CHAPTER 3
RESEARCH METHODOLOGY

This chapter discusses about the methodology to finish the research. The steps are divided into 3, those are pre-data, data collection, and post-data. The pre-data consist of initial observation; the problem statement, scope and limitation; and literature review together with theoretical background. The data collection consists of preliminary study and questionnaires. Analysis and discussion, suggestion design, and conclusion and recommendation will be the steps in post-data.

3.1. Pre-data

There were several steps needed to conduct the research. The first step was initial observation to understand the company and the organization system; second step was the problem statement, scope and limitation to set the problem that want to be solved and the limitation in the research; the third was literature review and theoretical background to support the research theoretical; the forth was data collection to collect the data needed consists of preliminary observation, questionnaires, sorting questionnaires, and summarize questionnaires. The next step was analysis and discussion to analyze the data gathered; and the last one was conclusion and recommendation.

3.1.1. Initial observation

Initial observation was the first observation conducted in the company to understand the situation and the system of the company. It was including the introduction and identification of the production process system. After that, researcher tried to find and analyze what kind of situation that can lead to problems for the employees and company itself. There were several problems, such as the awareness to wear safety equipment, the presence of production schedule, and etc, but the chosen problem was about the presence of job description. It was chosen because all positions mentioned at organizational structure have no written job descriptions, while this company is a large type.

3.1.2. Problem statement, scope and limitation

The problem statement appeared after knowing what problem that wanted to be solved and the limitation appeared in solving the problem. Some limitations appeared because of the policies from company that could not be violated by the researcher.

3.1.3. Literature review and theoretical background

The literature review discussed about the previous researches which were quite similar with this research. It was needed to make sure that among the researches were not the same about the objectives, method, and the output/ result. The previous researches were taken from journals in ProQuest Database and Google Scholar. Beside the literature review, theoretical background also conducted to support the research theoretically. The theories were taken from journals in ProQuest Database and from several books. The taken theories were classified into 3, which were about the organizational behavior and structure, job descriptions, and macro ergonomic. The organizational behavior and structure described about the definition and the fundamental of organizational structure. The job descriptions discussed about the definition and the importance of job descriptions for the company. While the macro ergonomic introduced about the definition of macro ergonomic approach, the benefits of using the macro ergonomic, and the steps needed to design the organizational structure and job descriptions.

3.2. Data collection

The data collection was divided into 2 parts, they were preliminary study and questionnaires. The preliminary study was divided again into 2 steps, they were interviewing the experts and observing employees.

3.2.1. Preliminary study

The preliminary study was conducted to define the job descriptions for each position by interviewing some experts at each division of production process and observing the work of employees manually. There were so many employees come and go of the department and it was hard to know what their position is. In order to make the probability of hitting the right employee as the respondent higher, then interviewing the experts was conducted. The department structure and core job of each position at there were the result of interviewing the experts. Knowing the core job leaded to shorter time doing the manual observation of employees.

The observation was conducted in order to make the questionnaires easier to be filled by the employees. If the questionnaire is an open questionnaire, which means 1 employee can give absolutely different with other employees, it will give too many variants of answers. In order to make it fewer, then the observation was conducted to understand what jobs they mostly do at their work place. Every time the observation for one division was finished, the observation was continued to the next division and the questionnaire for the first division was constructed, and so on for the other divisions.

3.2.2. Questionnaires

The questionnaires gave 9 questions and 1 question for respondent identity. The question of identity was about the name and department of the respondent. This information was provided to avoid a person gives more than one feedback. But at the reality, there were many unknown respondents.

The first question was about the latest education of respondent, this was included in questionnaires because the HRD do not have this information. The respondent only chose one level of education they learned previously. The second question was about jobs performed by the respondent. This question for each division were quite similar, the difference was only the choices of the answer about the job they do because different department performs different jobs. At the questionnaires, jobs that were performed by all position were provided and the respondent only chose which jobs that they usually perform. The provided jobs are known from the preliminary study process.

The third question was about problems happened and their involvement in solving it. Many problems that have happened or might happen at company were provided and the respondent had to choose twice. The first one was if that problem ever happened at their department or they experience it, they needed to give check that means that problem ever happened. The second one was if the respondent involves themselves in order to solve that problem, such as repair the broken machine or find the core factor why the defect percentage is increasing.

The forth question was about suggestion from the respondent for company improvement and development. The provided answers were taken from listening that employees ever gave that kind of suggestion but the company did not do any action to implement it, and taken from suggestion that usually given by the employees to improve their uncomfortable work place. The fifth question was about meeting frequency in a month.

The sixth question was about the information flow in doing their jobs. The information flow talked about the resource of information for the respondent and how they are responsible of their work. This question was the hardest among the others because the respondent had to write their supervisor or workmate or subordinate and how the information flowed among them, and the respondent could not choose any provided answer because different respondent could give different answer. In order to help the respondent to answer, there was example how to answer this question. The example explained from the situation that respondent might have and how to fill the table based on that situation.

The seventh question was about the supported technology for the employees. The technologies were provided and the respondent only needed to choose which technology they use in doing their jobs. Beside it, the respondent needed to give information whether they need specialty in order to use that technology or not.

The eighth question was about habits that change into culture at the department of respondent. The provided answers were taken from bad or good habits happen at all departments and some conditions that might be habit in working place. The last question was about additional education or training given by the company after the respondent becomes their employee. This question was an open question because one person could have different answer with the others. The questionnaires for each department can be seen at the Appendix 14 until 17.

Each division was given 50 questionnaires which were filled by all the positions at that division, that number was limited by the company due to their policies. After distributing the questionnaires and waiting the respondent to fill it, the questionnaires were taken back and sorted which one was fully answered and not. There were few questionnaires with complete answer, and the others were categorized as bad feedback and could not be used. Because the company limited the number of distributed questionnaires, then the uncompleted questionnaires was given back to the respondent to be answered again for the blank ones. Due to the limited time of respondents to answer and their willingness to answer it again, the questionnaires that could be analyzed were less than 50.

3.3. Post-data

The post data consisted of 3 big parts; the analysis and discussion, suggestion design, and the conclusion and recommendation. The analysis and discussion explained about the current condition at the company and what improvement they need, consider to the macro ergonomics point of view. After analyzing the data, then a variance matrix was created. From the variance matrix, the new design of organizational structure and job descriptions could be constructed. Comparison of current condition with the new design was also provided. Finishing the design meant the conclusion and recommendation could be made. Conclusion and recommendation showed the result of analyzing the current organizational structure and job descriptions and also the condition of the new design.

3.3.1. Analysis and discussion

After collecting the data, the result from questionnaires was summarized to read the condition of the company easily. After getting the summary of questionnaires, the next step was analyzing process. The methodology was the MEAD method together with MAS method. The first analysis used the MAS method that consists of analyzing the complexity, formalization, centralization, technological subsystem, personnel subsystem, and external environment. While the MEAD method consists of variance matrix analysis.

3.3.2. Suggestion design

The suggestion design consisted of the new design of organizational structure and job descriptions. The organizational structure was compared between the current structure and the new design structure, while the job descriptions were provided at the Appendix 5 until 8 for all departments.

3.3.3. Conclusion and recommendation

The suggested organizational structure and job descriptions would be concluded in this chapter. The recommendation was also given for the further research about the organizational structure and job descriptions.

The flowcharts of the methodology taken for the research are provided below.

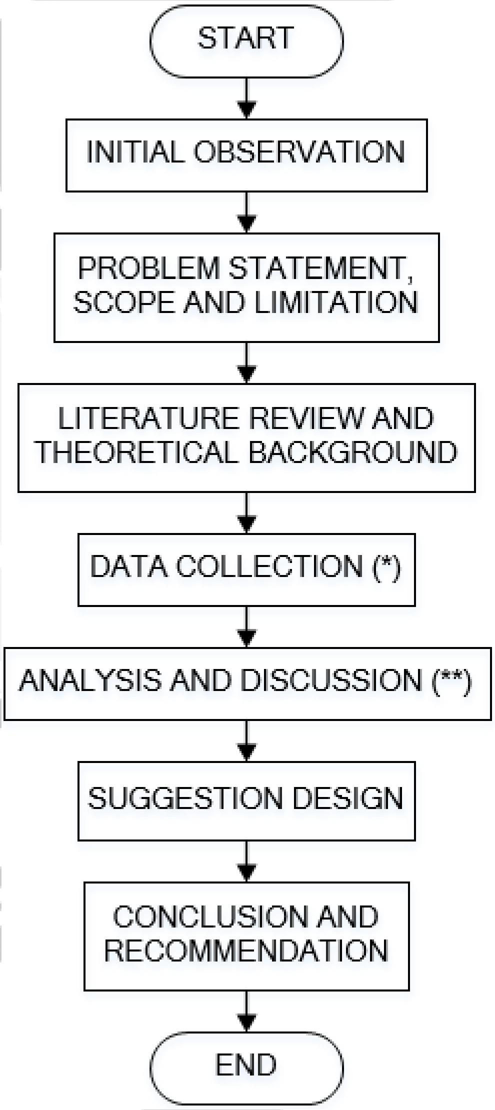

Figure 3.1. Flowchart of research methodology

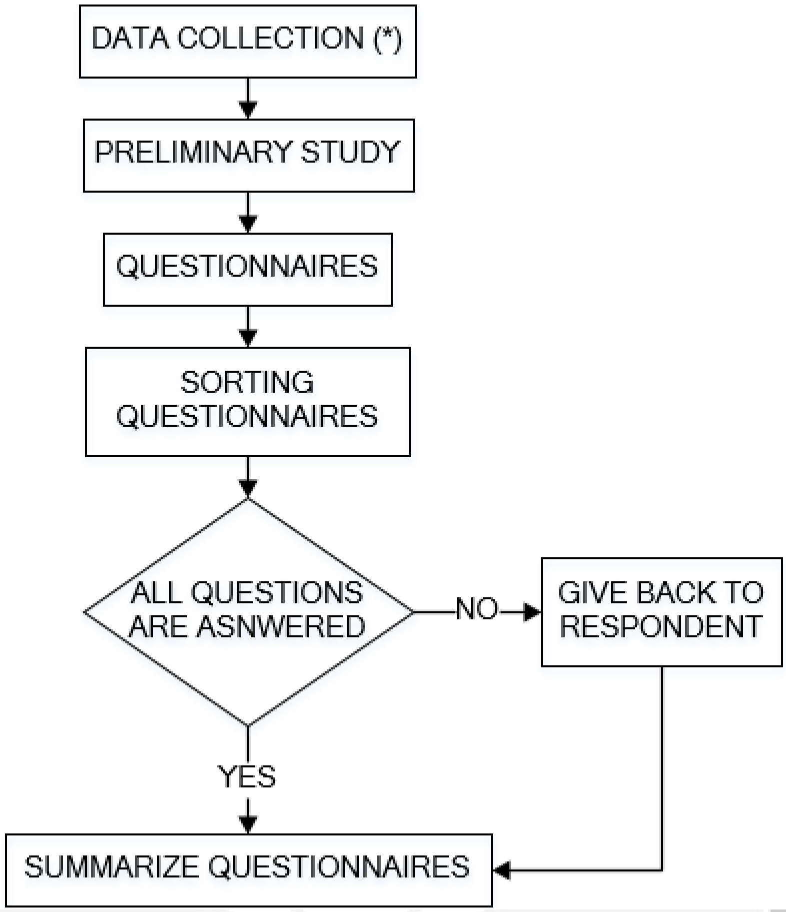

Figure 3.2. Data collection methodology

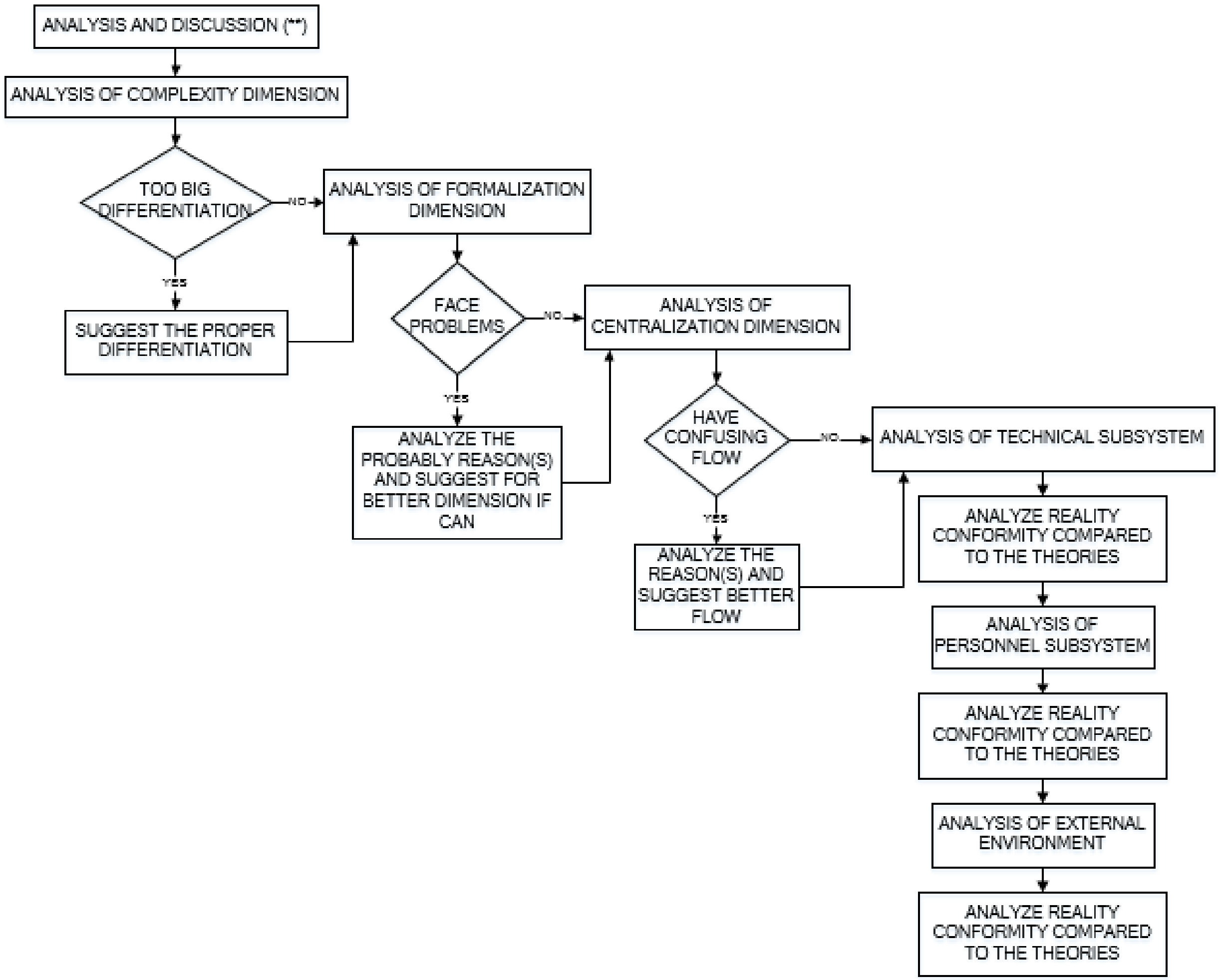

Figure 3.3. Analysis and discussion methodology