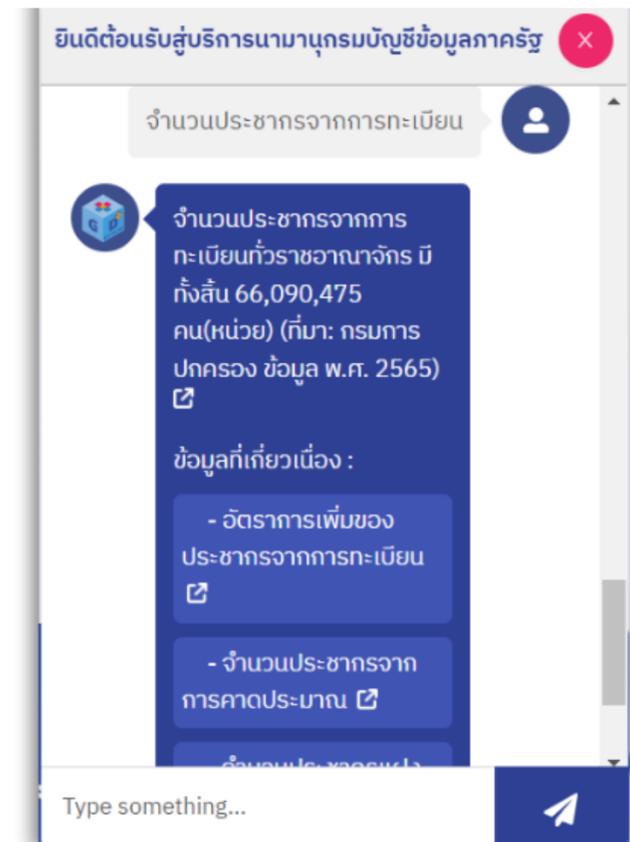
Challenges

The effort and hard work

The process of collecting and managing statistical data from multiple sources and structuring it according to SDMX standards is time-consuming and requires a significant amount of human resources as well as training and assimilation by newcomers.

Adapting to Rapid Tech Advances and User Data Demands

Managing evolving technology and meeting user data demands is a continual challenge, and staying synchronized with technological advancements is crucial.

The Future work

We will enhance systems and tools to efficiently gather and format statistical data from various government agencies into structured, SDMX-compliant data, employing these four systems.
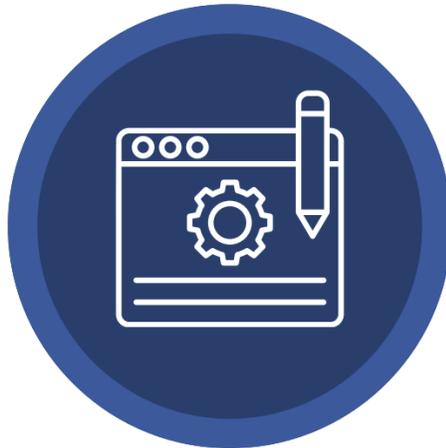
Data Conversion Service

Supporting government agencies in transforming unstructured data into structured data through a central service.

Graphical Data Display Service

Enabling government agencies to present data in their preferred format for visualization.

System for Statistical Compilation

Collecting statistics from primary data sources to create standardized structured datasets within the National Statistical Office's Statistics Sharing Hub.
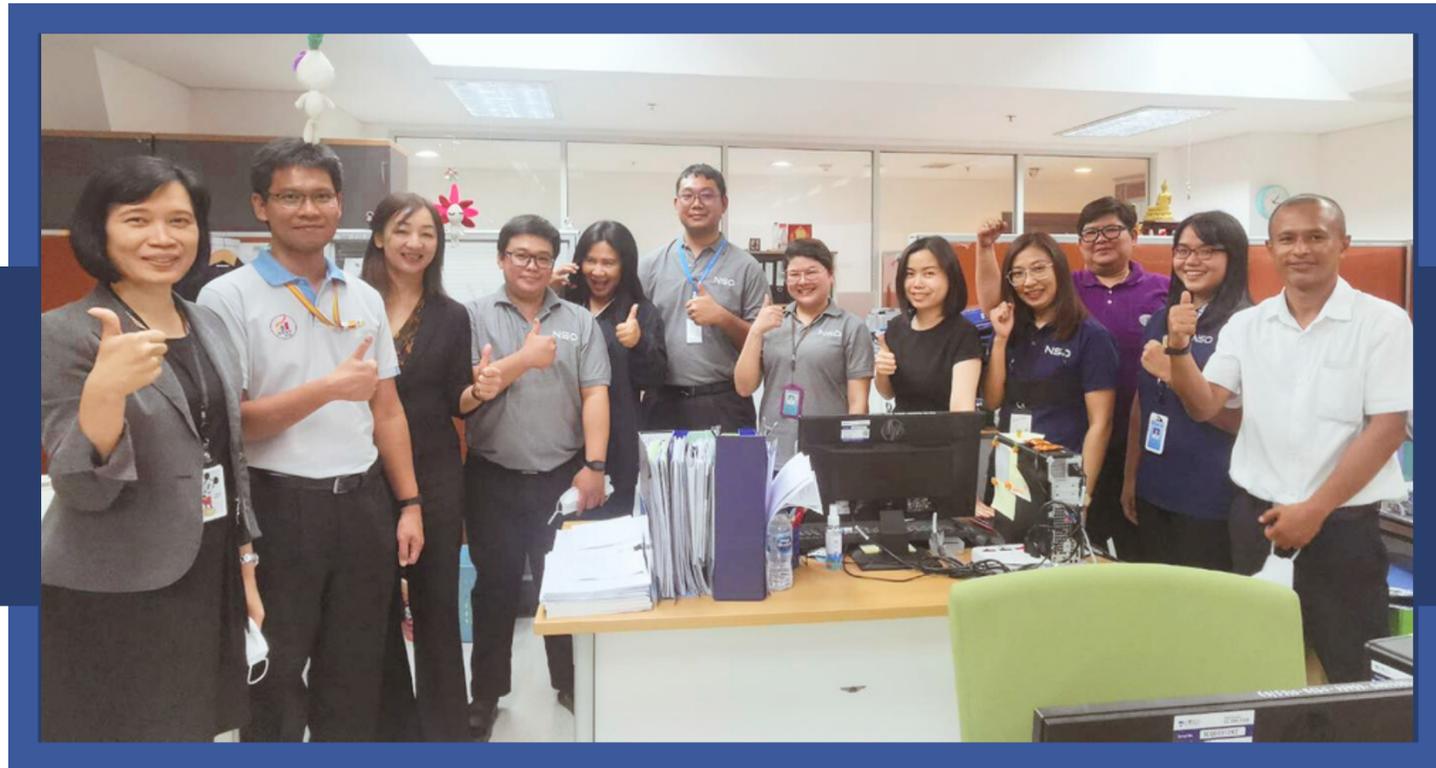
Robotic Process Automation (RPA) System

Utilizing RPA tools for automated statistical data collection from public sector agencies

THANK YOU

National Statistical Office

STATISTICS SHARING HUB
ศูนย์กลางการแบ่งปันสถิติ

Visit Our Website:
https://stathub.nso.go.th