TECHNICKÁ UNIVERZITA V LIBERCI
Fakulta strojní

OPPONENT´S ASSESSMENT ON DIPLOMA THESIS

Student´s name and surname: Elavarasan Sankaran

Name of the diploma thesis: Maintenance in the organization

Supervisor of the thesis: *Ing. Věra Pelantová, Ph.D*

Opponent: *Ing. Petr Čečák*

1. Diploma thesis evaluation

Evaluation	excellent	excellent minus	very good	very good minus	good	failed
Meeting the goal and fulfilling task of the thesis					X	
Quality of conducted survey				X		
Methodology of solutions					X	
Expert level of the thesis					X	
Merit of the thesis and its potential applicability of results					X	
Formal and graphic level of the thesis				X		
Student´s personal approach					X	

*Mark **x** in the corresponding box.*
Supervisor´s final evaluation is based on his/her overall subjective evaluation.
Grading is stated literally in the article no. 5, neither by a number, nor by a letter.

2. Comments and remarks on diploma thesis:

Mr. Sankaran's thesis is divided into two main parts. The first part is devoted to a theoretical analysis of equipment maintenance options in the organization. In the first part, the author also included a comparison of individual types of maintenance and current trends from around the world. I can evaluate this positively. However, in some chapters (for example 2.2) the author uses a gray background below the text, which disrupts the flow of reading the work.

The second part of this work is devoted to the analysis of the organization. Unfortunately, this analysis was performed in two different plants, which are in no way dependent on each other or similar in size or related to the production process. First, the author focuses on the ACC company, which produces concrete. On 20 pages, the author focuses on the company, its structure and maintenance style. It also deals with the possibilities of improvement based on the questionnaire and analysis of its outputs. The second company described in this work is the company Jayalakshmi Plastics, which is engaged in plastics operations. As with the previous company, the author deals with the description of the company, its structure and style of equipment maintenance. In this part, the author deals with the low OEE coefficient and its possibility of improvement. As part of maintenance, the author suggests ways to reduce downtime by measuring the condition of the machine.

Overall, this practical part of the thesis is interesting, but its fragmentation between two completely different operations caused a rather superficial analysis of both companies. In addition, this fragmentation is underlined by the use of different evaluation methodologies in companies. In ACC

the author uses 5xWhy and in JP he uses 5S and in ACC he creates a relatively large questionnaire and in JP he does not. If the author focused on only one of these companies, he would achieve better analyzes, or if he used the same methodology in both analyzes. In addition, the used methodologies such as 5xWhy, 5S, OEE are not described in the theoretical part.

At the end of the work, the author presents recommendations for organizations in which this work was processed. I can evaluate this part of the work positively. It is well processed. Furthermore, I can very positively appreciate the number of author's sources used to develop this work.

Overall, the work is well processed, some graphic elements (pictures, graphs) would need better processing to increase reading comfort.

3. Questions about diploma thesis:
1. Were the results of this work applied in practice?
2. Figure 20 shows a process map. The source of this is own. Is this the proposed structure for companies from the diploma thesis? If so, did the author consult with the management of the companies and is it implemented?
3. Are the results of this work applicable to European companies? If so, which ones?
4. During the elaboration of this work, did the author notice other possibilities of maintenance optimization than just those described in the work? If so, which ones, and does he think of possible solutions?
5. Why didn't the author focus on one company in more detail and perform a more detailed maintenance analysis?

4. Opponent´s statement whether the diploma thesis meets the academic title requirements and whether it is recommended for defense:

The thesis meets the requirements for the award of an academic degree, and therefore I recommend it for defense.

5. Opponent´s grading: Good (3)

Date 16.6.2021, in Liberec

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Opponent's signature