

CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

Evaluation of the Diploma Thesis by Opponent

Thesis Title **Economic efficiency in solar energy based on microcontrollers**

Name of the student **Bc. Zeinalabdein Alali**

Thesis supervisor **Ing. Ghaeth Fandi, Ph.D.**

Department **Department of Trade and Finance**

Opponent **Alaa Ayoub**

Evidence of a logical process being used	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
The structure of paragraphs and chapters	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
Formal presentation of the work, the overall impression	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
Formulation of objectives	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
Choice of appropriate methods and methodology used	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
Professional contribution of the work and its practical usage	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4
Work with data and information	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
Work with scientific literature (quotations, norms)	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
Clarity and professionalism of expression in the thesis	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
Summary and key-words comply with the content of thesis	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
Fulfillment of objectives	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
Thesis topic and thesis significance (relevance)	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
Theoretical background of an author	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
Comprehensibility of the text and level of language	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
Formulation of conclusions	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
Evaluation of the work by grade (1, 2, 3, 4)				2

Evaluation: 1 = the best

Date 28/04/2024

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Signature of Opponent

Other comments or suggestions:

The thesis focuses on evaluating the economic efficiency of solar energy based on microcontrollers, which will help the decision maker to calculate the ROI when implementing such systems. The student identified the two main microcontroller architectures. In the practical part of the thesis, both are described in detail.

The student used reliable resources from the World Bank and used mathematical methods in the results and analysis section.

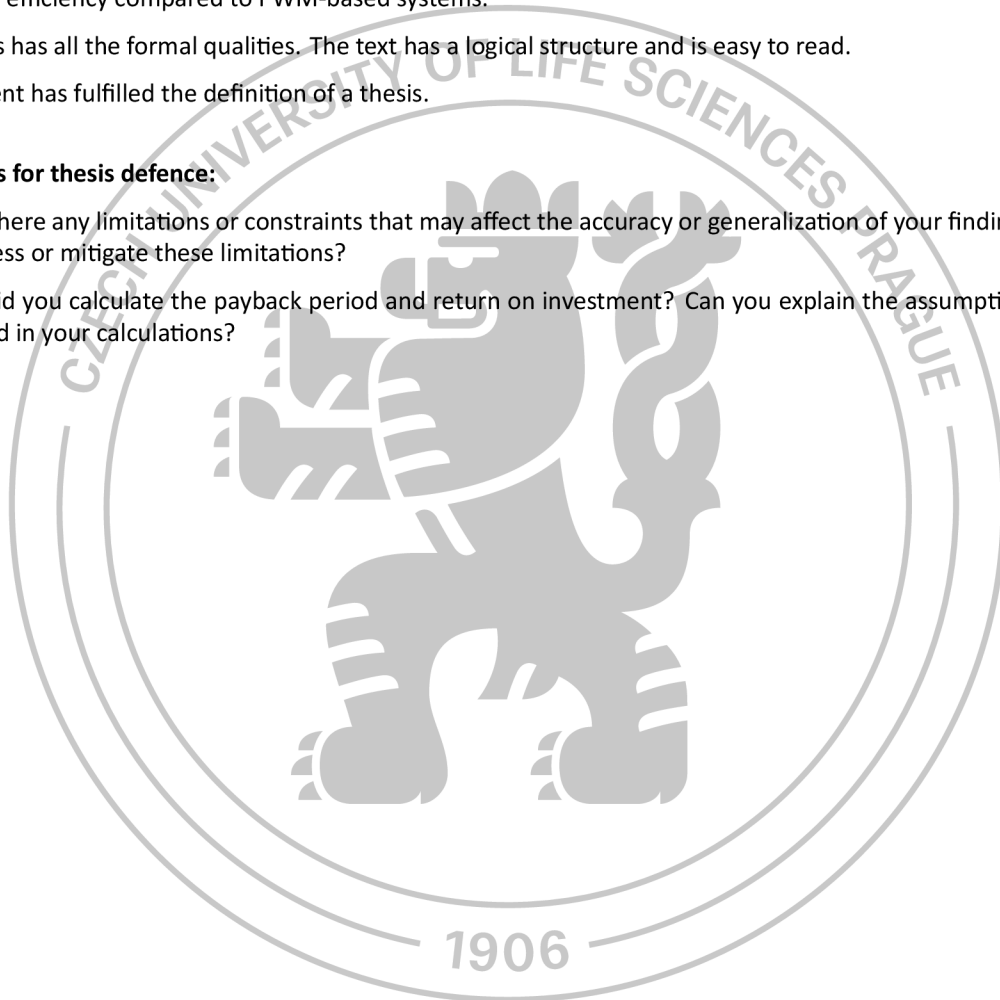
The conclusion of the work states the results clearly: solar energy systems using MPPT microcontrollers show superior economic efficiency compared to PWM-based systems.

The thesis has all the formal qualities. The text has a logical structure and is easy to read.

The student has fulfilled the definition of a thesis.

Questions for thesis defence:

1. Were there any limitations or constraints that may affect the accuracy or generalization of your findings? How did you address or mitigate these limitations?
2. How did you calculate the payback period and return on investment? Can you explain the assumptions and variables used in your calculations?



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