Ministry of Finance of Republic of Indonesia
Directorate General of Taxes

The Fourth BRITACOF, September 11-13, 2023, Tbilisi Georgia

Digital Transformation in Optimizing The Tax Business Environment

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Disruptive Technology

An innovation that uproots an established technology, or a revolutionary product or a service that spawns a new industry

Source: whatIs.com

Disruptive technology has the power to change the way of work, live, think, and behave

The Trends

1. Mobile-First to AI-First
2. Personalization and Customization
3. Meatless Meat
4. Personal Data Value Platforms
5. As-a-service model
6. Sustainability become a major feature in innovation
7. Voice based virtual assistants become ubiquitous
8. Step towards industry 4.0 and The factory of future
9. Blockchain comes of age
10. Improved Decision Making with Prescriptive Analytics
11. CRISPR-Clustered Regularly Inter-Spaced Palindromic Repeats
12. Convergence
13. Commercial Drone and UAVs
14. Diversity becomes a major boardroom issues
15. Growing Interest of Digital Twins
16. Spatial Computing augments the real world
17. Renewable and Clean Energy near tipping point
18. Increased cross sector innovation

https://www.forbes.com/forbes-insights

Global forces are reshaping tax authorities across the world

Global **growth shifting** to the east

In 2010, 17% of Fortune Global 500 companies were in emerging regions. By 2025, this number will reach 46%.

Changing sentiment toward **global trade**

The number of trade-restrictive measures in various countries is on the rise, potentially clogging world trade.

Emergence of the **gig economy**

According to a survey by the McKinsey Global Institute, if all workers pursued their preferred working style, the total independent workforce in the EU-15 and the United States could grow from 162 million up to 268 million.

Rapidly rising **automation**

Globally, half of jobs could be automated by 2055—or earlier.

Digital transactions replacing cash

In Kenya, more than 90% of adults transact money through the M-Pesa platform.

Cyberthreats on the rise

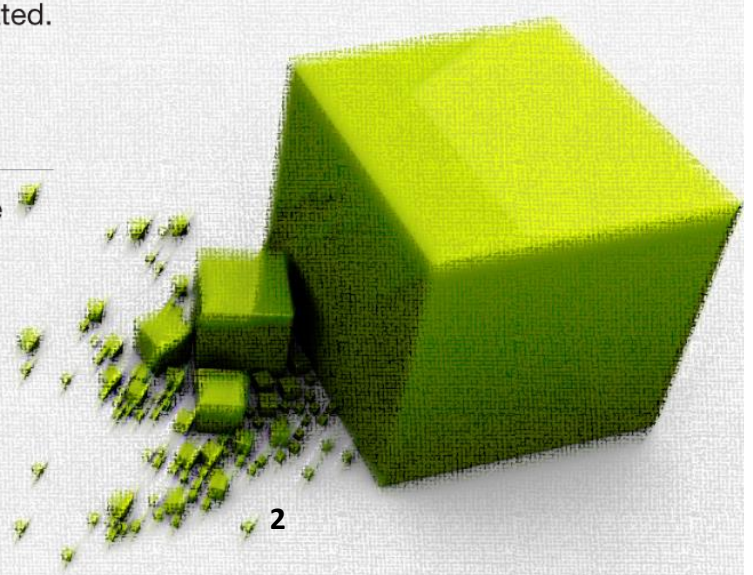
Cyberattacks on US federal agencies alone increased from ~5,500 in 2006 to ~77,000 in 2015.

Explosion of data from variety of devices

In the past 2 years, 90% of the data currently in the world has been generated.

Digital platforms playing growing role in tax administration

Small businesses increasingly use external vendors for payroll management and tax payments, including Intuit's Payroll, Gusto, SurePayroll, and OnPay.



McKinsey&Company | **Source:** Press search; World Bank; McKinsey Global Institute analysis

Who are our customers?

Digitally mature taxpayers

- Widespread powerful computing capabilities;
- Increased connectivity and changing communication patterns;
- Heightened digital service delivery expectations;
- Expect guidance and do not want to understand the process;
- Expect to be served rather then informed;
- Changing perception of privacy;
- (Some might never shift to digital)

Customer segments

- Taxpayer types;
- Behavior patterns;
- Younger generation are taxpayers of tomorrow;
- Tax intermediaries.

Meeting taxpayer expectations?

E-services

- Grouping tax services around life event of taxpayers;
- Integrating tax services into taxpayers natural environment: software, communications platforms;
- Cooperation with vendors;
- Customer involvement in development and testing;
- Customer journeys;
- Certainty of service;
- Mobile and end-to-end.

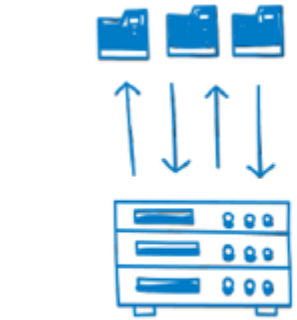
Broad service ecosystem

- Official government channels are not the only source of information;
- New communication environment;
- People self-organize and depend on social networks, groups, forums and etc;
- Consistent services with seamless switching across all channels and platforms.

Reliable data

- Supporting tax payment and/or filing online and confirmation therof;
- Displayed online and in real time or near realtime;
- Confidence about how tax administrations use taxpayer data;
- Quality verification and feedback;
- Data privacy.

IT to Transform Business Model



Government adapts its services according to the way people use technology

Traditional model of providing IT services

Government | Enterprises | People

The government defines the way people use technology

Specific Devices, Enterprise Applications

Development cycles less that one year

Model based on the consumerization of IT

What the Tax Authority can learn from: Facebook, Twitter, Skype, iCloud, OneDrive

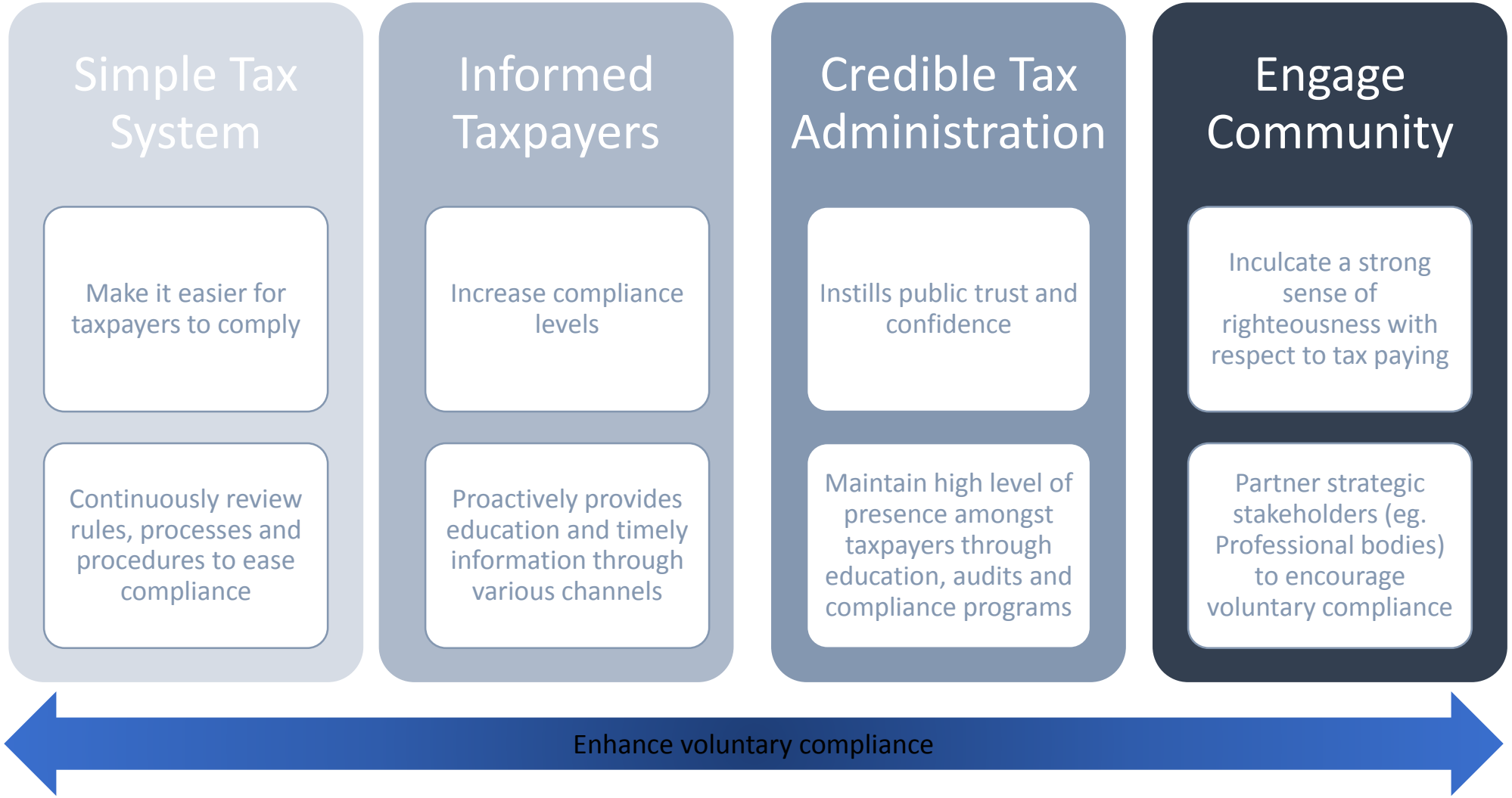
Government | Enterprises | People

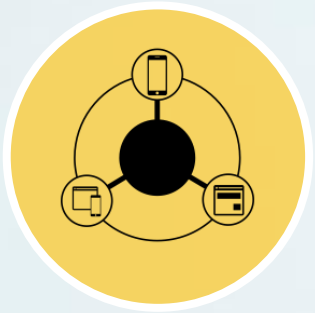
What the Tax Authority can learn from services that are born in the Cloud: UBER, Salesforce, Netflix

Rich Experience

Digital Transformation of Tax Administration, PWC, 2017

Strategic Pillars of a Good Tax System



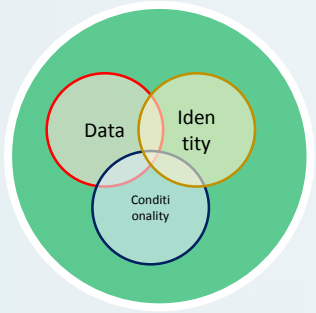


Migrated to Digital Ecosystem

A digital ecosystem is complex network of people, businesses, and systems that use technology to interact with one another. Such digital ecosystems are significantly different from traditional business ecosystems. This is because they takes advantage of physical layers (devices), the information layers (data), and the application layers (apps).

An integrated and interoperable system can be defined as the degree to which different systems of an organization or several organizations are interconnected and are capable of communicating to each other.

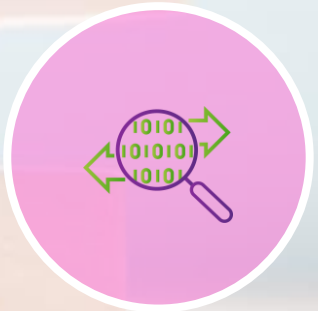
Establish Integrated and Interoperable System



Establish Digital Auto Regulated System

This is a super system condition, where the data required for tax imposition flows naturally from every transaction carried out by the taxpayer. Various tools are available for tax officials to monitor the process in the form of an integrated dashboard

Deep analytics is the application of sophisticated data processing techniques to yield information from large and typically multi-source data sets that may contain not only structured data but also unstructured and semi-structured data.



Deep Analytics

Cyber Security

Cyber security is the practice of defending computers, servers, mobile devices, electronic systems, networks, and data from malicious attacks. It's also known as information technology security or electronic information security. We know that tax data has a very high value and is the target of various parties. Therefore, tax data security is an important part of digital transformation.

Talent management includes all the ways that organizations bring employees on board, keep them happy and productive, and help them continue to develop their skills over time. One of the keys to success in carrying out digital transformation is that people enjoy being involved in the system and feel helped by the system

Talent Management

CASE : DEEP ANALYTICS

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Discovering Tax Potency in Social Media Analytics

September 2023

KemenkeuTepercaya

Background

- **Social media influencer has indeed become a profession in Indonesia**

→ As it has in many other countries around the world. Influencers in Indonesia have a large following on platforms such as Instagram, YouTube, and TikTok, and they use these platforms to share content with their followers and engage with their audience

- **Social media influencers revenue calculation based on CPM (*Cost Per Miles*) and Engagement Rate**

→ *CPM* is a common metric used to calculate the revenue earned from advertisements on YouTube, while Engagement Rate metric used to calculate the revenue earned from Instagram and Tiktok

- **Social media endorsers / marketers revenue calculation based on Computer Vision**

→ System needs advance technology to imitate human ability to detect object from social media content
→ Computer Vision is powerful to detect and classified goods endorsers / marketers from massive amount of social media content

- **There are indications that several Content Creators are doing Tax Avoidance / Evasion**

- **There is potential to significantly increase state tax revenues**

Our Investigation

Total Social Media Users in Indonesia

277.7 Million Users

- **YouTube**

139 Million Users

- **Facebook**

129.9 Million Users

- **Instagram**

99.15 Million Users

- **TikTok**

92.07 Million Users

- **Twitter**

18.45 Million Users

“Top 50 Indonesian YouTubers have a potential tax of up to Rp. 1 trillion per year.”

- **Simposium Nasional Keuangan Negara 2020**

Challenges

Social Media

Accurate Data Regards to

- Person profile
- Subscriber/Follower
- View hour
- AdSense amount

Content/Creator

- Expensive/Luxury Purchase
- Fake account
- Social Media Shop/Showcase

National Economy

Tax Avoidance / Evasion

- Posting pictures or videos of lavish vacations or expensive purchases, not reporting the income or assets that paid for them.
- Sharing links to offshore bank accounts or other financial institutions that can help people hide their wealth and evade taxes.
- Creating fake profiles or accounts to launder money or conceal financial transactions.
- Connecting with other individuals or groups online who are also involved in tax evasion schemes.

Potential for a large amount of Content Creator Tax (more than Rp. 1 Trillion per year)

Technology

Previous Method to Estimate Tax Potency

- Simple web scrapping (only small amount of social media influencers)

Currently there is no technology to analyze tax potency from social media users

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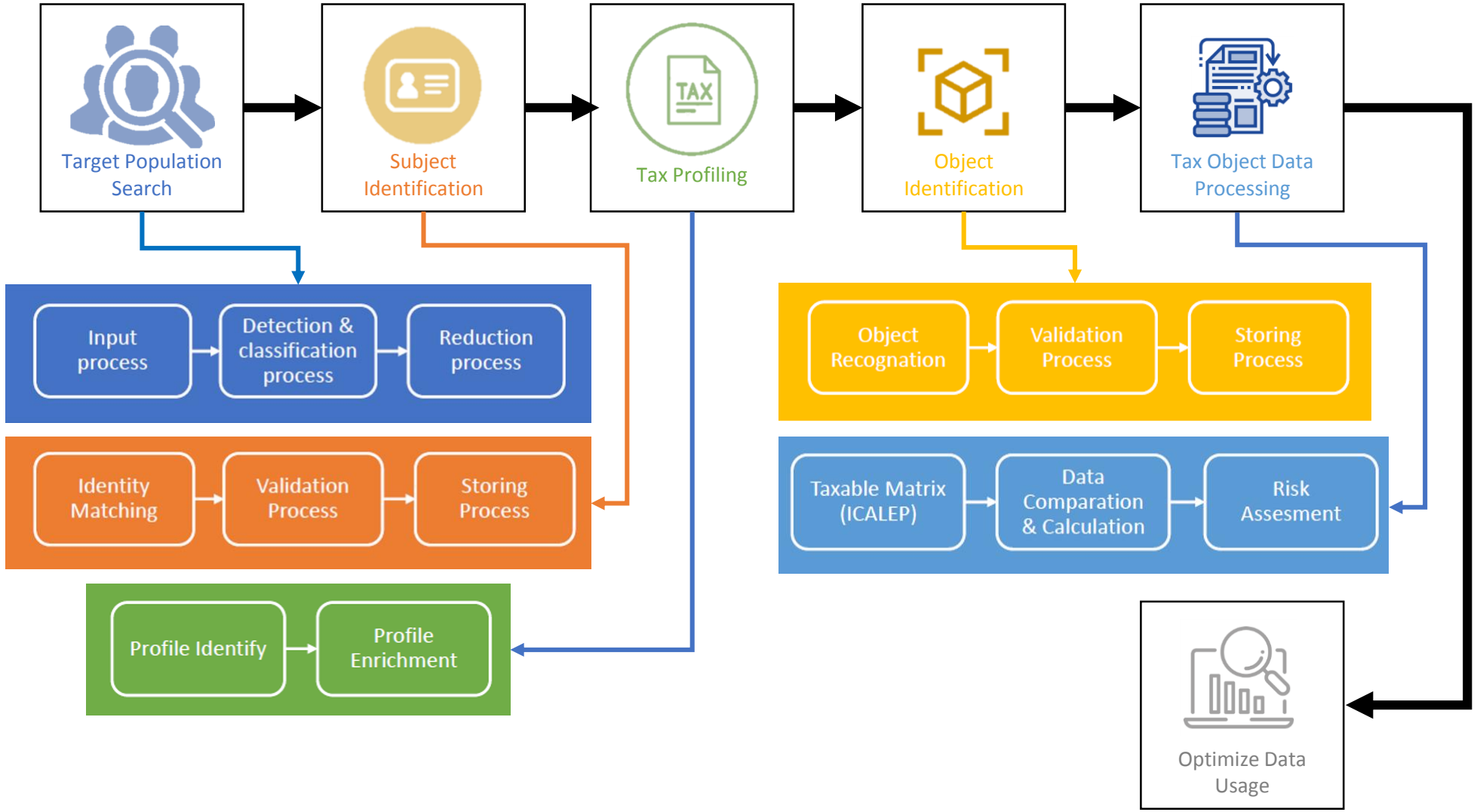
Objective

Approach and Benefits

Objectives	Approaches	Benefits
Data Crawler	• Gathering data all over the data sources • Select and integrate the relevant data	• Create dataset from social media for further analysis • Optimize the process of analysis
Computer Vision	• Applying enrolled personal information data to match social media content • Applying larga dataset of goods to detect possible assets from social media content	• Detect possible entities behind social media content • Enabling system to valuate possible asset detected in social media content
Social Media 360	• Connecting all the relevant data. • Applying **graph algorithms** to the connected data to find out the 360 degrees of view	• Obtaining a comprehensive overview of social media account • Understanding the social media account activity
Entity Resolution	• Applying **graph algorithms** to the connected data to find out the fake social media account • Applying **graph data science** (GDS) algorithm and Intelligent Tools framework to analyze the real ownership of social media account	• Understanding the patterns of ownership of social media account • Identifying the real ownership of social media account
Tax Potency Prediction	• Applying **graph data science** (GDS) algorithm and Intelligent Tools framework to discover tax potency from social media users	• Discover tax potency from each social media users • Calculate the estimate value of overall tax from social media users

Our Data

Analytics Process Flow



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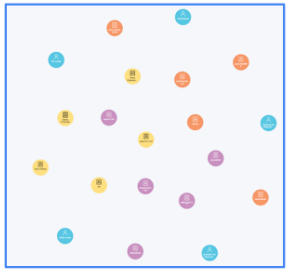
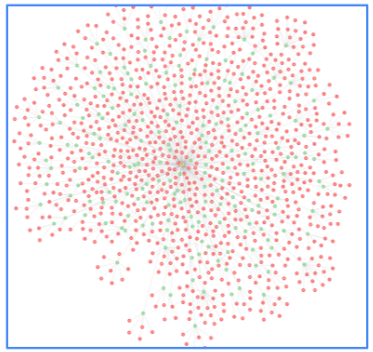
Demo Design

Use Case Development Journey

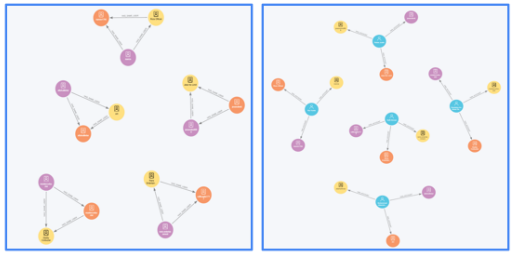
Crawling Data → Social Media 360 → Entity Resolution → Tax Potency Prediction



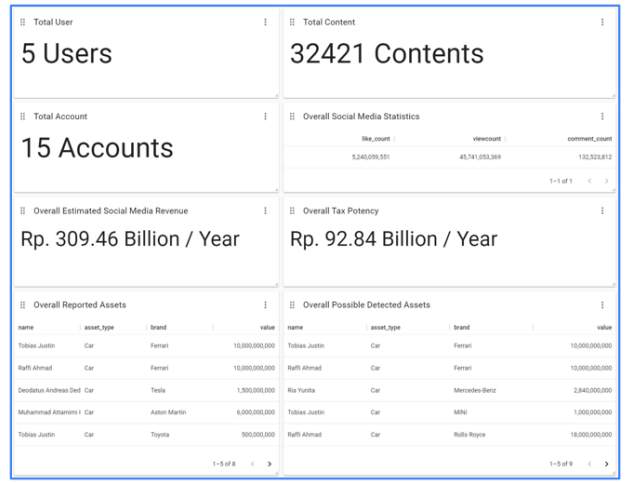
Get information regards to social media user and account



Provides a trusted, single view of social media network



Find the real ownership of each social media account



Predict tax potency from each social media user and account on different platforms

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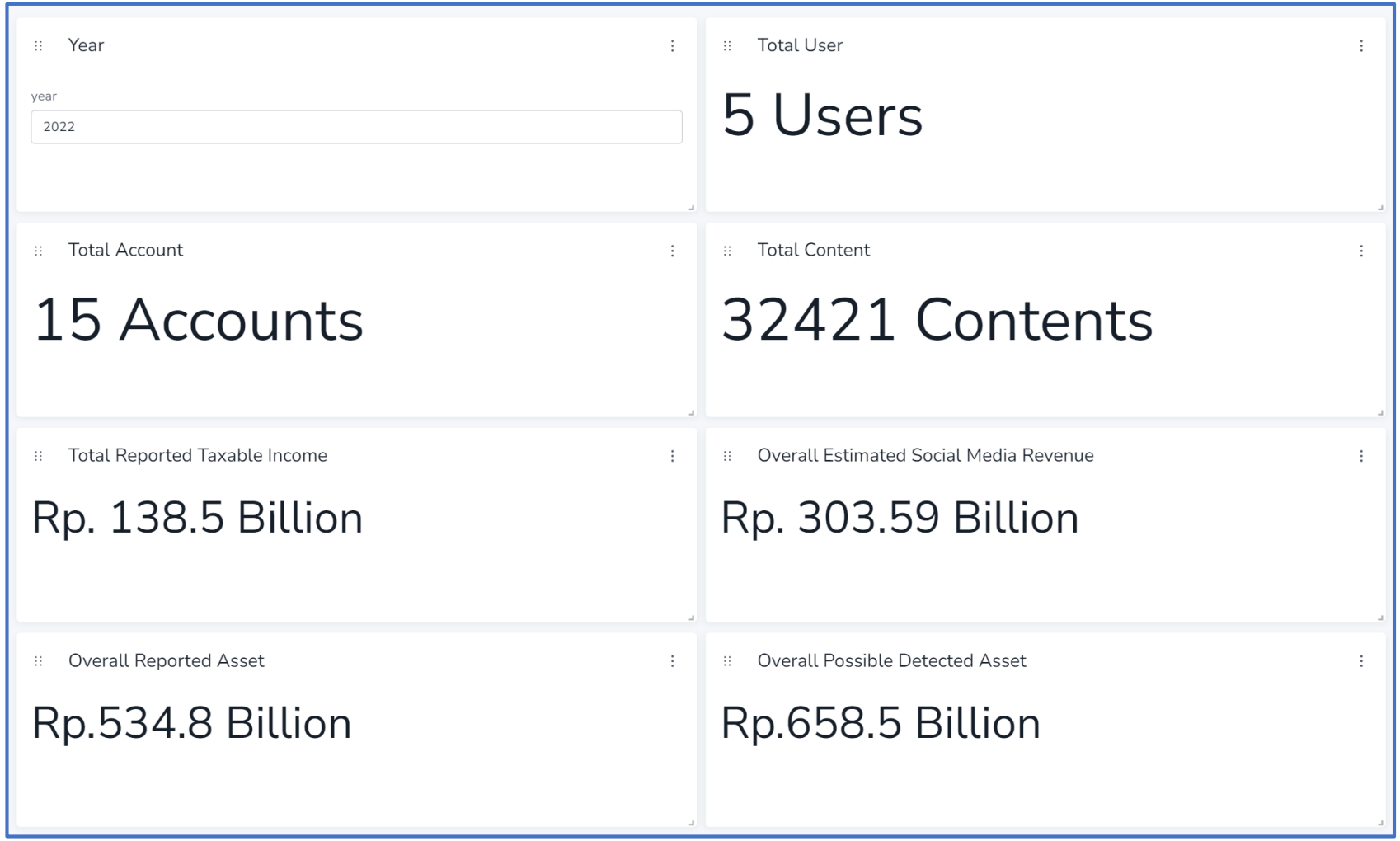
Demo Design

Dashboard (High Level)



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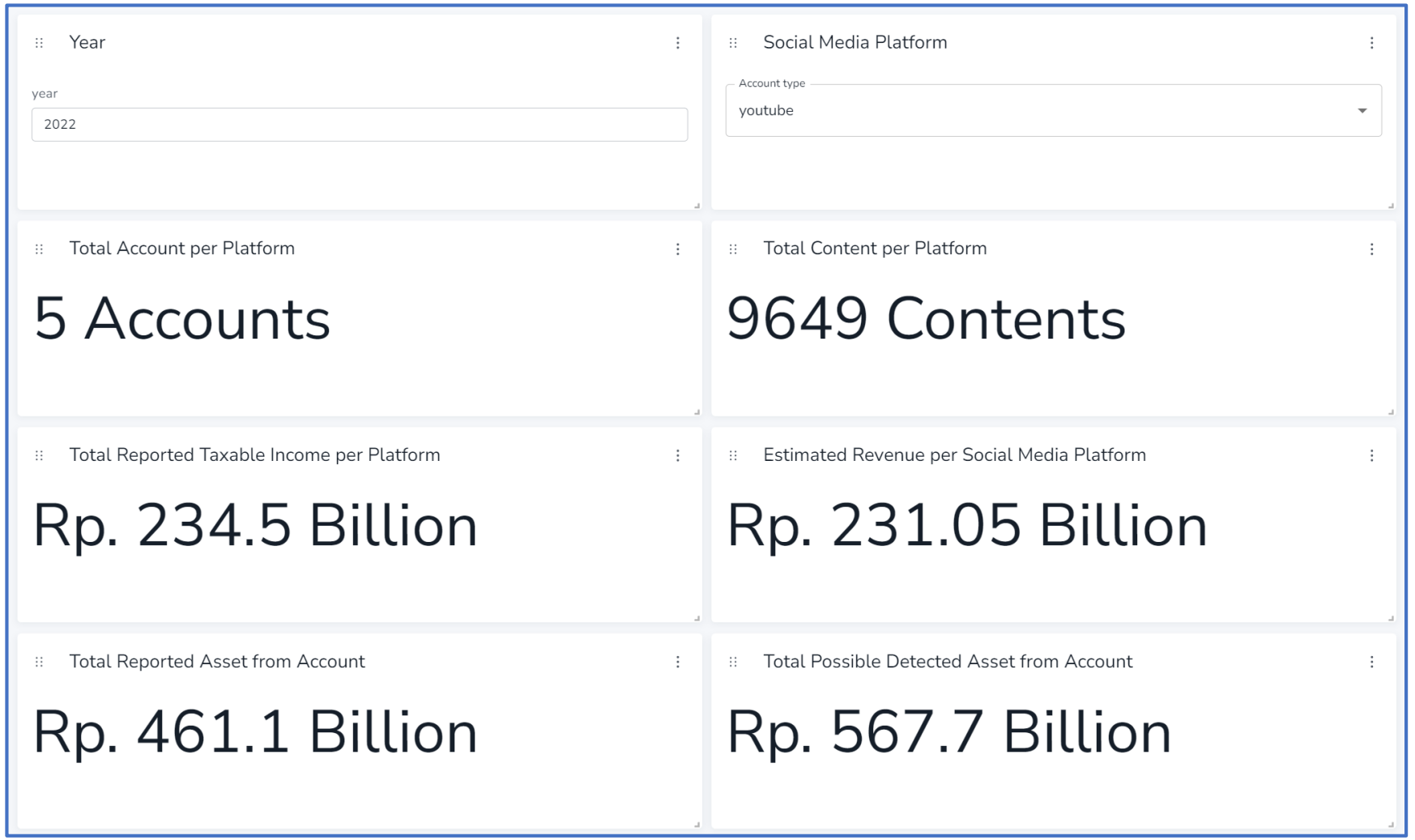
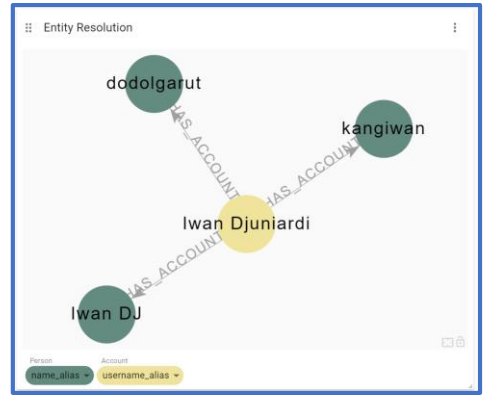
Demo Design

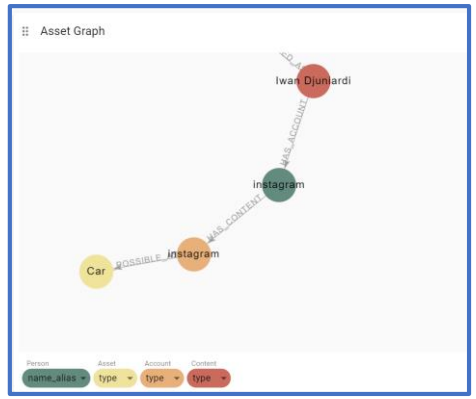
Dashboard (Intermediate)



Demo Design

Dashboard (Operational)





Thank
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