

論文審査の要旨
Summary of Dissertation Review

博士の専攻分野の名称 Degree	Doctor of Philosophy	氏名 Author	DIANA KHAN
学位授与の要件	学位規則第4条第①・2項該当		
論文題目 Title of Dissertation	A Multiple-Case Study Exploring Risk Perceptions and Social Acceptability of Autonomous Vehicles: Japan to Israel		
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〔論文審査の要旨〕 Summary of Dissertation Review			
<p>This research “A Multiple-Case Study Exploring Risk Perceptions and Social Acceptability of Autonomous Vehicles: Japan to Israel,” aims to assess how risk perceptions and public acceptance of AVs are affected by dread, unfamiliarity, and culture in three case studies. As a multiple-case study, this research employed psychometric methods which this research improved, adapted, and designed from Paul Slovic (1987) & Fischhoff et al. (1978), to make quantitative judgments about the perceived and acceptable levels of risk from many activities and technologies, as well as to judge these same items on qualities that had been hypothesized as important for risk perception and acceptance.</p> <p>In Study 1, this research conducted an experiment in Japan in 2017 to assess what composes AV risk (dread, unfamiliarity) and how different AV risk factors (system error, hacking, unexpected events) influence risk perception and public acceptance. In Study 2, this research extended previous study work by comparing the residents in Japan between 2017 and 2020 to evaluate changes in risk perception and acceptance after the Japanese were exposed to two well-publicized AV demonstrations in 2018 and 2019. In Study 3, to better understand cultural differences, this research conducted a cross-country comparison study between Japan and Israel, two countries that drastically differ in culture but are similar in terms of their leading position in the development and implementation of AV technology. Following the Fischhoff et al. (1978) and Slovic (1987) method, perceived risks were categorized into dread risk, unknown risk, and people-affected risk. These three studies displayed stable patterns and individual and cultural differences that have important theoretical and applied value. This research has significantly contributed further to psychometric analysis methods (in Dr. Paul Slovic’s own words) in which using a novel method was developed such as including video information into the study.</p> <p>This dissertation presents a multi-nation comparative study of public acceptance of AVs with a primary focus on Japan. The dissertation consists of five chapters. Chapter One presents an introduction to all three research projects, providing the background and explaining the significance of the problem that is explored. It details the logical and methodological links between the three papers on risk perception and public acceptance of autonomous vehicles, including relevant concepts and the core theoretical framework. In Chapter Two, the first of three papers present the results of a study on risk perception and social acceptability of autonomous vehicles in Hiroshima, Japan. The paper reports an experiment that was conducted in 2017 assessing the risk type (dread or unfamiliarity) and specific AV-related risk factors (system error, hacking, unexpected events) as influences on risk perception and public acceptance. In Chapter Three, the second article explores temporal changes in risk perception and public acceptability of autonomous vehicles between 2017 and 2020, using the same population reported on in Chapter Two. This study was motivated by the need to assess any potential changes in public opinion resulting from two well-publicized AV demonstrations that took place in 2018 and 2019. In Chapter Four, the third and final article assesses differences in risk perception and public acceptance of AVs between groups of participants located in Japan and Israel, to better understand how cultural variation might affect attitudes toward AVs, risk, and considerations for large-scale implementation of these technologies. Finally, in Chapter Five summarizes the primary findings and implications from all three component studies, discuss the project’s limitations, and engage with policy implications and directions for future research.</p> <p>The applicant has published the three SCI-indexed papers in connection with this dissertation. Additionally, the applicant has presented at top Transportation Engineering international conferences such as AUVSI in the USA and is expected to present her most recent publication at IATRB in Santiago, Chile, in December 2022.</p> <p>With the above evidence, all the committee members unanimously recognized that Ms. Diana Khan is qualified to be awarded a Doctoral Degree of Philosophy (Ph.D.) and determined that the applicant has sufficient knowledge and ability in the Transportation Engineering field.</p>			