INTRODUCTION TO THE SPECIAL ISSUE ON
MOBILE ANALYTICS AND COMMERCE

Yong Tan
Neal and Jan Dempsey Professor of Information Systems
Michael G. Foster School of Business
University of Washington
Box 353226, Seattle, WA 98195-3226
ytan@uw.edu

The extensive use of mobile devices is affecting many aspects of our life, ranging from healthcare to transportation. Mobile devices connected through wireless networks offer users rich, interactive, continuous and ambient experiences. This has created the foundation for mobile commerce to flourish. In 2010 mobile channels accounted for only 3% of global electronic commerce transactions, but by the end of 2015 the market share has increased to 40%. Mobile platforms play a central role in this new paradigm of commerce. Unlike traditional online and other offline platforms, mobile platforms possess unique characteristics, for example, they allow firms to gather location-based information which has facilitated some innovative business models, such as mobile transportation network.

To date, the research on mobile analytics and commerce has been focusing on the areas such as technology acceptance in mobile commerce, socio-cultural aspects of mobile commerce, and platform economics and governance. However, the unique and rich data, together with novel business practices, provide fertile ground for more in-depth investigations to advance our understanding of how mobile technologies and networks affect consumer behaviors and firm strategies. To this end, Journal of Electronic Commerce Research is publishing this special issue with papers presenting novel approaches to examine consumer behaviors and business practices in the domain of mobile networks and technologies.

The research community responded enthusiastically to the Call-for-Papers of this special issue. A special workshop was held at the 15th Wuhan International Conference on E-Business in May 2016 to help the interested authors to develop full papers for journal publication. After two rounds of peer review, four papers were accepted to be included in this special issue. The paper, entitled "The Effect of Firm Marketing Content on Product Sales: Evidence from a Mobile Social Media Platform," leverages the launch of WeiTao microblogging mobile platform on Taobao as a quasi-experiment and applies difference-in-differences (DID) method to quantify the influence of three different types of marketer generated content (MGC), i.e., informative content, persuasive content, and promotional content. The empirical results show that social medial MGC significantly contributes to product sales, leading to a 51.47% increase in product sales. Specifically, the MGC sales elasticity for low-involvement (such as stationery) products is greater at 67.08%, and it is 43.62% for high-involvement (such as cosmetics) products. From the view of different types of MGC, informative content is more effective in increasing product sales for high-involvement products, whereas promotional content and persuasive content are more effective for low-involvement products.

The paper, entitled "Mining User Movement Similarity Based on Massive GPS Trajectory Data with Temporal Effects," analyzes massive trajectory data generated by smart phones and other GPS-enabled devices. These large spatio-temporal datasets offer practitioners and researchers tremendous opportunities to mine user movement behaviors which allow the provision of location-based social network recommendations and geographic information services. However, leveraging the often sparse, noisy, and temporal GPS data could be challenging. This paper proposes an efficient method for mining user movement similarity based on the spatial and temporal patterns embedded in the GPS trajectory data. The authors first introduce a trajectory partition method to trim the GPS data and extract the key points, and then clustere these points into latent locations. Next, a user's trajectory is represented by a user-location matrix. Finally, a novel low-rank matrix factorization based method incorporating temporal effect is proposed to cluster users into groups based on their movements. The experimental results demonstrate that the proposed method can be used to mine users' movement similarity efficiently.

The paper, entitled "Only Characteristics of Reviews Affect Consumers' Online Behaviors? A Study of Relationships between Reviews," investigates the effects of online reviews on product uncertainty in a setting of limited screen size of mobile phones. Product uncertainty is computed directly from online text reviews using text mining and an improved Shannon entropy measure. A consumer may change his/her perception of the uncertainty of a product after reading a review. It is observed that product uncertainty changed by a review significantly contributes

to the review's helpful votes, regardless of whether the reviews are sorted by "the most recent" or by "the most helpful."

The paper, entitled "Does Subsidy Work? An Investigation of Post-Adoption Switching on Car-Hailing Apps," focuses on the issue of user switching in post-adoption phase in the context of sharing economy. As the two car-hailing apps giant in China merged together, the subsidy provided to consumers became lower. This paper leverages this event and investigates the influence of price tolerance on users' switching intention and behaviors. Using survey data from existing car-hailing app and partial least square (PLS) method, the authors find that the effect of price tolerance on switch intention is not significant, but the relationships between price tolerance and perceived value, perceived value and switch intention are all negative and significant. Compared with all the antecedents of switch intention, the power of alternative attractiveness is observed to be among the highest. That is, car-hailing app users abandon the platform mostly due to the accessibility of the alternatives they have perceived. While it is generally true that switch intention negatively influences continuous usage, the analysis shows that habit has the strongest effect on continuous usage. That is, users choose to continuously use the app mostly because of habit.

All these four papers have tackled important and timely research problems in the domain of mobile analytics and commerce. They have advanced our understanding of various effects of social media, online reviews, and mobile apps, and provided the guidance for effectively using the data for predictive analytics. We hope they will serve as a catalyst to stimulate more future research in this exciting area.