TITLE

Name Surname

Doctoral Dissertation Jožef Stefan International Postgraduate School Ljubljana, Slovenia, Month 2013

Supervisor: Jožef Stefan Institute, Ljubljana, Slovenia Co-supervisor: Jožef Stefan Institute, Ljubljana, Slovenia

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Abstract

The Abstract should be written in the file Abstraxt.txt.

Povzetek

Povzetek se piše v dokumentu *Povzetek.tex*

1 Introduction

This Chapter explains how to provide citations, publications related to the dissertation and abbreviations throughout the thesis.

1.1 Citations

In order to use the correct bibliography style, the bibliography style $mps4_5$ is included in the main file thesis.tex. Several examples for citations are provided in continuation.

```
1. Article citation: (Saaty, 2003b), (Saaty, 2003a)
```

- 2. Web page citation: (The Economist, 2010)
- 3. Author citation: Zopounidis and Doumpos (2006)
- 4. Book citation: (Bohanec, 2011)
- 5. Conference article citation: (Baracskai and Dörfler, 2003)
- 6. Several citations:

```
(Bohanec, 2011; Burstein and Holsapple, 2008; Power, 2002)
(Skinner, 1999; Howard, 1968)
(E.Triantaphyllou, 2000; French, 1986; Bouyssou et al., 2006)
(Figueira et al., 2005)
(Jacquet-Lagreze and Siskos, 1982)
(Saaty, 2008)
(Moshkovich and Larichev, 1995)
(Greco et al., 2001)
(Adam and Humphreys, 2008; Figueira et al., 2005; Bouyssou et al., 2006)
(Menzies and Richardson, 2006; Saaty, 2008; Zadeh, 1975; Guo et al., 2009; Barron and Barrett, 1996)
```

1.2 Publications related to the dissertation

Publications related to the dissertation should be entered in myPublication.bib file. In order to enter them in Chapter ??, one should cite (include) them in the file my_publications.tex.

In order a publication to appear in the chapter *Publications related to the dissertation*, after changing the file *my_publications.tex*, one has to run *bibtex bu.aux* for all bu*.aux files (bu1.aux, bu2.aux etc.). After compiling, the references to the publications will appear.

2 Introduction

1.3 Abbreviations

The first occurrence of an abbreviation has to be followed with its long explanation. See the examples below for different types of abbreviations.

To add a new abbreviation, in the file abbreviation.txt use the following command:

```
\newacronym\<label>}{<abbrv>}{<full>}
```

In order to make the abbreviations appear in the list of abbreviations, the following procedure should be applied:

- 1. Apply latex compile twice (from the editor or in command line by using the command latex thesis.txt
- 2. Run the following two commands in command line:

```
makeindex -s thesis.ist -t thesis.alg -o thesis.acr thesis.acn makeindex -s thesis.ist -t thesis.glg -o thesis.gls thesis.glo
```

Afterwards the latex compile will include the list of abbreviations. Any content changes in the file *abbreviation.txt*, require repeating the above procedure in order for changes to take effect.

The first occurrence of an abbreviation has to be followed with its long explanation. Several examples of usage of long abbreviations are given in continuation.

• test

1.4 Contribution

This is a new section.

1.5 Organization of the thesis

This is a new section.

2 Definitions, Theorems, Lemmas and Algorithms

This Chapter explains how to provide Definitions, Theorems, Lemmas and Algorithms in the thesis.

2.1 Definitions, Theorems, Lemmas

2.2 Algorithms

This is an example of how to write an Algorithm by using the packages algorithm and algorithmic.

3 References

Adam, F.; Humphreys, P. (eds.) Encyclopedia of Decision Making and Decision Support Technologies (Information Science Reference, 2008).

Baracskai, Z.; Dörfler, V. Automated fuzzy-clustering for doctus expert system. In: *Paper presented at International Conference on Computational Cybernetics*, Siófok, Hungary. (2003).

Barron, F.; Barrett, B. The efficacy of smarter — simple multi-attribute rating technique extended to ranking. *Acta Psychologica* **93**:23–36 (1996).

Bohanec, M. Odločanje in modeli (DMFA, Ljubljana, 2006).

Bohanec, M. DEXi: Program for Multi-Attribute Decision Making: User's manual: version 3.03. IJS Report DP-10707, Jožef Stefan Institute, Ljubljana (2011).

Bouyssou, D.; Marchant, T.; Pirlot, M.; Tsoukiàs, A.; Vincke, P. Evaluation and Decision Models with Multiple Criteria: Stepping Stones for the Analyst. (Springer, Boston, USA, 2006).

Burstein, F.; Holsapple, C. W. (eds.) *Handbook on Decision Support Systems 1: Basic Themes* (Springer-Verlag Berlin Heidelber, 2008).

E.Triantaphyllou. *Multi-Criteria Decision Making Methods: A Comparative Strudy* (Kluwe Academic Publishers, Dordrecht, Netherlands, 2000).

Figueira, J.; Greco, S.; Ehrgott, M. Multi Criteria Decision Analysis: State of the art survays. (Springer Verlag, Boston, Dordrecht, London, 2005).

French, S. Decision theory: an introduction to the mathematics of rationality (Halsted Press, New York, NY, USA, 1986). ISBN 0470203080.

Greco, S.; Matarazzo, B.; Slowinski, R. Rough sets theory for multicriteria decision analysis. *European Journal of Operational Research* **129**:1–47 (2001).

Guo, M.; Yang, J.; Chin, K.; Wang, H.; Liu, X. Evidential reasoning approach for multiattribute decision analysis under both fuzzy and interval uncertainty. *IEEE Transactions* on Fuzzy Systems 17(3):683–697 (2009).

Howard, R. A. The foundations of decision analysis. *IEEE Transactions on Systems Sciences and Cybernetics* **SSC-4**(3):211–219 (1968).

Jacquet-Lagreze, E.; Siskos, J. Assessing a set of additive utility functions for multicriteria decision making, the uta method. *European journal of Operational Research* **10**(2):151–164 (1982).

Menzies, T.; Richardson, J. Qualitative modeling for requirements engineering (2006).

6 References

MILEVA-BOSHKOSKA, B.; BOHANEC, M. Non-linear methods for ranking qualitative non-monotone decision preferences. In: Marko, B.; Matjaž, G.; Vladislav, R.; Tanja, U.; Mojca, B.; Dunja, M.; Marko, G.; Marjan, H.; Urban, K.; Olga, M.; Jadran, L.; Leon, Ž.; Andrej, G.; Andrej, B. (eds.) Zbornik 13. mednarodne multikonference Informacijska družba - IS 2010, 11.-15. oktober 2010 : zvezek A : volume A, (Informacijska družba), 31–34 (Ljubljana: Institut Jožef Stefan, 2010).

- MILEVA-BOSHKOSKA, B.; BOHANEC, M. Copula regression based ranking of non-linear decision options. In: Dejan, P.; Aleš, T.; Brigita, R.; Bogdan, P. (eds.) 3. študentska konferenca Mednarodne podiplomske šole Jožefa Stefana = 3rd Jožef Stefan International Postgraduate School Students Conference, 25. maj 2011, Ljubljana, Slovenija. Zbornik prispevkov., 91–97 (Ljubljana: Mednarodna podiplomska šola Jožefa Stefana, 2011a).
- MILEVA-BOSHKOSKA, B.; BOHANEC, M. Ranking of non-linear qualitative decision preferences using copulas. In: F, D. (ed.) *Proceedings of the EWG-DSS London-2011 Workshop on Decision Systems, June 23rd-24th, 2011, London,* 48 (Toulouse: IRIT: = Institut de Research en Informatique de Toulouse, 2011b).
- MILEVA-BOSHKOSKA, B.; BOHANEC, M. Ranking of qualitative decision options using copulas. In: 2011, O. (ed.) *International Conference on Operations Research, August 30 to September 2, 2011, Zurich, CH. Book of abstracts.*, 32 (Zurich: IFOR: = Institute for Operations Research, 2011c).
- MILEVA-BOSHKOSKA, B.; BOHANEC, M. A method for ranking non-linear qualitative decision preferences using copulas. *International Journal of Decision Support System Technology* 2 (2012a).
- MILEVA-BOSHKOSKA, B.; BOHANEC, M. Ranking of qualitative decision options using copulas. In: Diethard, K. (ed.) Operations research proceedings 2011: selected papers of the International Conference on Operations Research (OR 2011), August 30 September 2, 2011, Zurich, Switzerland, (Operations research proceedings), 103–108 (Berlin; Heidelberg, 2012b).
- MILEVA-BOSHKOSKA, B.; BOHANEC, M.; ŽNIDARŠIČ, M. Experimental evaluation of methods for ranking qualitatively assessed data-mining worksflows. In: Ana, R.; Frada, B. (eds.) Fusing decision support systems into the fabric of the context: [presented at 16th IFIP WG8.3 International Conference on Decision Support Systems, June 28-30 2012, Anávissos, Greece], vol. (Frontiers in artificial intelligence and applications, vol. 238), 175–184 (Amsterdam: IOS Press, 2012).
- Moshkovich, O.; Larichev, H. Zapros-lm– a method and system for ordering multiattribute alternatives. European Journal of Operational Research 82:503–521 (1995).
- Power, D. Decision support systems: concepts and resources for managers (Quorum Books division Greenwood Publishing, 2002).
- Saaty, T. L. Decision-making with the ahp: Why is the principal eigenvector necessary. European Journal of Operational Research 145:85–91 (2003a).
- Saaty, T. L. Why the magic number seven plus or minus two. *Mathematical and Computer Modelling* **38**:233–244 (2003b).
- Saaty, T. L. Decision making with the analytic hierarchy process. *Int. J. Services Sciences* 1(2) (2008).

Skinner, D. Introduction to Decision Analysis, A practitioner's Guide to Improving Decision Quality (Probabilistic Publishing, Gainesville, 1999).

The Economist. The tyranny of choice. You choose. (2010). URL http://www.economist.com/node/17723028.

Zadeh, L. The concept of a linguistic variable and its application to approximate reasoning (i)(ii)(iii). *Information Sciences* 9, 43–80, 199–249, 301–357 (1975).

Zopounidis, C.; Doumpos, M. Multiple-criteria decision making. In: *Encyclopedia of Management* (Thomson, Gale, Farmington Hills, Michigen, USA, 2006).

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