

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Object

The focus of this research will be in a comparison study of Power BI software and Tableau Software using real simulation of secondary data from Microsoft. This secondary data created by Microsoft which is made as closely as possible to the real condition of an enterprise database. This database is an opensource, called Adventure Works published by Microsoft. Adventure Works is a fiction enterprise which is engaged in bicycle Wholesaler.

3.2 Literature Review

A literature review is conducted in order to enhance the research. Deductive and Inductive study is applied in this research. The deductive study is conducted to obtain the basic concept of theory related to this research and Inductive study is conducted to map the related research and see the position of this research compared among previous research.

3.3 Data Collection

Data collection for this research is using secondary data. The secondary data are data obtained from the literature or indirect observation conducted by the researcher. Data collected in the database of the company namely Adventure Works. This database is available for public (open source) from Microsoft that has published to perform system testing. Besides, this research also used several kinds of literature, it is being used to compile the information relevant to the topic discussed in this research.

3.4 Observation

Observation for this research is conducting during the data collection section. The observation is conducted to understand and trial-and-error each parameter that will be

used in the data processing section. The observation conducted in both tools which are Power-BI and Tableau Desktop.

3.5 Data Processing

Data processing will explain about performing BI system using Power BI software then continue to Tableau Software after data collecting process was performed. There are some software that will be used to perform data processing besides Power BI and Tableau such as Microsoft SQL Server Management Studio and Tableau Prep.

3.6 Discussion

After the system had been built, then discussion will be conducted to discuss the problem formulation and the result of data processing. Main discussion is the comparison or comparative study based on several parameters. It will be started by conducting a simulation of the BI system using Power BI and Tableau Software. The parameters to compare the tools will find the advantages and disadvantages of each other until the answer to the problem formulation including the data included in the parameter. In the discussion section, several differentiators feature will be added by the researcher as the additional parameters and as the key parameters.

3.7 Conclusion and Recommendation

This section will briefly answer the question stated in the problem formulation formulated in chapter I. Besides, this section also gives some recommendations that might be used to further research.

3.8 Research Flowchart

Research Flowchart will be shown below in Figure 3.1.

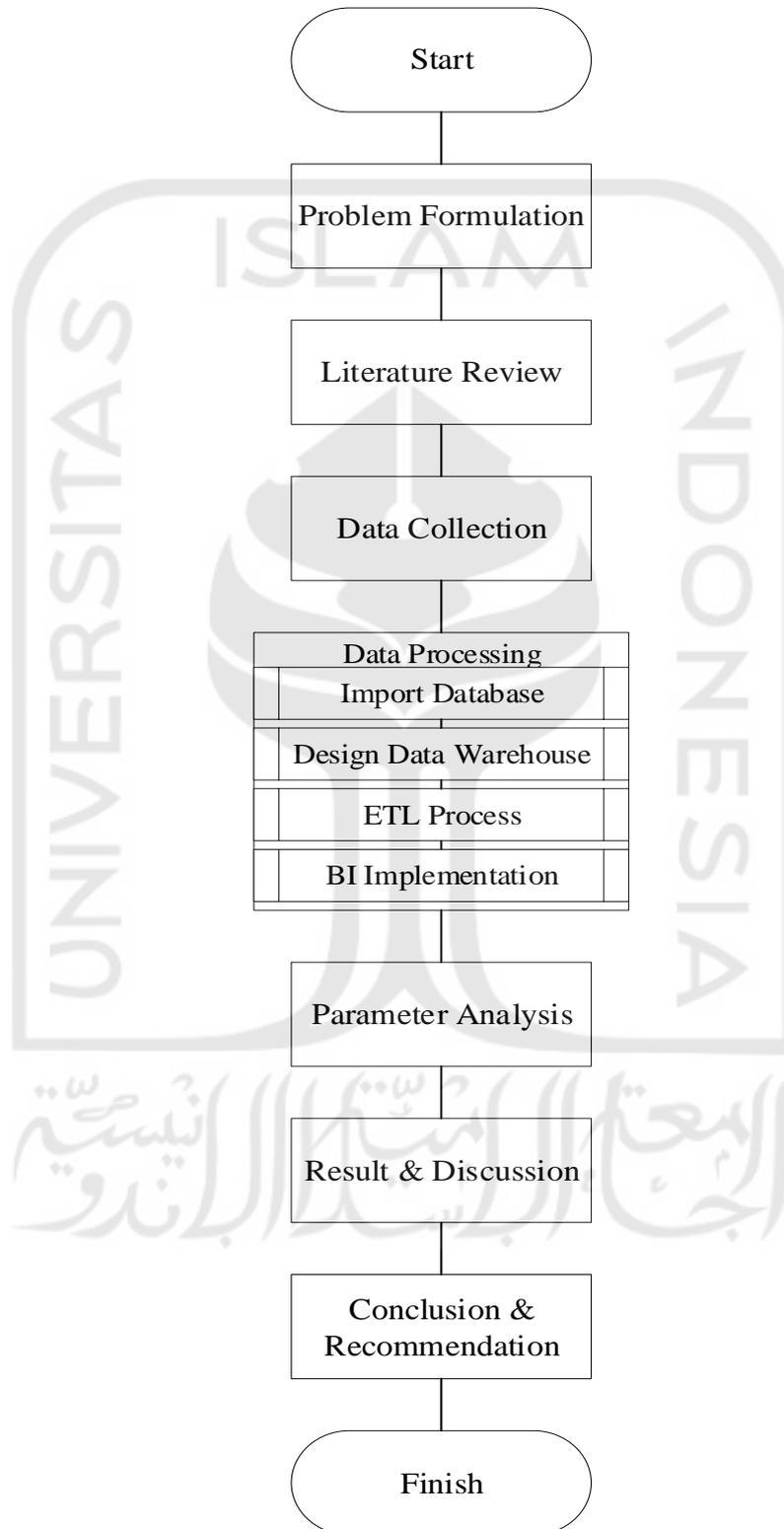
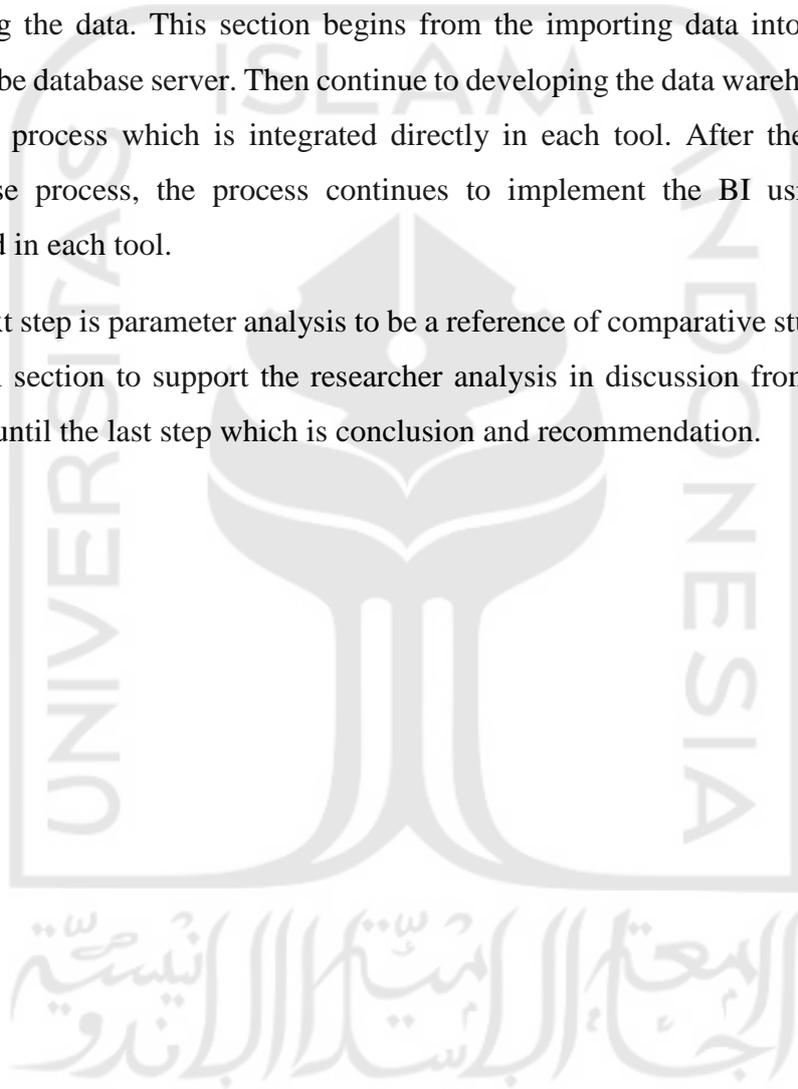


Figure 3.1 Research Flowchart

The research flowchart explains the flow of this research study. It starts from the problem formulation and literature review to find the previous research and learn before this research conducted. After all the preparation complete, the research collects the data from the Microsoft called Microsoft Adventure Works.

The data collected is secondary data. It is because, the primary data is hard to find according to company confidential data. After the data collected, the researcher processing the data. This section begins from the importing data into Microsoft SQL Server to be database server. Then continue to developing the data warehouse in each tool also ETL process which is integrated directly in each tool. After the ETL and Data Warehouse process, the process continues to implement the BI using the analysis dashboard in each tool.

Next step is parameter analysis to be a reference of comparative study. Yet, there is additional section to support the researcher analysis in discussion from the expert and continue until the last step which is conclusion and recommendation.



3.9 Propose Steps for Comparison Study

The proposed steps design for comparison study is shown in Figure 3.2 & 3.3

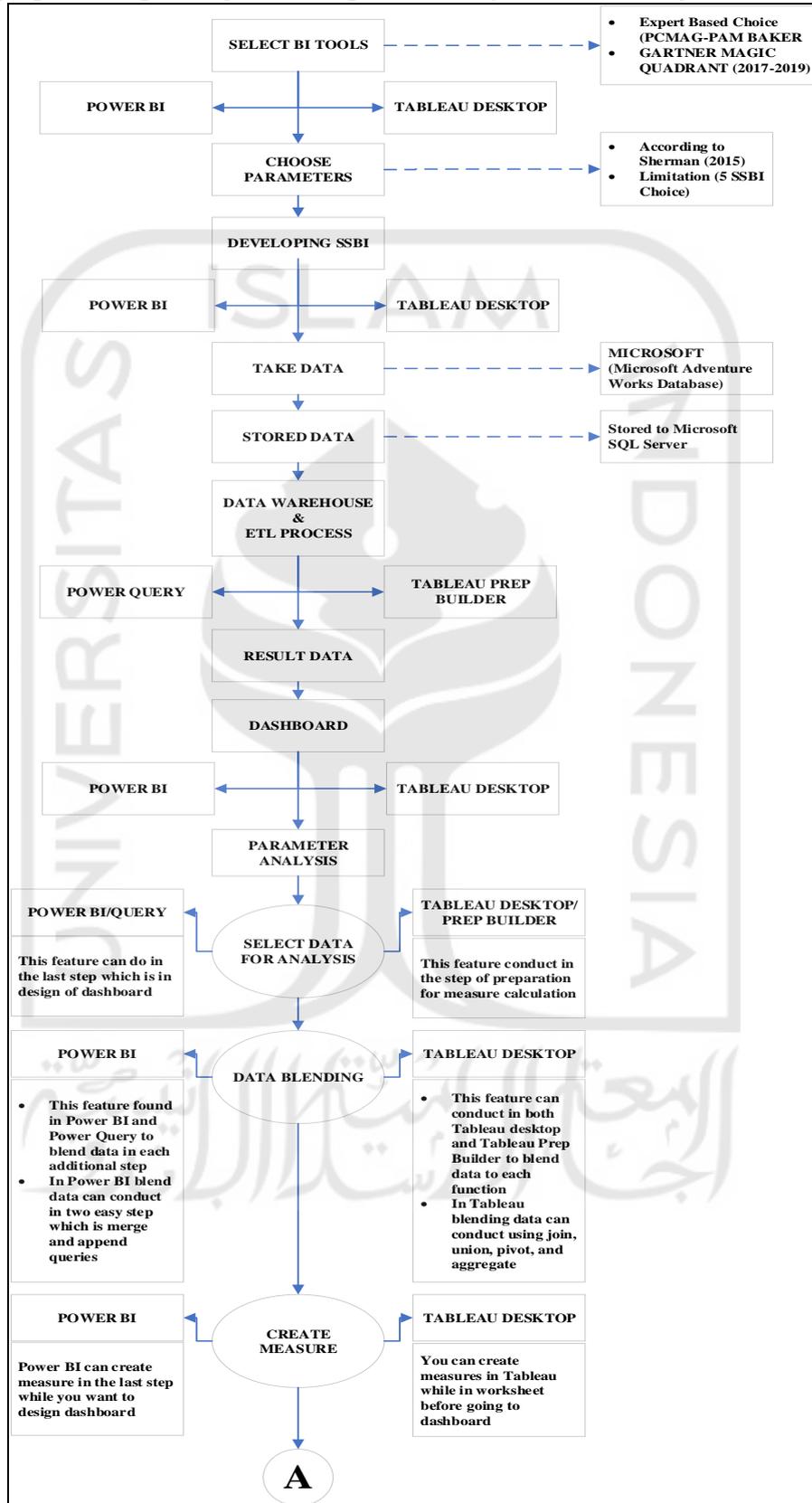


Figure 3.2 Propose Steps for Comparison Study Part 1

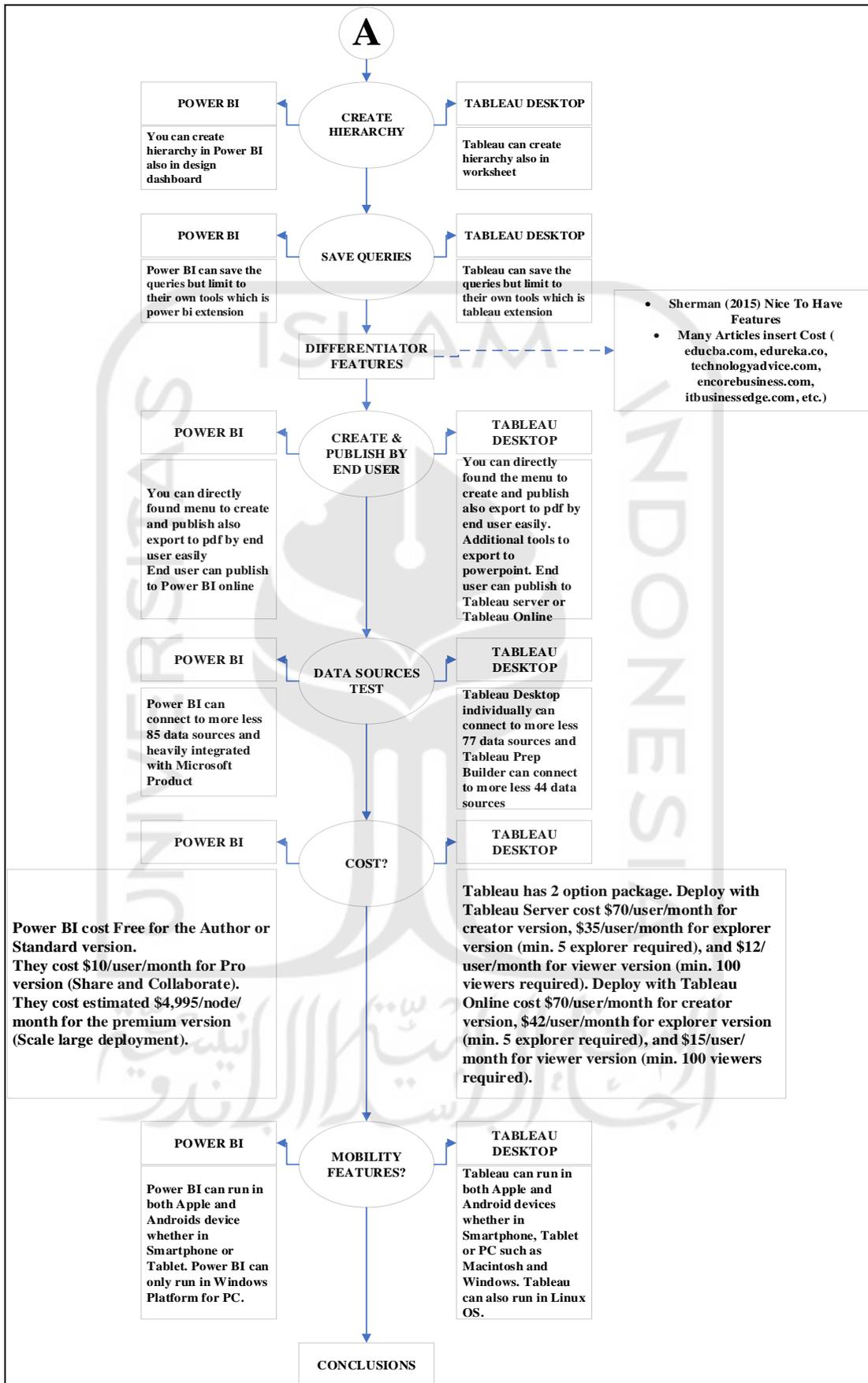


Figure 3.3 Propose Steps for Comparison Study Part 2