

SUPERVISOR'S REPORT ON DIPLOMA THESIS

Name and Surname of Diploma Thesis Writer: Bc. Linda Phanová

Topic of Diploma Thesis: Lean logistics in axle production

Objective of Diploma Thesis: *(in the Introduction)* ... to identify critical points in the selected production process of ŠKODA, design, with the help of lean tools, possible improvements to the selected company's efficient logistics and production process, and eliminate these critical points, and economically evaluate recommended changes.

(in the Conclusion) ...to analyse the current state of handling technology utilization and identify its critical points, further outline necessary measures to eliminate these critical points, and economically evaluate the recommended adjustments.

Name and Surname of Supervisor: Ing. Eva Štichhauerová, Ph.D.

	Excellent	Very good	Good	Failed
I. Assessment of the thesis topic and its writing:				
Thesis topic completion			x	
Application of implemented methods			x	
Analysis performed and its profundity		x		
II. Assessment of thesis content and structure:				
Clarity and coherence of thesis			x	
Currency of the topic, appropriate sources		x		
Processing of sources and acquired data	x			
Comprehensible and adequate conclusions	x			
Phrasing of writer's points of view		x		
III. Assessment of thesis style:				
Formal layout of thesis (i.e. text, tables, graphs)		x		
Style of thesis (i.e. use of formal language)		x		
Application of academic sources in native language, including bibliographic references and citations		x		
Application of academic sources of foreign authors, including bibliographic references and citations	x			
Assessment of plagiarism checking result in IS STAG	Reviewed without objections			x
	Reviewed with objections			

Questions related to the diploma thesis defence:

1. Explain the reason for the difference in the formulation of the objective in the introduction and in the conclusion of the thesis.
2. If there is any, please indicate the relevance of the 5S method to the issues addressed in practice in the thesis.

I recommend the diploma thesis for defence.

I suggest to evaluate the diploma thesis with the grade: VERY GOOD MINUS

Date 6. 6. 2022

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Signature of thesis supervisor



Content and structure, application of implemented methods. The thesis is divided into a theoretical part and an application part. The scope of the thesis is 60 Ns. The theoretical part defines the theoretical background in the field of Lean concept and logistics, characterizes selected lean management tools and basic concepts in the field of warehousing. Chapter 4 (Warehousing) could be logically linked to Chapter 2 (Logistics). The research part makes up 41% of the thesis scope, which is unnecessarily large and it would have been appropriate to focus only on relevant concepts in terms of their use in the DP case study. The 5S tool from theory is not mentioned in the case study, so its relevance in the theoretical part can be considered questionable.

In the application part, the student briefly described the selected company and the selected production hall where the axle production takes place. Furthermore, the student analysed the current state of the logistic process of axle production. The consultant from the company pointed out the inefficiency of process of logistics handling equipment from the charging station back to the warehouse, which further predetermined the main focus of the application part of the thesis. The current process of charging of handling equipment in the charging station was described. Furthermore, the handling equipment used in the sequential workplaces was characterized and the fact that lead-acid batteries are currently used for propulsion. The student calculated the time required to move the handling equipment to the charging station and to change the battery, and identified some forms of waste (unnecessary transport, unnecessary movements, the waiting) from a lean management perspective. The student proposed to eliminate the identified shortcomings by replacing the currently used lead-acid batteries with Lion-ion batteries. She compared the two types of batteries in terms of technical specifications including expected performance, endurance and required charging time. This included a proposal for a new parking lot layout with charger stands. The student also took into account the issue of disposal and recycling the batteries at the end of their useful life. The economic evaluation was done by comparing the costs of the current handling technology, the costs after the implemented proposal, and quantifying the potential savings.

The formal requirements for editing the text and inserting objects were met. The thesis contains a number of objects - 25 figures, 7 tables and 7 appendices. Some of the figures are of poorer quality when printed (figures 12, 18, 21, 22; tables 2, 3). There is an error in the calculation relation (11) (however, the calculation itself is correct). The objects are referred to in the text.

Literature review and citations. A total of 46 sources were cited, of which 29 were English-language sources. Articles available from the ProQuest database and ResearchGate platform were cited. The vast majority of the sources can be described as up-to-date. The cited sources were referenced, including sources of company data.

Meeting the thesis objectives. Overall, the thesis gives the impression that after the theoretical part of the thesis was completed by the student, the objectives of the thesis were refined in the application part, but the theoretical part was not adapted to this. This fact is indicated by the difference between the formulation of the aim in the introduction and the formulation in the conclusion. It can then be concluded that the objective formulated in the Conclusion has been completely fulfilled, while the objective formulated in the Introduction has been partially fulfilled (Which improvements were proposed with the help of lean tools?). Overall, however, **I consider the aim of the thesis to have been fulfilled.**

The diploma thesis was ranked 3rd in the SVOČ competition 2022 in the category "ECONOMICS - BSP".

I evaluate the thesis as **VERY GOOD MINUS.**

