

Self-presentation of research output in habilitation procedure

1. Full name

Michał Suchanek

2. Diplomas with their names, places and titles

PhD in economics – University of Gdańsk, Faculty of Economics, Gdańsk 2015, based on dissertation: *Ekonomiczne uwarunkowania stabilności podmiotowych struktur sektora ochrony zdrowia w Polsce / Economic conditions of the stability of health care sector entities in Poland*

3. Employment up-to-date in research centres

since 01.11.2015 – **assistant professor**, University of Gdańsk, Faculty of Economics, Chair of Economics and Management of Transport Companies

01.10.2012-31.10.2015 – **assistant**, University of Gdańsk, Faculty of Economics, Chair of Economics and Management of Transport Companies

23.12.2015 – 30.03.2016 – **technical employee**, National Marine Fisheries Research Institute, Chair of Fisheries Economics

4. The achievement pointed out in the Art. 16, p. 2 of the of the Act of 14 March 2003 on Academic Degrees and Academic Title and Degrees and Title in Art

a) title of the scientific achievement

Decyzje transportowe mieszkańców w zakresie codziennych podróży a jakość życia / Transport decisions of citizens in respect to their everyday commute and the quality of life



b) Author, title, year of publishing, name of the publishing house, publishing reviewer

M. Suchanek, *Decyzje transportowe mieszkańców w zakresie codziennych podróży a jakość życia*, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2019, ISBN 978-83-7865-791-0

Publishing reviewer – dr hab. Grzegorz Dydkowski, prof. UE w Katowicach

c) Description of the goal of the achievement, the results and the potential application

The monograph *Transport decisions of citizens in respect to their everyday commute and the quality of life* was created as an answer to the identified shortages in the literature on the relations between the transport behaviour of the citizens and the quality of life. This field has been in dynamic development for a few years in worldwide literature, especially in regards to transport processes in highly developed countries. At the same time, there is a relative shortage of such works focused on countries which are weakly developed, in which different historical, social and cultural conditions have led to a different mobility culture and specific characteristic of transport behaviour. There aren't many works which focus on the relations between the transport decisions made and the health of a person and the quality of life understood both through the objective life quality indicators as well as through the subjective wellbeing. The relations between these decisions and the quality of life are complex and multilevel. We can assume that people strive to optimise their quality of life and rationalise their decision based on that criterion. What becomes interesting then is the very concept of the customer's rationality, in this case the customer being the citizen who wants to satisfy his mobility needs. In light of the paradigm of the rational man – *homo oeconomicus* – proposed by John Stuart Mill, a man, in general, makes rational decisions thus improving the well-being of the whole society. The analysis of transport decisions made in regards to the transport mode choice allows to verify this paradigm.

The very concept of the quality of life is, economically-speaking, divergent. Much of economic research is based on the concept of the quality of life as measured by a set of objective measures of a human being within a socio-economic reality. On the other hand, from the point of view of the problem of rational customer decisions, the category of subjective quality of life, applicable to the customers satisfaction and well-being is just as important. In economic reality, customer decisions might decrease his objective quality of life while improving his well-being. In turn, it is crucial to verify which conditions affect the customer's choice in regards to the



travel mode in his everyday commute. If most of the commuters decided to use public transport or various forms of active commute, the environment condition and in turn the objective quality of life of the commuters and the society as a whole would improve. However, research suggests that commuters base their decisions on their individual concept of the life quality, disturbed by their attitudes, beliefs and habits, which is not in line with the classic concept of a rational customer decision. In practice, the structure of the transport market suggests that most people believe the car to be the best transport mode despite its negative effect on the environment, which decreases the state of the physical environment, thus decreasing the quality of life itself.

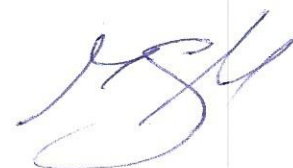
The category of health is just as important, health being the factor which conditions the decisions and disturbs their rationale. The medical sciences suggest that the lack of illness itself, meaning a good state of the physical state, doesn't necessarily translate to a high quality of life, especially in subjective view, if it's not accompanied by well-being. The effect of health on the quality of life is drawn out in time and irregular which means that people tend to make decisions which favour their well-being in the short run, even if they decrease the quality of life in the long run. From the point of view of economics, health can be treated both as a private and as a public goods. Health is a type of goods which is used by individual beings but also by the society as a whole. It's not exchanged on the market. It also warrants the possibility of economic and social development. The very process of health consumption is specific as it lasts throughout the whole life of a person and no one can be excluded from the process. There is no competition for health as such as the consumption of health by one person doesn't lead to anyone being excluded. There are arguments for treating health as a public goods, necessary for the very existence of a nation and society. Apart from that, there is a distinction in the literature into the category of objective health as measured by the assessment of the physiological processes and the subjective health treated as the feeling of being in good health of being ill. The specific character of health means that the healthcare markets are far from model competitive markets. In practice this effect of the health on the market also applies to other markets, including the transport market. There is still a shortage of scientific work on the effects of transport on the public health and individual physical health. It's been pointed out that car commuters are more prone to obesity, hypertension and diabetes and that, on general, they are in worse health than people commuting in a more active way. This results in a policy of sustainable transport development which promotes collective travelling, especially if done in an active way. However, latest research indicates that this is not a one-dimensional relations, especially if we account for the well-being of the commuters and their subjective level of health.



The main goal of my research was to verify if the health and quality of life factors disturb the rational model of decision making. It was supposed to show whether the decisions made by the commuters in everyday behaviour are different than the decision which a classical *homo oeconomicus* would make. As a result the goal of the monograph was to verify what factors affect the choice of the travel mode and how it affects their health and their quality of life as well as to verify if the health and the quality of life itself affect the transport decisions. This led to a thesis stating that: In light of the acclaimed theories and concepts, the effect of transport on the quality of life is affected by the state of the transport system as well as the decisions of the individual commuters. This led to six research hypotheses:

1. The choice of the transport mode is based on objective factors such as the travel time and socio-economic status as well as the subjective factors i.e. his perception of the important characteristics of the mode of transport
2. The decision on the transport mode determines the travel satisfaction
3. The decision on the transport mode determines individual physical health level
4. The decision on the transport mode determines individual well-being
5. The decision on the transport mode is an important factor in the explanation of the subjective quality of life
6. The strength and the character of these decisions depends on the gender, age, area of residence and the education of the commuter.

The primary research focused on the verification of the hypotheses was carried out on a random sample of 1001 adults living in Poland. The research carried out in April and May 2018 was done in CATI form. The sampling was based on pseudo-random numbers generator based on a base of PESEL numbers with the phone numbers. The respondents were asked about their transport mode of choice in everyday commute and the factors which decide that. The socio-economic status of the respondents was analysed along with their health level – physical (including the information on height, weight, hypertension and type II diabetes) and mental (with the use of Kessler self-assessment scale). The questionnaire included questions focused on establishing the non-health quality of life. Based on the data collected statistical inference with parametric and non-parametric methods was carried out. The results in the monograph



were constructed based on the verification of statistical hypotheses which were drawn out as a results of the operationalisation of research hypotheses. Finally, as a result of the research, I've managed to verify all six of the hypotheses, although the second hypothesis was verified only partially.

As a result of the research I was able to verify that there are significant differences between the decisions made in regards to the everyday commute and the quality of life of the commuters and people in their surroundings. These relations are however complex and require a distinction between the objective and subjective categories. From the point of view of objective quality of life, health level and the public interest it would be best if people used sustainable forms of transportation. Based on a subjective quality of life of the commuters, often the trip made in car is more beneficial. This means that the analysis of the rationality of the customers should increase the subjective categories of life quality and health which are often more significant. This is reflected by the choices made by the customers.

The research indicated that the factors connected with the quality of the travel matter the most when it comes to the transport decision. That includes the comfort, punctuality and the pleasure from travel. The economic factors affect the choice to a smaller extent. The strength of this effect differs depending on the income, area of residence, gender and education.

The decision on the daily commute mode affects the travel satisfaction although the indirect effect of the choice conditions is stronger than the choice itself. The travel satisfaction then is a result of not the transport mode itself but rather the conditions in which the decision was made, including the perceived attractiveness of the travel with different commute modes. The research focused on everyday travel which means, that the satisfaction level is determined by different factors than in the case of autotelic travel, due to the obligator character of the transport need itself. This is in line with international literature which seems to agree that the soft factors, including the decision automatisms affect the satisfaction. This means that the transport policy aiming at the change of the habits on the travel mode should include instruments aimed at the change of the way public transport is perceived and at the change of the habits of the travellers so that they feel more satisfaction as a result of the choice of public transport.

In light of the research there are relations between the decisions in regards to the everyday travel and the subjective and objective health. People travelling by car were less likely to have hypertension or type II diabetes and do differences were observed in obesity. This is not in line

 5

with international literature which indicates a rather negative of the use of the car. There are a few possible reasons for that. First of all, the research was carried out with the use of a questionnaire and weight and height were not verified. There is research which indicates that people who are obese have a tendency to increase their declared height and decrease their declared weight even in an anonymous questionnaire, which might mitigate the differences. Second of all, most researchers indicate a drawn out effect of the transport decisions on the physical health. The drawback of the research is that it focuses on the current transport mode choice and the current health condition. However, the current health condition is a result of decisions made over a lifetime, including transport decisions but also the physical and social environment as well as the genetics. This is an important result in light of the rational decisions model. The results indicate that the customers tend to choose an increase of the quality of life in the short run over a potential positive effect drawn out in the long run.

The relations between the transport decisions and the mental health are also important. People who travel by public transport on general feel worse if the socio-economic status was accounted for. A lack of satisfaction from the transport modes leads to a decrease in well-being, which is one of the strongest determinants of the subjective quality of life. Many researchers indicate that people make their decisions in a way which to them maximising their well-being. If the decision leads to a decrease in the mental health and health-related quality of life they will avoid it. Customers will often tend to ignore the economically rational decision if it leads to a decrease in their well-being in the short run.

This effect was not usually accounted for in the transport policy, which is mostly focused on the economic category of transport social costs and tends to ignore the categories of health and quality of life, especially their subjective versions. In consequence, the instruments of transport policy, introduced without the understanding of the necessity for the inclusion of subjective categories might turn out to be ineffective when it comes to the change in behaviour. In order for the transport policy to be effective it should be preceded by a segmentation of the transport market based on gender , age, area of residence and locations. This is due to the fact that the relations between the travel mode choice and the travel satisfaction as well as the relations between the travel satisfaction and the quality of life are not only significant but they are varied and distort the rationality of the decision in a different way.

In my opinion, the transport decisions have a significant effect on the quality of life in the long run which has significant implications for the economic practice. I believe that a modern



6

economic practice should in light of the sustainable development doctrine should be created with an understanding and appreciation of these relations. The research which I've carried out can be a foundation for a new concept of transport policy in which the results of the transport decisions on the quality of life are measured and priced. In my opinion further research in that matter is purposeful. In particular, I believe that a longitudinal research allowing to observe those changes would be beneficial. This would allow to create a mobility biography which never happened in Polish transport research. Such research in international research is still very uncommon and only focuses on developed countries. If such a research were carried out in Poland it would allow to analyse the differences in the effects of the transport decisions over a lifetime and compare them with international results as well as the international transport policy framework which can be beneficial for both the objective and the subjective quality of life of citizens.

5. Other scientific achievements

I've focused my growth as a scientist on three fields which I believe were worthwhile. My research in these three fields led to a number of works, both theoretical and practical (the works are listed in appendix 4) and ultimately to the creation of the monograph which is pointed out as the achievement based on which I apply for the degree of a habilitated doctor of economics. The three main areas of research on which I focused are interdisciplinary and complementary:

- economics and functioning of transport companies,
- health economics and healthcare market,
- transport behaviour and the quality of life.

Economics and functioning of transport companies

The first research field is a natural consequence of the MA studies which I've done at the Economic Diagnosis and Enterprise Functioning specialty at the Faculty of Economics, University of Gdańsk. After the MA degree, I've started working as an assistant in the Chair of Economics and Functioning of Transport Enterprises. From the very beginning I was interested in the topics of the enterprise functioning with a special appreciation for the operational and financial areas of their activity.



Especially, I've been interested in the problems of rationalising and optimising the activity of the companies and the practical introduction of the solutions which have their roots in the field of operational research.

In the financial area I focused on the problems of managerial accounting and the use of economic analysis in the diagnosis of corporate financial positions and the prognosis of their potential development paths.

My interests were focused on the road transport companies, although as time went by I tried to extrapolate the results to all of the transport companies and, if possible to all companies.

Many works in this area were also a results of the practice in economic reality, which from the time I've started working at the University was an additional source of inspiration which provided me with many interesting research subjects. In consequence the mechanisms which I understood as a researcher, I've tried to apply in the economic practice often leaving the transport sector. The following papers best represent this area:

1. Szałucki K., Suchanek M., *Ewaluacja ryzyka gospodarczego w funduszach inwestycyjnych otwartych przy wykorzystaniu całki stochastycznej Ito* [w:] J.Winiarski i D.Wach (red.), *Zarządzanie ryzykiem w działalności gospodarczej*, Uniwersytet Gdański, Gdańsk 2015, ISBN 978-83-7939-012-0
2. Szałucki K., Suchanek M., *Publiczny transport zbiorowy w warunkach niestabilności struktur zarządczych: studium struktur dyssypatywnych*, Zeszyty Naukowe Uniwersytetu Szczecińskiego. Problemy Transportu i Logistyki 2015, nr 30, ISSN 1644-275X
3. Letkiewicz A., Suchanek M., *Use of economic and econometric analysis in the financial standing diagnosis of haulage enterprises, case study: Trans Polonia S.A.* [w:] M.Bąk (red.), *Transport development challenges in the twenty-first century*, Springer International Publishing 2016, ISBN 978-3-319-26846-0
4. Letkiewicz A., Majecka B., Suchanek M., *Wykorzystanie analizy skupień w procesach poznawczych stratyfikacji przedsiębiorstw transportowych*, „Problemy Transportu i Logistyki” z 2016, nr 35, ISSN 1644-275X
5. Suchanek M., Szałucki K., *Badania operacyjne w zarządzaniu finansowym przedsiębiorstw* [w:] K.Szałucki (red.) *Efektywność finansowa przedsiębiorstw w perspektywie podstawowych zagadnień teorii i praktyki diagnozowania ekonomicznego i funkcjonowania przedsiębiorstw: publikacja dedykowana pamięci*



profesora Mirosława Krajewskiego, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2017, ISBN 978-83-7865-502-2

6. Suchanek M., Mytlewski A., *Racjonalizacja przydziału ładunków w przewozach wadłowych LH (line haul) przedsiębiorstwa kurierskiego*, Studia Ekonomiczne: zeszyty naukowe Uniwersytetu Ekonomicznego w Katowicach 2017, nr 332, ISSN 2083-8611
7. Suchanek M., *Systemic conditions of efficiency and durability of road transport enterprises* [w:] A.Letkiewicz i M.Suchanek (red.), *Research Journal of the University of Gdańsk. Transport Economics and Logistics* vol. 73, Gdańsk University Press, Gdańsk 2017, ISSN 2544-3224
8. Suchanek M., Mytlewski A., *The cost of unpaid labour in transport enterprises* [w:] M.Suchanek (red.), *Sustainable Transport Development, Innovation and Technology*, Springer International Publishing 2017, ISSN 2198-7246
9. Suchanek M., Majecka B., *Zachowania rynkowe przedsiębiorstw a poziom ich efektywności gospodarowania. Studium przedsiębiorstw indeksu mWIG40*, „Przedsiębiorczość i Zarządzanie” 2018, T. 19, z. 3, cz. 2
10. Suchanek M., *Retrofitting smart tachographs by 2020: Costs and benefits*, European Parliamentary Research Service, Brussels 2018, ISBN 978-92-846-2599-4
11. Fryca-Knop J., Majecka B., Suchanek M., Wach D., *Analysis of attitude differences of professional drivers in light of occupational change intention* [w:] M.Suchanek (red.), *Challenges of urban mobility, transport companies and systems*, Springer International Publishing 2019, ISSN 2198-7246

The two papers in this area which are especially important for me are the ones covering the economic analysis and the costs of unpaid labour in transport companies which are indexed in the Web of Science database as well as the research paper on the costs of retrofitting tachographs in HGVs which was done for the European Parliament.

I started to get interested in the processes which happen on the transport market and which affect the entities on the market both on the supply and the demand side. The appreciation of the significance of these processes led me in the direction of the sustainable transport and the effect of the transport on a human being.

The area of economics and functioning of enterprises is also to what I dedicate most of my teaching and practical work.



Health economics and healthcare market

Along with the areas of transport companies economics I've carried out research on the healthcare sector, with a focus on the specifics of the sector in Poland. By understanding the specifics of health as an atypical goods I tried to analyse the strongly asymmetrical healthcare market and its inefficiencies. Cooperation with healthcare entities and the possibility to observe how they function in practice allowed me to identify a number of research problems.

The analysis of the challenges lying in front of the healthcare entities in the 21st century were important for me, especially when it came to the need to adapt the solutions from the centrally planned economy to the new free-market healthcare sector.

In my opinion, these mechanisms were imperfect, which led to an instability of the healthcare entities, the structures which they form and the whole market. This led to inefficiency and a decrease in availability of the healthcare services, which led to a decrease in public health, which in my opinion is in the centre of the widely accepted sustainable development idea. I've tried to identify, describe and analyse the mechanisms which destabilise the sector and project potential directions of transition which could lead to stopping this trend.

Lastly, this has led me to an acclaimed doctoral thesis called *Economic conditions of the stability of health care sector entities in Poland* under the guidance of prof. Krzysztof Szałucki and later to two monographs on the healthcare market. The following papers best represent this area:

1. Suchanek M., *Teoria chaosu w badaniach funkcjonowania podmiotów gospodarujących: wybrane zastosowania w sektorze ochrony zdrowia*, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2016, ISBN 978-83-7865-494-0
2. Suchanek M., Jaworzyńska M., Szetela P., *Mechanizm rynkowy w opiece zdrowotnej*, Wydawnictwo texter, Warszawa 2018, ISBN 978-83-7790-501-2
3. Suchanek M., *Efektywność wymuszonych zachowań komercjalizacyjnych w polskim sektorze ochrony zdrowia* [w:] B.Majecka i M.Jarocka (red.), *Zachowania rynkowe przedsiębiorstw w teorii i praktyce gospodarczej*, Polskie Towarzystwo Ekonomiczne Oddział w Gdańsku, Gdańsk 2015, ISBN: 978-83-61161-01-1
4. Suchanek M., Mytlewski A., *Analysis of the cost intensity of transportation in the Polish Rescue Services System* [w:] M.Suchanek (red.), *Sustainable Transport Development, Innovation and Technology*, Springer International Publishing 2017, ISSN 2198-7246



5. Suchanek M., *Reengineering łańcucha dostaw w polskim sektorze ochrony zdrowia* [w:] E. Ignaciuk i J. Dąbrowski (red.), *Przedsiębiorstwo w łańcuchu dostaw*, Polskie Towarzystwo Ekonomiczne Oddział w Gdańsku, 2017, ISBN: 978-83-61161-02-8

The monograph published after the doctorate focusing on the analysis of the healthcare entities with the use of chaos theory and the article on the cost intensity of transport in healthcare sector indexed in the Web of Science database are especially important for me.

I've tried to supplement my research work in this field with economic practice, e.g. as a co-owner and a proxy of a company which provides telemedicine services.

The research and practical experience allowed me to understand that there is a void when it comes to education in this sector which motivated me to join the team which created a new, interdisciplinary major "Telemedicine and healthcare projects. Health Care Technology" which was approved by the Senate of the University of Gdańsk and is part of educational offer since the year 2019. As a part of my input I've prepared the concept of the major, including 28 subjects and I am currently a member of Board of the major.

Transport behaviour and the quality of life

The third area of research was a result for my ambition to look for a common ground which brings together the two areas on which I've focused up-to-date. The understanding for the significance of the transport and transport processes on the sustainable growth potential together with an acclaim for the health as a good which lies in the centre of this concept led me to a field on which I've focused the most after I'd defended my thesis. A lack of papers on the relations between the transport behaviour and the quality of life in Polish literature and a dynamic development of these issues in international literature was an additional motivation. It has become my ambition to introduce this field into the Polish transport research and the put forward the quality of life as the factor which should be taken into account during the economic analysis of transport both in theory and in practice.

The economic and behavioural conditions which determine the transport decisions made by the citizens became especially important for me. I've tried to analyse the differences between

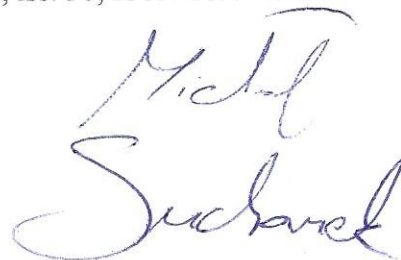


different social groups, including young adults, whose transport behaviour will shape the Polish cities in many years to come.

I thought it was important to analyse the differences in the effect on health, and in turn on the quality of life made by the travels with the use of individual and public transport and also active commute, which effect on health is not that obvious. I've tried to include the analysis on new mobility trends, including shared mobility, i.e. the bikesharing, carsharing and carpooling systems.

The research in this field led me to publish a number of articles, including two papers indexed in Web of Science database, and to put forward two papers to JCR Journals which were focused on the specifics of transport behaviour of young adults with a special appreciation for their proecological behaviour. This research also led me to the monograph which has been indicated as the main achievement in this self-presentation. Apart from the monograph and the two articles under review in JCR Journals, I believe that the following papers best represent this area:

1. Suchanek M., Pawłowska J., *Effects of transport behaviour on public health: a study on the students in the Tricity Area* [w:] M.Suchanek (red.), *Sustainable Transport Development, Innovation and Technology*, Springer International Publishing 2017, ISSN 2198-7246
2. Suchanek M., Wołek M., *The relations between the bikesharing systems and public expenditures. Cluster analysis of the Polish bikesharing systems* [w:] M.Suchanek (red.), *Sustainable Transport Development, Innovation and Technology*, Springer International Publishing 2017, ISSN 2198-7246
3. Pawłowska B., Suchanek M., *Transport as a factor in the achievement of the EU goals to combat climate changes and to reduce greenhouse gases emissions*, „Journal of Management and Financial Sciences” 2018, Vol. 11, iss. 33, ISSN: 1899-8968
4. Suchanek M., *Relations between the transport choices and active behaviour*, „Journal of Management and Financial Sciences” 2018, Vol. 12, iss. 36, ISSN 1899-8968.

A handwritten signature in blue ink, reading "Michał Suchanek". The signature is written in a cursive style with a large initial 'M' and 'S'.