

CHARLES UNIVERSITY
FACULTY OF SOCIAL SCIENCES

**individual study plan
of doctoral student**

Plan ID 22659

Student

Name **Mgr. Theodor Petřík**
E-mail **30443562@fsv.cuni.cz**
Faculty **Faculty of Social Sciences**
Study programme **Economics and Finance (P0311D050001)**
Standard length of the study (number of years) **4**
Form of study **full-time**
Date of commencement of doctoral study **19.09.2022**

**Study programme guarantor
and Chair of subject area board**

Name **prof. Ing. Evžen Kočenda, M.A., Ph.D., DSc.**

Supervisor

Name **doc. PhDr. Zuzana Havránková, Ph.D.**
E-mail **zuzana.havrankova@fsv.cuni.cz**
Department / Institute **Institute of Economic Studies**

Advisor

Name **Ing. Martin Plajner**
E-mail **plajnmar@fjfi.cvut.cz**
Department / Institute **Institute of Economic Studies**

Doctoral dissertation

Title of thesis
Concurrent Business and Distribution Strategy planning
Progress on the doctoral dissertation
Synopsis: The work presents an innovative Concurrent optimization model (COM) based on the Bayesian network's [1] framework and demonstrates its applicability and advantages in the Smart Cities domain [2,3]. In the first essay, I will present COM and use it to test the viability of different distribution strategies for a model company based on various policies cities might adopt regarding transportation [5] within the city limits (fee for entry, complete/partial prohibition of cars, etc.). I will further include how inventory management fits the optimization model in the second paper [4]. In the last essay, I will develop a model enabling us to design distribution strategies optimally for multiple entities with respect to one another. The contributions of this work are three-fold. (1) The COM can be used to solve a range of other optimization problems. (2) The city policymakers can consider the findings of this work when making decisions. (3) Companies can apply the methodology introduced in this work to plan their operations within any modern city. References: [1] Jensen, Finn V., and Thomas Dyhre Nielsen. Bayesian networks and decision graphs. Vol. 2. New York: Springer, 2007. [2] Kumar, Vinod, and Bharat Dahiya. "Smart economy in smart cities." Smart economy in smart cities. Springer, Singapore, 2017. 3-76. [3] Haleboua, Germaine. Smart cities. MIT Press, 2020. [4] Madadi, Alireza, Mary E. Kurz, and Jalal Ashayeri. "Multi-level inventory management decisions with transportation cost consideration." Transportation Research Part E: Logistics and Transportation Review 46.5 (2010): 719-734. [5] Razmjoo, Armin, et al. "Effective policies to overcome barriers in the development of smart cities." Energy Research & Social Science 79 (2021): 102175. Form and scope of the dissertation: The dissertation will have between 100 and 200 standard pages. Time schedule of progress on the dissertation: 1st year of study: Work on the first dissertation article with the expected title "Distribution strategy in Smart cities". 2nd year of study: Work on the second dissertation article with the expected title "Impact of inventory management on distribution in Smart cities". 3rd year of study: Completion of the dissertation with the third article with the expected title "Centralization of the distribution strategies for multiple entities within a Smart city" 4th year of study: Finishing, Pre-defense, and Defense of the dissertation

State doctoral examination and doctoral dissertation defence

Type	Code	Title, details	Ac. year
Doctoral dissertation defence	JOBEE1	Defence of Dissertation	2025/2026
	JSZEE1	State Doctoral Exam	2024/2025

Course of study

I am fulfilling all my study obligations (I attended the methodology seminar; I am teaching 1,5 TA slots) and I am starting with my research. In addition, I am planning to submit a GAUK proposal to further support my research goals.

Duties – study plan

Type	Code	Title, details	Ac. year
Course	JED511	Teaching Assistantship (Full) A	2022/2023
Course	JED511	Teaching Assistantship (Full) A	2022/2023
Course	JED521	Teaching Assistantship (Half) A	2022/2023
Course	JED521	Teaching Assistantship (Half) A	2022/2023
Course	JED414	Quantitative Methods in Macroeconomics and Finance I	2022/2023
Course	JED415	Quantitative Methods in Macroeconomics and Finance II	2022/2023
Course	JED412	Advanced Financial Econometrics I	2023/2024
Course	JED413	Advanced Financial Econometrics II	2023/2024
Course	JED511	Teaching Assistantship (Full) A	2023/2024
Course	JED511	Teaching Assistantship (Full) A	2023/2024
Course	JED511	Teaching Assistantship (Full) A	2024/2025
Course	JED511	Teaching Assistantship (Full) A	2024/2025
Course	JED511	Teaching Assistantship (Full) A	2025/2026
Grant	---	Grant activities Application to the Grant Agency of the UK competition with an expected topic "Strategical planning in Smart cities". In case my project will not be accepted for financing, I will submit a new application in subsequent years of study. Application to the Grant Agency of the UK competition with an expected topic "Strategical planning in Smart cities". In case my project will not be accepted for financing, I will submit a new application in subsequent years of study.	2022/2023
Training	---	Methodological seminar for PhD students In the 1st year of study, I will attend a methodological seminar for teaching.	2022/2023
Other	---	Defenses In each academic year I visit at least 50 % of the defenses or at least 7 defenses, whatever is lower	2022/2023
Conference	---	By the end of the 4th year of study, I will actively participate in at least two international scientific conferences.	2025/2026
Other	---	Study documents Till May 31 of this academic year, I delivered my "Annual assessment of fulfilling the ISP" + "Supplement", in which I further specify the intended course of my doctoral studies over the next academic year. In case of my study interruption, I will fill in the required documents ("Annual assessment of fulfilling the ISP" + "Supplement" for the next academic year) within a month from the end of my study interruption period.	2022/2023
Academic teaching	---	BT and MT refereeing I will serve as an opponent of Bachelor's and Master's theses	2022/2023
Academic teaching	---	Teaching assistantship Teaching WS 2022/2023: JEB111 Advanced Data Analysis in MS Excel (1,5 TA slots - seminars)	2022/2023
Academic teaching	---	Teaching assistantship Teaching WS 2022/2023: JEB111 Advanced Data Analysis in MS Excel (1 TA slot - seminars)	2022/2023
Publication	---	Distribution strategy in Smart cities Publication of an IES WP based on my diploma thesis, with the expected title "Distribution strategy in Smart cities". This WP will be joint work with my dissertation consultant Martin Plajner.	2022/2023
Publication	---	Distribution strategy in Smart cities - Scopus submission Submission to a foreign journal listed in the Scopus database. The paper will be based on my diploma thesis, with the expected title "Distribution strategy in Smart cities". In case of very positive reviews on the IES WP version, we first plan to submit it to the famous Sustainable cities and society (IF 7.587). In case of rejection in this journal or in case of less positive reviews from IES WP we send the paper to the International journal of advanced research (IF 0.97). In case of further rejection, we will submit the paper to a different Scopus listed journal without the impact factor.	2023/2024
Publication	---	Impact of inventory management on distribution in Smart cities Publication in the IES WP series titled "Impact of inventory management on distribution in Smart cities".	2023/2024
Publication	---	Impact of inventory management on distribution in Smart cities - Scopus submission Submission to a foreign journal listed in the Scopus database. The paper will be based on my diploma thesis, with the expected title "Distribution strategy in Smart cities". In case of very positive reviews on the IES WP version, we first plan to submit it to the famous Sustainable cities and society (IF 7.587). In case of rejection in this journal or in case of less positive reviews from IES WP we send the paper to the International journal of advanced research (IF 0.97). In case of further rejection, we will submit the paper to a different Scopus listed journal without the impact factor.	2023/2024
Publication	---	Centralization of the distribution strategies for multiple entities within a Smart city Publication to the IES WP series with the expected title "Centralization of the distribution strategies for multiple entities within a Smart city".	2024/2025
Publication	---	Centralization of the distribution strategies for multiple entities within a Smart city - Scopus submission Submission to a foreign journal listed in the Scopus database with the expected title "Centralization of the distribution strategies for multiple entities within a Smart city".	2024/2025

Approval of plan

Supervisor

doc. PhDr. Zuzana Havránková, Ph.D.

25.10.2022

Student

Mgr. Theodor Petřík

24.10.2022

Approved by CDS.

Approved by Subject Area Board of doctoral study programme (field of study) on: 26.10.2022

Chair of Subject Area Board

prof. Ing. Evžen Kočenda, M.A., Ph.D., DSc.

26.10.2022

Study programme guarantor

prof. Ing. Evžen Kočenda, M.A., Ph.D., DSc.

26.10.2022