Report on **Master Thesis**

Institute of Economic Studies, Faculty of Social Sciences, Charles University

Student:	**Bc. Jan Klásek**
Advisor:	**PhDr. Jana Votápková, Ph.D.**
Title of the thesis:	**Health Technology Assessment of Digital Diabetes Therapeutics**

***OVERALL ASSESSMENT** (provided in English, Czech, or Slovak):*

Please provide a short summary of the thesis, your assessment of each of the four key categories, and an overall evaluation and suggested questions for the discussion. The minimum length of the report is 300 words.

Short summary

The thesis assesses cost-effectiveness of a new mobile application to control diabetes mellitus II. patients through life-style inteventions as a complement to traditional pharmaceutical treatment. On a German study of 42 patients a discrete-time Markov chain is applied for different lifetimes of the model. Robustness is checked on deterministic and probabilitic sensitivity analyses. The results confirm that digital inteventions are cost-effective both in short- and long-term horizon.

Contribution

Contribution of the thesis is obvious both for empirical modelling and real-life. Within theoretical literature, the thesis applies standard methodology on the available dataset making necessary adjustmnets to the methodology for it to be applicable for author´s purposes. From real-life perspective, the thesis bears imprtatnt implications for traditional treamment of cronic diseases, not only diabetes. It reveals the importance of life-style on the development of illnesses, particularly in todays hectic world.

Methods

Methodology is appropriate, well explained, backed by the literature and reasonably adjusted for the pruposes of the thesis.The author reaveals good understanding of the methodology.

Literature
The thesis is nicely backed by the literature review which is logical and supports reasoning of the author. Literature background is used not only for the literature review sectioin but for all parts of the thesis, including selection of utilities and costs for different states. Discrepancies in the literature regarding e.g. utilities for different states are used to determine upper and lower bounds in the sensititivy analysis. Selected costs for different states are thoroughly discussed based on findings in the literature.

Manuscript form

The thesis is written in very good English. Sequence of thoughs of the author is logical, ideas are well explained. It reads well.
The thesis starts describing the overall burden of diabetes and narrows the topic down to the application assessed, so even a reader who is not familiar with the topic of diabetes mellitus understands it well in the end thanks to the overall context of the thesis.

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Overall evaluation and suggested questions for the discussion during the defense

The thesis is an example of an excellent scholarly work.
Overall, cooperation with Jan Klásek was great.He completed the work independently under my guidance. He took advice I gave him and delivered drafts on time.
The thesis deserves to be nominated to Dean´s Award or the like. I highly recommend **publication of a Working paper and subsequent submission to a journal.**

<u>**Questions for the defense:**</u>
1. Elaborate more on the relationship between marginal economic growth and diabetes incidence, i.e. high prevalence in developing countries today.
2. Why is it good that utilities among different states slightly overlap in table 4.3.?

In my view, the thesis fulfills the requirements for a master thesis at the IES, Faculty of Social Sciences, Charles University. I recommend it for the defense and suggest a grade A.
The results of the Urkund analysis do not indicate significant text similarity with other available sources.

SUMMARY OF POINTS AWARDED (for details, see below):

CATEGORY		POINTS
Contribution	*(max. 30 points)*	30
Methods	*(max. 30 points)*	30
Literature	*(max. 20 points)*	20
Manuscript Form	*(max. 20 points)*	20
TOTAL POINTS	*(max. 100 points)*	**100**
GRADE	**(A – B – C – D – E – F)**	**A**

NAME OF THE REFEREE: PhDr. Jana Votápková, Ph.D.

DATE OF EVALUATION: May 24, 2022

> *Digitally signed (May 24, 2022)*
> *Jana Votápková*

> _____
> *Referee Signature*

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EXPLANATION OF CATEGORIES AND SCALE:

CONTRIBUTION: *The author presents original ideas on the topic demonstrating critical thinking and ability to draw conclusions based on the knowledge of relevant theory and empirics. There is a distinct value added of the thesis.*

METHODS: *The tools used are relevant to the research question being investigated, and adequate to the author's level of studies. The thesis topic is comprehensively analyzed.*

LITERATURE REVIEW: *The thesis demonstrates author's full understanding and command of recent literature. The author quotes relevant literature in a proper way.*

MANUSCRIPT FORM: *The thesis is well structured. The student uses appropriate language and style, including academic format for graphs and tables. The text effectively refers to graphs and tables and disposes with a complete bibliography.*

Overall grading:

TOTAL	GRADE
91 – 100	A
81 - 90	B
71 - 80	C
61 – 70	D
51 – 60	E
0 – 50	F