CHAPTER V
CONCLUSION AND RECOMMENDATION

These objectives of research are to analyze criteria and alternative conveyor system for Thailand industry. The chapter is composed of 3 main parts as follows: the first part is the final summary which involves current status and trend in the future

5.1 Conclusion

In the industrialized world from past to present, one thing is very important to every industry is materials handling. It has effect on manufacturing and productivity. Material handling equipment is available many to help and support material handling activity. For the investment analysis in choosing the material handling system, it is extremely complex and there are more solutions for particular situation. Nowadays, conveyor system is a one popular type of material handling equipment and used widely. Thus, the conveyor system is complicated by the factors to be considered before an investment is a very important.

In order to collect material handling equipment's factor. This research aims to analyze what criteria that affect investment decision by used Delphi method. This methodology has a repetitive process to collect knowledge and consensus from multiple experts by using series of questionnaires.

Furthermore, a criterion from result of Delphi method is important criteria for decision making investment in conveyor system. This research has also led those criteria to develop a model which used support decision making for select conveyor system. The final criterion which is derived from the series of questionnaires results can be divided main criteria as follows: Technical, use's benefits, opportunity criteria, cost and risk criteria. The amount of sub criteria of each main criterion is 11, 7, 7, 7 and 5, respectively. Thus, this paper is different from previous studies for conveyor

system selection problem. Using decision making technique is select the best conveyor system to company by applied the analytic.

A model, which analysis using the analytic network process (ANP) with Benefits-Opportunities-Costs-Risks (BOCR), is make to evaluate the conveyor system selection. Model in this paper that can help a stable evaluate the various types of conveyor system. ANP is the multi-criteria decision making techniques same as AHP, but ANP has been featured with the relationship between the alternatives on the criteria. Although there are many investor depend on textbooks/handbook, equipment vendor's experience and consultant, usually most only stress the criteria that are technical, benefits and costs criteria, but seldom the opportunities, and risks.The suggest model not only consider the costs and benefits factor, same as other decision making for investment, but this paper takes into account the opportunities and risks factor. Therefore, the proposed model can be evaluating any properly conveyor system in any industry to help the select the best form type of conveyor system.

The criteria in model are not fixed, but may differ across the type situation. Therefore, the criteria should be removing or adding some criteria conditional upon the model development. This model can also be a profitable for future research. This study considered four main criteria for decision making namely Benefit factor, Opportunity factor, Cost factor and Risk factor. With the sub-criteria confirmed and screened relevant experts' opinion found by using The Delphi Method

5.2 Recommendation

In considering the construction application of decision making for any problem, the user must be aware of the limitations of each system such as knowledge of user, comprehension and experience of user.

The limitation of an implementation of the dispatching model is used's preference may be influence the results. Further research should be weaken subjective pairwise comparison due to incomplete information by using fuzzy triangular number. The same methodology can be applied considering another product and another material handling system. Factors may be categorized into a more organized or incorporated.

The corresponding weights of evaluation are obtain from this decision support model may be changed. Due to the final result was integrated by the weight of criteria which are evaluated by this group only. Thus, the weight of criteria may be changed when the criteria are evaluated by another group or increase the number of respondents.

5.3 Future Direction

For the future studies, there are four major aspects requiring improving in the future research work. First, although we only invite a group of expert to respondent the questionnaire but methodology of Delphi method be rather time-consuming. Thus, some expert may be exhausting. So, how to obtain agreement among them is changing from The Delphi method to Modify Delphi method or another method in order to reduce time-consuming and exhausting. Second, in this research, ANP with BOCR as a decision method has been applied in a case of conveyor system selection, but we believe ANP with BOCR is a promising method and has broad application. Thus ANP with BOCR may also be used in other project evaluation and selection the other. Third, the usage of the approach in different situation, technology and business may be considered, especially in the specification of them. Also for the conveyor system selection problems or material handling equipment selection problems, a comparison may be realized with the other proposed methods such as AHP, fuzzy AHP, fuzzy ANP, etc. Finally, criteria and alternatives not fix as in our research are included or reduced rely on environmental factors, the situation change and the development of technology.