

Dear prof. Ing. Tatiana Molková,

My dissertation review report for the dissertation thesis (entitled “**Train Platforming Problem Solving**” and written by **Ing. Emine AKYOL**) is below.

Best regards.



06/11/2017

Dr. Özgür Yalçınkaya

**Review Report for “Train Platforming Problem Solving”
written by Ing. Emine AKYOL**

In this dissertation, to propose a decision-making tool for an assignment plan of one-day timetable without conflicts for train platforming problem belongs to Prague main railway station is aimed. Two solution methods; a mixed integer programming model and a matheuristic algorithm are applied. The objective is to minimize the total delay of incoming and outgoing trains.

My opinions and suggestions on the dissertation:

1. **On page 12**, a citation is made like *Caprara et al. (2010)*, but in “9 BIBLIOGRAPHY” section the year is given as 2011. I checked the paper; the true year is 2011, so it should be corrected.
2. **On page 12**, it is written like “*All TPP problems ...*.” It is clear that the “TPP” abbreviation is used for “train platforming problem”, but without any indication. Before using an abbreviation it should be defined.
3. **On page 13**, citations are made like *Carey (1994a)* and *Carey (1994b)*, but in “9 BIBLIOGRAPHY” section both of them are given like *Carey, M. (1994)*, it should be corrected with adding *a* and *b*.
4. **On page 13**, it is written like “*... is illustrated to solve TPP.*” Abbreviation is again used without before indication.
5. **On page 13**, the citation *Caprara et al. (2010)* should be corrected as 2011.

6. In the last paragraph of “1 LITERATURE REVIEW” section the PhD work of Bai is mentioned three times but it is not included in “9 BIBLIOGRAPHY” section, should be added.
7. **On page 16**, it is written like “*The main goal of this dissertation is to develop an efficient approach that would serve as a dispatcher’s decision supporting tool and results in a better platform track assignment plan for large stations.*” How someone who is not familiar with mathematical programming and matheuristic algorithm can use this decision supporting tool? How this main goal can be succeed?
8. **On page 56**, two citations are made like *Galli (1998)*, but the study is not included in “9 BIBLIOGRAPHY” section. If it is forgotten should be added, if the year is wrong should be corrected.
9. **On page 56**, two citations are made like *Bai (2016)*, but the study is not included in “9 BIBLIOGRAPHY” section, should be added.
10. **On page 96**, it is written like “*In this dissertation, a mixed integer model and matheuristic algorithm are developed to solve the problem in tactical planning level.*” and “*In general point of view, basic presumption – timetable with no conflicts – is not strictly fulfilled in estimated (real) situation.*” So how can the developed approach used as a dispatcher’s decision supporting tool if it cannot result conflict free timetable? Can a dispatcher make a decision with the developed tool? How the main goal written **on page 16** can be achieved?

My assessments on the subjects mentioned in the appointment letter:

- a) *Up-to dateness of the topic*: the topic is up-to-date, researchers are studying the train platforming problem.
- b) *Selected methods of writing*: no problem with the method of writing.
- c) *Whether the work fulfilled the objectives*: the study proposed a solution to the train platforming problem, but I have a suggestion about the main goal of the study. It looks like the approach cannot be used by the dispatchers, since dispatchers are dealing with the operational level problems but the approach is better for the tactical level. It is better to say that “... *serve as a planning engineer’s decision supporting tool* ...” in the main goal.
- d) *The results of the dissertation thesis adding whether and what new findings it has brought*: A matheuristic algorithm is applied to solve the train platforming problem.

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- e) *Significance for profession of scientific development*: the dissertation thesis can be accepted after some proposed minor revisions.
- f) *The extended and quality of the published works related to the dissertation thesis*: the published studies have good quality and they are related with the dissertation thesis.
- g) *Whether the dissertation thesis meets the requirements for creative scientific work for awarding the title Ph.D.*: YES, it meets the requirements.

A handwritten signature in blue ink, appearing to be 'P. A. G.' with a stylized flourish.

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