Data Analytics Use Cases At Astra Financial

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Astra FInancial

PT Sedaya Multi Investama or Astra Financial is a financial services division of PT Astra International Tbk which was established in 1981. Astra Financial currently has 12 financial institutions consisting of Financing, Insurance, Financial Technology, Venture Capital and Funds Pension.
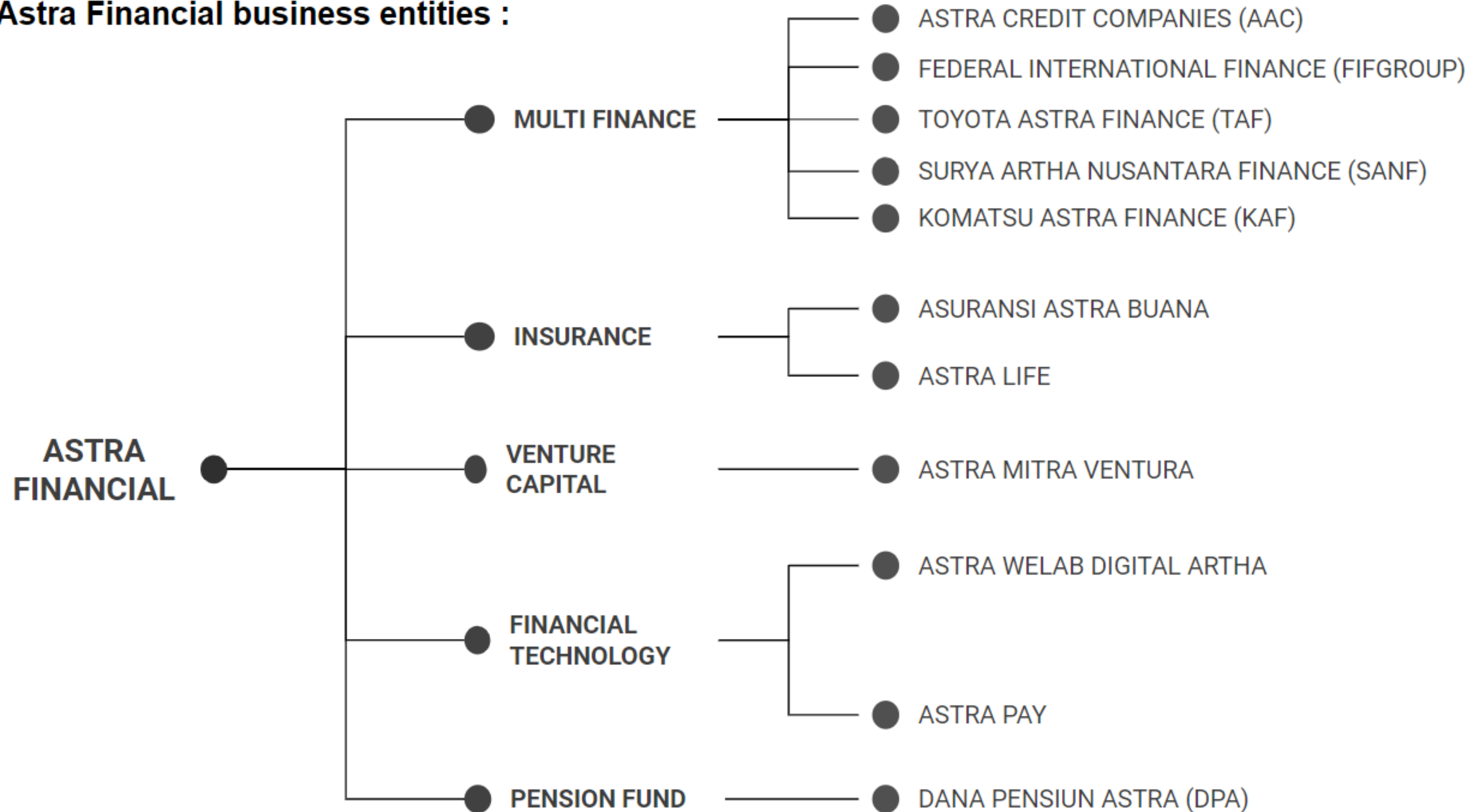
Vision

Leading retail financial provider in Indonesia.

Mission

To be Financial partner for Indonesian prosperity.

Astra Financial business entities :

- **MULTI FINANCE**
  - ASTRA CREDIT COMPANIES (AAC)
  - FEDERAL INTERNATIONAL FINANCE (FIFGROUP)
  - TOYOTA ASTRA FINANCE (TAF)
  - SURYA ARTHA NUSANTARA FINANCE (SANF)
  - KOMATSU ASTRA FINANCE (KAF)
- **INSURANCE**
  - ASURANSI ASTRA BUANA
  - ASTRA LIFE
- **VENTURE CAPITAL**
  - ASTRA MITRA VENTURA
- **FINANCIAL TECHNOLOGY**
  - ASTRA WELAB DIGITAL ARTHA
  - ASTRA PAY
- **PENSION FUND**
  - DANA PENSIUN ASTRA (DPA)

Use Cases

Insurances Fraud Detection

Astra Financial Multi Finance and Insurance which handle large amount of financial transaction probably searching for more innovative and effective approaches to fight fraud. As technology advances, we can assume that fraudsters way to do their crimes become sophisticated as well. Therefore, sometimes, the older methods to detect frauds wont work. As a result it can resulted in losses for business.

To avoid that, today big data technologies and sophisticated analytics tools are extremely good at catching fraudulent activity. These technologies can processed large amount financial transaction or claim records and turning it into a graphical interface or data visualization so that it can be easier to understand large amount of transactions and finding fraudulent activities. Furthermore, predictive analytics and machine learning are capable to find potential fraud automatically based on a pattern that matches a previously known fraud techniques.

Challenges : Astra Financial requires to analyze large amount of data. In training predictive machine learning model, it requires complex algorithms to identify potential fraud pattern in the past and current data.

Key Industries : Insurance, retail, and banking

Market Basket Analysis

Market basket analysis (MBA) is a data mining technique that can be used to uncover purchase patterns in any of Astra Finance business entities. MBA analyze customers past transactions to reveal products grouping or what combination of products most likely to occur together in the transactions. As a result, finding these correlation relationship from transaction records can help Astra Financial in many decision-making processes and increase profitability through Upselling, Cross-selling, making products recommendation, promotions, and even products placement in product catalog or website.

Challenges : Astra Financial need to prepare suitable and good quality of data for Market Basket Analysis algorithms, Graph analytics helps identify relationships between products. MBA typically requires large volumes of transactional data.

Key Industries : Banking, Insurance, Retail, Telecommunications.

Customer Segmentation

I believe that Customers Segmentation is applicable to all of Astra Financial Business entities. Customer segmentation is one of machine learning techniques that can be used to divide customers into groups that share important demographics, characteristics, needs, goals and geographic. This way companies can be better at understanding customers purchasing pattern and therefore offer various insurances products and other financing services to different segments. Another benefits of understanding customers segmentation is the companies can identify specific marketable segments, thus allowing them to use personalized strategies or creating products and services that is more suitable for each segments.

Challenges : Astra Financial will have to analyze all of customers data coming in various formats, and then grouping them into segments according to customer behavior.

Key Industries : Automotive, Banking, Insurance, Retail, Telecommunications, Utilities

Conclusion :

There are 3 use cases of data analytics at Astra Financial, which are :

1. Insurance Fraud Detection : to detect, prevent, and eliminate any kind of internal and external fraud.
2. Market Basket Analysis : To uncover pattern in past and current transaction records and finding relationship between product thus helping companies makes data-driven decision as well as increase the profits.
3. Customers Segemention : to identify valuable customers, identify opportunities, and understand the needs of each customer group to build better relationships.

There are various challenges needed to be solve in order to apply the suggested use cases, but most of them come from preparing the good quality data based on the requirement each of use cases and having capable teams.

Thank You