

The data warehouse for guarantee of objects in the fiduciary

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Abstract. The data warehouse is a structured data environment for decision support systems (DSS) and online analytical application data sources. Finance the guarantee data is extremely important because this data is checked you will be State-run finance is already good or less good, already underway in accordance with standard operational procedures. Show case of branches; see the status of data has been done by each branch, the amount of any status on a branch that has performed guarantee. The data of the vehicle that has been issued by a fiduciary as well as consumers who have made the assurance to the fiduciary. The methods used in this paper are to follow nine step. The objectives to be achieved from this paper so that the resulting data can answer the question of fiduciary business process, by generating the dashboard as a faster visualization on understanding and a report

1. Introduction

The development of a fracturing engineering data warehouse is the same as the development of other data warehouses, using the same engineering methodology, or the same software support tools, but the fracturing project has its own strong professional characteristics and cannot be copied from other data warehouses directly [1]. The data warehouse is a structured data environment for decision support systems (DSS) and online analytical application data sources [2].

Fiduciary Guarantee institutions have recognized the existence of existence it. The legislation of the Republic of Indonesia number: 42 year 1999 about Fiduciary Guarantee, which was enacted on September 30, 1999? As it known that Fiduciary guarantee is the right of the collateral/guarantee over moving objects that are tangible or intangible, or which cannot be saddled with the rights of a dependent according to

the Act No. 4 of 1996 year Dependent Rights owned by Recipient of the Fiduciary that is registered in the registration office of fiduciary relationships, namely as collateral for payment of a specific debt and who has the right to precedence than other creditors [3].

Finance the guarantee data is extremely important because this data is checked you will be State-run finance is already good or less good, already underway in accordance with standard operational procedures. Existing data on fiduciary are also consumers that did guarantee objects to the fiduciary, fiduciary data in there which consumers already pay the full price and yet. But on this paper, just take a look at the case of branches; see the status of data has been done by each branch, the amount of any status on a branch that has performed guarantee. The data of the vehicle that has been issued by a fiduciary as well as consumers who have made the assurance to the fiduciary.

This paper proposes a model of data warehouse in the Fiduciary guarantee of the object so that the reports can be processed quickly and all the information can be seen on the dashboard.

2. Related Work

Data warehousing is a group of decision-based technologies designed to enable knowledge workers to make better and faster decisions. In recent years, there has been explosive growth both in the number of products and services provided and in the industry's acceptance of these technologies [4]. The star schema is the dimensional data model which has the fact table in the Center, surrounded by tables of dimensions consisting of reference data (which can be denormalized), Mulyana, JRP(2014:220).

Star schema takes characteristics of factual data that generate by the event that happened in the past. Star Schema can be used to speed up query performance by performing normalization of information into a single dimension table [5]. Data warehouse has different data as well as from different sources. The difference in the data required uniformity of data by performing the process of extraction, transform, and loading (ETL). Extraction process used to obtain the relevant data before it is stored in the data warehouse. Transform phases needed to maintain consistency of the data. Whereas, the loading process is loading the data into the data warehouse. The process of data preparation it is ETL, regularly either daily, weekly, monthly or yearly [6].

3. Methods

In the data warehouse, it takes some step to perform data warehouse development. There are nine steps to develop data warehouse as follows:

Choosing the process . Before performing the process to extract data warehouse is done in advance of the election business processes more accurate and answer questions throughout the business. The expected data is also able to explain more detail as well

as advertising. Business process conducted in fiduciary is with regards to warranty data objects such as status data per branch, consumer data and the data of the vehicle.

Choosing the grain. Then, the determination of the source that can answer the question briefly but leads to business questions. In this case specify the fact table to be used as a data source that represents the data, so that it can be determined the dimensions that can be drawn.

Identifying and conforming the dimensions. Defining the dimensions that will be used as well as related to the fact table. Then as for dimensions, dimensional adjustments which can be taken as follows: (a) the dimensions of the branch, on this dimension can be drawn in a branch name data useful to see the status of your vehicle and consumer data, each branch (b) references Dimension as the lines connecting data from ID references by ID in the table facts, (c) the dimensions of the vehicle data in this data such as brand, type/model of vehicle in fiduciary, (d) the consumer Dimension as for data such as name of consumers set ID. This dimension will be put together and generate a table of facts.

Choosing the facts . For the determination of a fact table just by taking the ID Primary Key on any dimensions that you created and then made a FK from every dimension ID in the table facts.

Storing pre-calculations in the fact table . At the time of the facts has been selected, each fact should be examined to determine if there is an attribute that uses the pre-calculation. Here's one example of the initial calculations are stored in a table of facts, as follows: The status could have changed from the initial status, e.g. in the State sent one time data will be changed according the conditions.

Rounding out the dimension tables. Any fields on the overall dimensions are given information which can facilitate the process of the connection between the PK every dimension to the fact table in the FK.

Choosing the duration of the database. ETL process will be processed monthly. The data used in this analysis started in 2014-2017.

Tracking slowly changing dimensions. There are three basic types of dimensional changes are slow, IE: (a) Rewrote the attribute change, (b) Create a new record on the dimensions, (c) Create an alternate attribute in order to accommodate the new value. At this stage, 2 basic types used by not deleting old data it just add new record only.

Decide the physical design. At this late stage, the previous data already in the data warehouse to extract then will be shown into the shape of the dashboard.

4. Results

4.1 Star Schema

Star schema for guarantee of objects for Fiduciary show in Figure 1. The fact contain analysis indicators, while a dimension includes analysis parameters organized in hierarchies from the lower granularity (most detailed) to the higher granularity (most general) [7] .

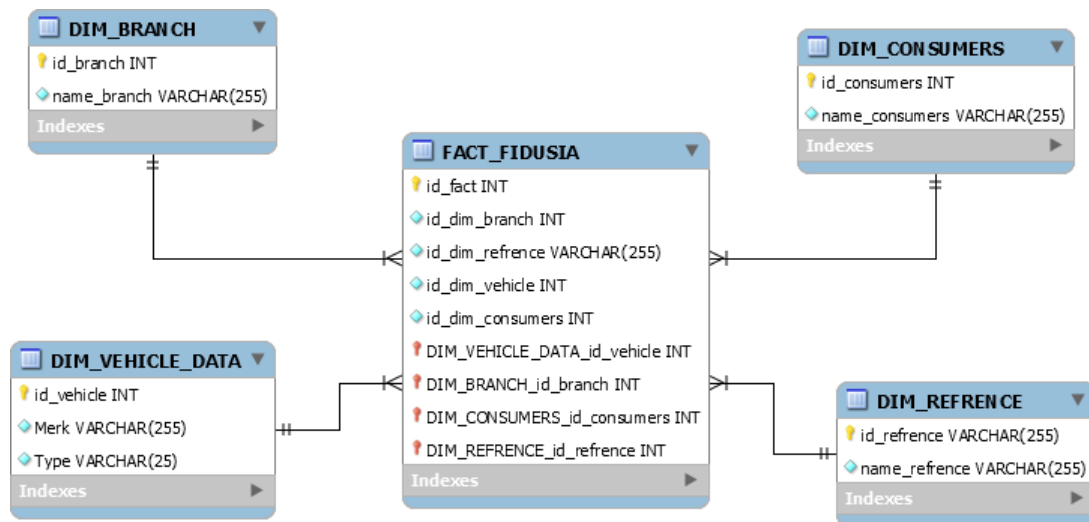


Figure 1. The Star Schema Fiduciary

4.2 The ETL Process

Based on the nine steps previously mentioned, the next step is to do the process of ETL, this process is called extract, Transformations, and Load.



Figure 2. ETL Process All Dimensions Fiduciary

On Figure 2 can be explained that the data extract process carried out in advance to take the data from the database to the data warehouse that has been created. After that, the extract data then do the transformation process data to the data warehouse using the tools select value to connect to the database fields data warehouse. Then Load the data, this process will display the data in the data warehouse.

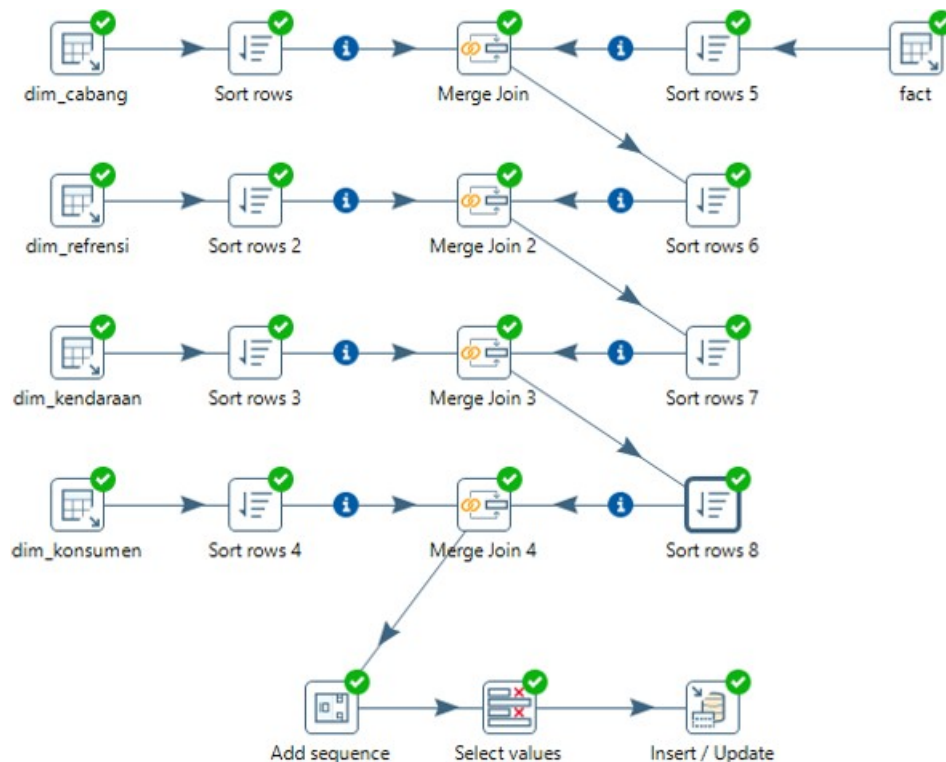


Figure 3. ETL Process of Fact

After all the dimensions do ETL processes (extract, transformation, Load), then will do merge table dimensions to obtain the fact table. The fact table is done with the same Primary Key taking each dimension to the data warehouse that you created so that it produces the desired data in the fact table, show in Figure 3.

This can be seen in Figure 4 display of the number of status to see dashboard of any branch. The status can be viewed all depending on the needs. In the dashboard can also be seen which branch do the process from each of the selected status.

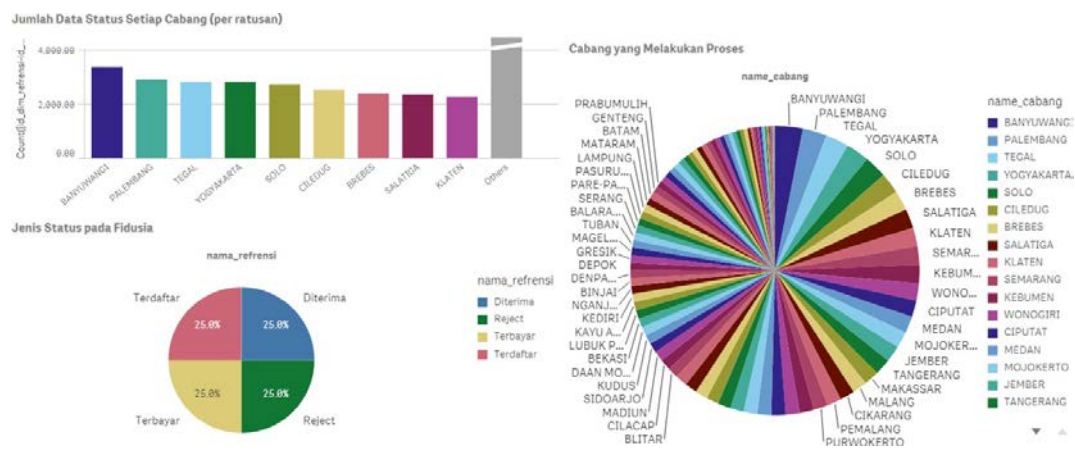


Figure 4. Dashboard Fidusia

5. Conclusion

By having this data warehouse can answer the expected business processes in terms of data objects in the fiduciary guarantee. Report data from a business process using the data warehouse can be more accurate, more detailed and with additional dashboard visualization as a tool that can be seen in direct business processes expected in fiduciary relationships.

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