論文審査の要旨 Summary of Dissertation Review

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論 文 題 目 Title of Dissertation

The Multidimensional Impacts of Multi-service Transport Platform (MSTP) on Activity-travel Behavior and Urban Form: A Case of Jakarta, Indonesia

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In Indonesia, the use of Multi-service Transport Platform (MSTP), which started as a motorcycle taxi service and expanded to include shopping, delivery, and payment services, is gaining the popularity. This dissertation aims to comprehensively understand the impacts of MSTP on activity-travel behavior and on the location of facilities by conducting a series of empirical analyses. Major contributions of this study include (1) empirically exploring changes in travel behavior due to the wide spread of MSTP in Jakarta, Indonesia, and (2) empirically identifying the impact of MSTP on the location of online food merchants.

The dissertation consists of nine chapters. In Chapter 1, the academic and practical background of the research is summarized, followed by the purpose of this research. Chapter 2 reviews existing studies and clarifies the position of the research. In Chapter 3, research concepts that guide the empirical analysis are summarized, and based on the concepts, the survey design, selection of target areas, and analysis methods are introduced. Chapter 4 introduces an urban agglomeration index to capture changes in the location of facilities associated with the introduction of MSTP, and verifies the usefulness of the index using data from Japan as a case study. Chapter 5 applies the urban agglomeration index introduced in Chapter 4 to Jakarta to clarify the effects of the introduction of MSTP on the concentration and density of online food merchants. In order to conduct the analysis, she have created a unique dataset of the online food merchants. Chapter 6 analyzes the online and offline activities of 225 people in Jakarta based on a twoweek travel diary survey. Chapter 7 analyzes the SP survey data on the intention to use online food delivery services, which were collected in conjunction with the travel diary survey data mentioned above, using the inverse probability weighted estimation method to clarify the preference structure of users for food delivery services. Chapter 8 introduces a prototype of activity-based model under the dynamic discrete choice model framework, that can take into account the influence of MSTP on activity-travel behavior. Chapter 9 summarizes the findings and policy implications.

Three peer-reviewed academic journal papers related to this dissertation have been accepted for publication in international journals. In conclusion, all the dissertation committee members agree that the dissertation reaches the necessary level to award the degree of Doctor of Engineering to the author.