

Opponent Report on Doctoral Dissertation

Title: Evaluation of the Role of Crucial Impacts on Networks for Technological Innovation

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Aims and hypotheses

The goal is stated in several places of the dissertation, which is not standard. The goal is thus defined on pages 33, 34, 36-38 (in a different structure) and again partly on pages 40-42. The thesis does not explain the difference between "aim" and "objective." However, it can be assumed that "aim" is intended as the main goal and "objectives" represent sub-goals. The main goal of the work is *"To assess the contributory role of financial, interactive, institutional and structural factors in the network of technological innovation generation."* This main aim is divided into three partial objectives. There are four hypotheses related to the first objective, two hypotheses related to the second objective and no hypothesis was defined for the third objective. The aim and objectives defined in the thesis seem to be too ambitious and difficult to achieve. However, it can be stated that if we look at the targets from a narrowed perspective, they can be considered fulfilled.

Content and structure

The work is divided into three chapters and their structure is logical at first glance.

The first chapter should represent a theoretical introduction to the topic of the dissertation. I appreciate a large number of literary sources on which the review is based. Nevertheless, I have several comments on the logical arrangement of the text. The work should start with general information and basic definitions and gradually move to more detailed and in-depth information on the problem that is solved in the thesis. This is not fulfilled in the thesis. The author starts with technological innovation systems, then deals with the prerequisites for the creation of innovations, his attention is paid to the determinants of different types of innovations (1.4.1 and 1.4.2.), barriers to innovation and the basic definition of innovation is stated at the end of the first chapter (1.9). The structure of the whole text is not logical and the arrangement of ideas is muddled. The author jumps from one idea (topic) to another and then back to the first. The text also deals with issues that are not related to the dissertation topic (e.g., foreign direct investments). The headings, in some cases, do not correspond to the real content (e.g., chapters 1.4 and 1.6 do not deal with regional issues, although they have it in their title. I do not understand the location of chapters 1.8 and 1.10. With respect to their content, they should be included in the methodology in chapter 2. In my opinion, the literature review should also focus on some missing topics. For example, I lack a definition of small and medium-sized enterprises. I would also welcome a discussion on the different types of industrial property rights (patents, trademarks, designs), their advantages and disadvantages, and their relationship with innovation.

The second chapter deals with the methodology. Unfortunately, there is again an inappropriate arrangement of ideas. In the sections with goals (2.1 and 2.2), the goals are not defined in their complete form. Furthermore, there is a redundant literature review in this part. Subchapters 2.5-2.7 have a better structure, where the author explains in an appropriate way which methods he will use. These chapters are clear and understandable. The author uses two basic approaches, namely structural equation modeling and ordinary least square regression. The figure on page 44 is identical to the content in table 2 (page 45). I think that the student could better explain which of the indicators listed in table 2 will be used in the dissertation and for confirmation of which hypothesis they will serve.

Chapter 3 has a logical and clear structure. This methodological procedure seems to be well thought out and elaborate. I have no comments on the application of individual methods. I consider the performed econometric analyses to be a valuable output of the thesis. Although some conclusions could be expected, it is valuable that they are scientifically confirmed.

Formalities

The formal arrangement of the dissertation is at a standard level. Some tables are unnecessarily large, which doesn't look well. These tables (e.g., tab. 1 and tab. 3) could be scaled down and placed on one page. Typos sometimes occur, but there are not many. The citations of the sources used in the text correspond to common standards. The bibliography includes a wide range of quality scientific publications.

Questions for explanation at defence:

What are the main differences between patents, trademarks and designs? What is their relationship to innovation? Does this mean that every patent is transformed into innovation by being put into practice? Do all innovative companies want to patent their inventions?

Specify how the concept of technological innovation systems has been incorporated into the methodology of your thesis. What is the relationship between technological, sectoral and territorial innovation systems?

Overall assessment

Despite the above comments, the thesis meets the standards required for dissertations. The author has demonstrated the ability of analytical and synthetic creative work in the field of research. I recommend the dissertation thesis for defence. After a successful defence, I recommend to confer Ph.D. title on Henry J. Anderson,

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doc. Ing. Viktorie Klímová, Ph.D.

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