



BUILDING A GROWTH-FRIENDLY TAX ENVIRONMENT

# The 2nd Conference of Belt and Road Initiative Tax Administration Cooperation Forum

## —Digitalization of Tax Administration

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BUILDING A GROWTH-FRIENDLY TAX ENVIRONMENT

# Implementation of Data Analytics In Directorate General of Taxes

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Transfer Pricing

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# Part 01

## **Data Analytics**

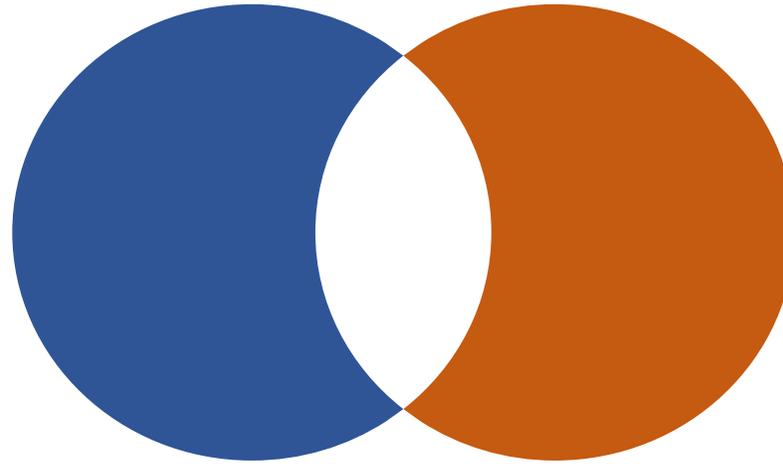


# Big Data Analytics

## Big Data

Capacity to capture, gathering, store, accessing, and analyze high volume, high velocity, high variety data structured and unstructured.

Data Warehouse, ETL Workbench, Webscraping, Graph Database



## Analytics ( Data Science )

Capacity to extract valuable knowledge/ pattern / insight / model from data

Python, Machine Learning, Data Visualisation, Business Intelligence

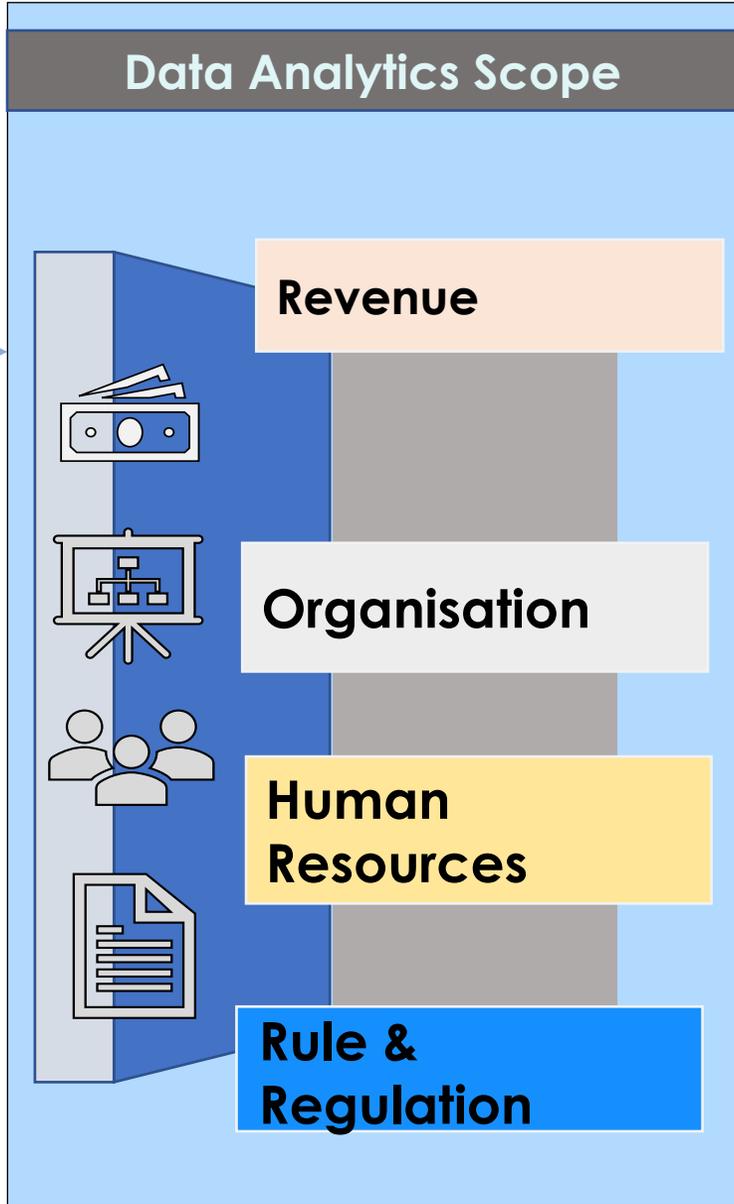
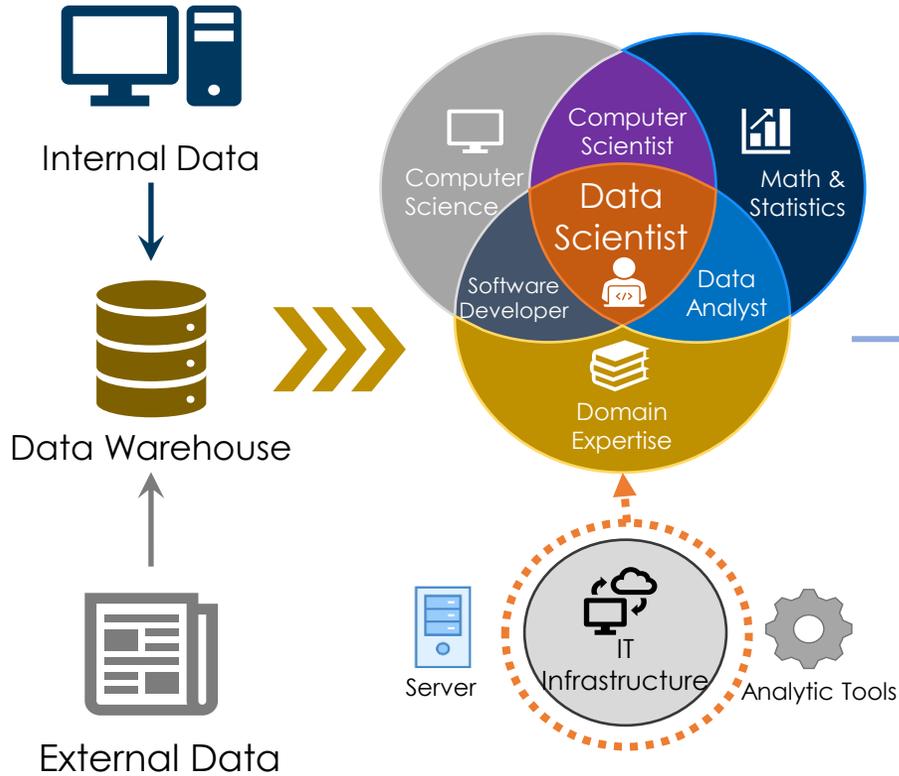
Factors	Big Data	Analytics (Data Science)
Concepts	Handling large data	Analyzing data
Responsibility	Process huge volumes of data and generate insights	Understand pattern within data and make decisions
Industry	Telecommunication, e-commerce	Sales, advertisements

**Big Data Analytics = Big Data + Data Science**



# BUILDING A GROWTH-FRIENDLY TAX ENVIRONMENT

## Data Analytics Workflow



- CRM Transfer Pricing ✓
- SmartWeb ✓
- Ability To Pay ✓
- Trigger Data ✓
- Tax Return Prefiling/ Online Analytics ⚙️
- Office Structuring ⚙️
- Taxpayer Organising ⚙️
- Personnel Profile ⚙️
- Assignment Pattern ⚙️
- Research Based Policy ⚙️



*toward data-driven organization*



# Development on Revenue Data Analytics

## Analytics Process

Context Establishment

Risk Variables Identification

Exploratory Data Analysis

Modelling

User Interface Design & MockUp

Deployment

Monitoring

Evaluation

## Metodology dan Technique

Data Matching

Natural Language Processing (NLP)

Classification  
(LightGBM, etc)

Clustering  
(K-means & K-modes)

Social Network Analysis (SNA)

Graph Data Science

## Product



## Interface





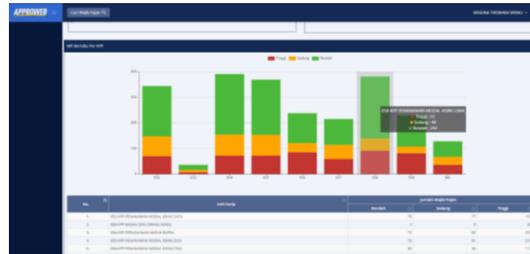
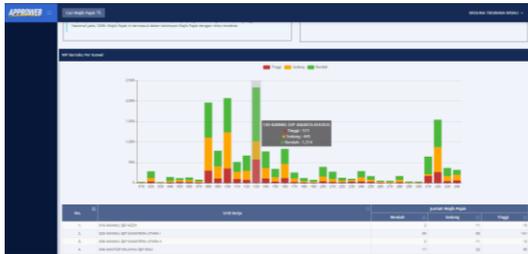
# Part 02

## Compliance Risk Management Transfer Pricing

## Compliance Risk Management Transfer Pricing



### Dashboard:



Use to tackle BEPS issues (esp. in accordance with BEPS Action Plan 8, 9, 10)

Provide managerial overview:

- Nation-wide
- Regional Office
- Tax Office

about number of Taxpayer in **High**, **Medium**, and **Low** Transfer Pricing Risk



Output:  
Prioritisation over which taxpayer to be analysed further regarding Transfer Pricing based on the risk

### Risk Map:



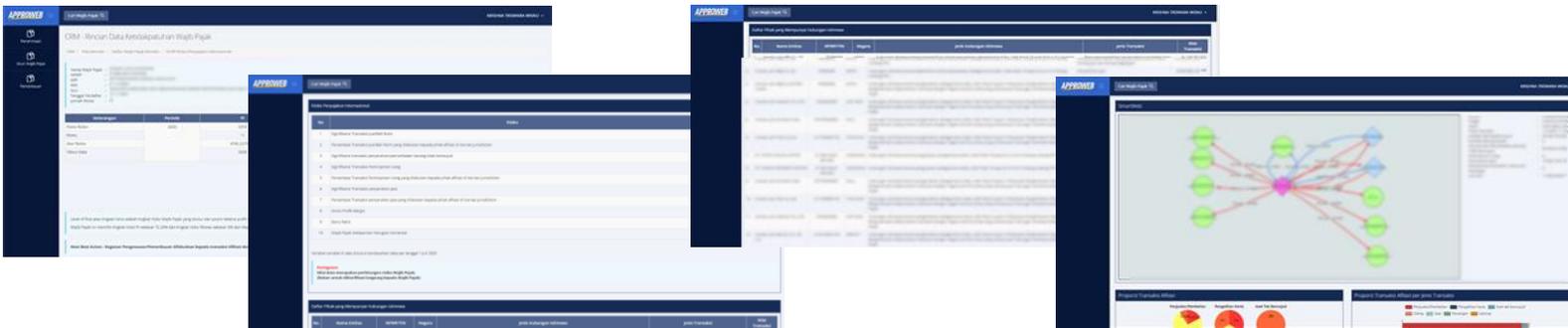
Fit each taxpayer with affiliated transaction into 9 group with different level of risk.

It also can be viewed in tabular format.



Outcome:  
Improving tax compliance

### Detailed Risk Profile:



Provide current and historical level of risk, next best action recommendation, variables of non-compliance and case guidance, list of affiliated transaction, and transaction schema (Smartweb)

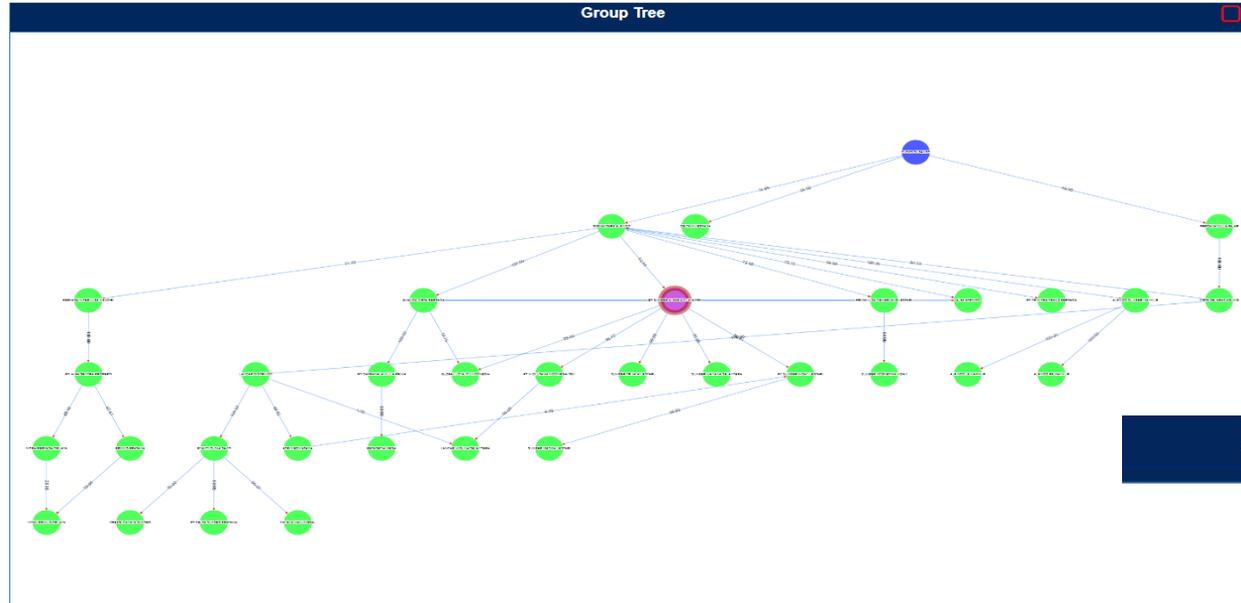
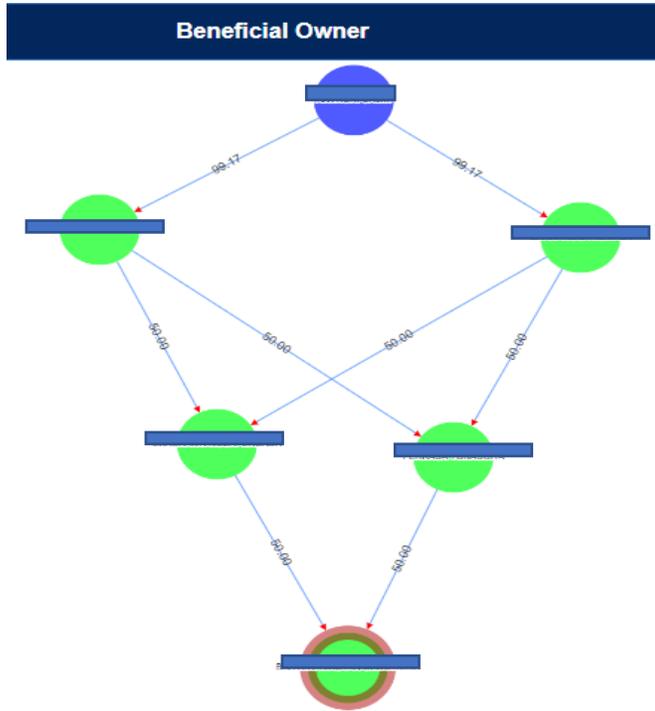


# Part 03

## Smartweb



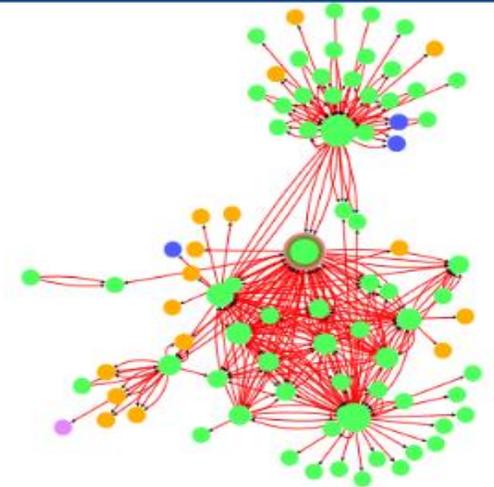
The **graph database analytics** – which will be used to represent complex networks – to handle terabytes of data relating to entities (nodes) and their relationships (edges).



Group Tree Mapping & Visualization

Affiliation Transaction with n-layer

**Jaringan Bisnis**



Identification Beneficial Owner until UBO

Smartweb can handle predicting and identification BO until UBO, mapping the group and visualise their relationships.



# Part 04

## **Ability Two Pay**



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## Ability To Pay (ATP)

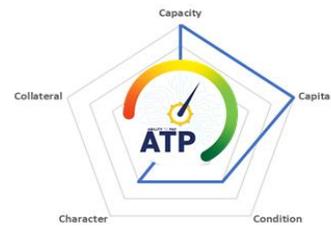


- ATP is an indicator that provides a predictive of taxpayers' ability to pay based on historical data
- ATP uses scoring based on 5C analysis (Capacity, Capital, Character, Condition and Collateral) to provide an overview of taxpayers' ability to pay which is divided into 5 levels, namely very low, low, moderate, high, and very high.

### Method

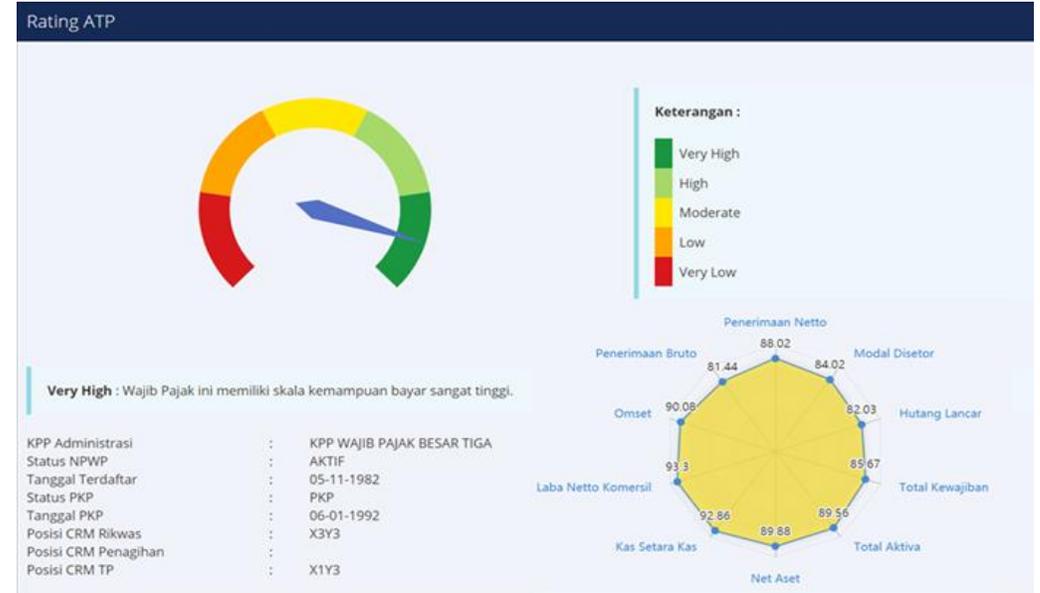


- Capacity**: Gross Payment, Net Payment, Turnover, Net Commercial Income, Cash
- Capital**: Equity, Current Liabilities, Liabilities, Total Assets, Net Asset
- Character**: OJK Financial Information, VAT status, Tax Return Status, Business Lifetime, Bank's Credit Collectibility
- Condition**: Smartweb Data
- Collateral**: \*) Collateral Assets



\*) Will be applied in the next ATP development

### User Interface Features



### Tax Supervisory Usage



There are **129.105** taxpayer supervisory analysis that have not been followed up with **Moderate-Very High ATP Level** and total **initial potential** more than **Rp81 billion** that should be prioritised



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**THANKS**