

RESEARCH STATEMENT

RESEARCH INTEREST

My research interests lie in the interplay of information systems, social media, and individual behaviors. In particular, I have three broad research topics: 1) individual behaviors in various online social media and network settings; 2) information privacy in social media; and 3) information system features and their impacts on user behaviors. Projects in all these three realms involve big data analysis, experiments, and surveys. My agenda for the next three to five years is to convert my revise and resubmit papers and working papers into top tier IS and business journal publications (such as the *MIS Quarterly*, *ISR*, *JMIS*, *JAIS*, *Management Science*, etc.) as well as to initiate new projects in the above mentioned three areas in order to enrich the theoretical network of my research.

I. INDIVIDUAL BEHAVIORS IN ONLINE SOCIAL NETWORKS

When examining the interplay of information system, individual, and social networks, I focus on a specific type of information system – the recommender system. This is because this type of information system is widely distributed in the online environment nowadays and is closely related to individual's online behaviors. Current literature on recommender systems focuses heavily on traditional types (e.g., content-based and collaborative filtering) and their effects on product sales and consumer reactions. Moreover, there is a heated debate on the effect of recommender systems on consumer preference – whether it is homogenizing or diversifying consumer preferences. One of my papers targets on this issue and extends prior studies by examining a new type of recommender system, the **social recommender system**, which incorporates users' social network information when providing recommendations. This paper draws on the structural view of social networks, social influence theories, and human information processing theories to develop specific hypotheses and empirically test whether social recommender systems homogenize or diversify consumer preferences. Specifically, based on a large archival data set from a well-known social platform, we found that, overall, social recommender systems have a non-linear diversifying effect on consumer preferences. This paper is currently under **second round review at *Information Systems Research***.

Another related project is a literature review and discussion of recommender systems in general. This study synthesizes extant empirical IS studies to provide a coherent view of recommender systems research and identify gaps for future research. We group our review around three major stages of research in recommender systems that emerge from our review: understand consumer, recommendation presentation, and recommender system's impacts. This paper was published at *the Journal of Association for Information Systems* in 2015. The two papers above are both co-authored with Dr. Elena Karahanna.

II. INFORMATION PRIVACY

A majority of information system-based privacy research is focused on privacy breaches and strategies for preventing or mitigating the significant negative consequences for the companies and consumers. Though the fallout from a leak can be just as damaging to the victim, leaks have not received much attention in the academic literature. One of my working papers, collaborated with Dr. Heshan Sun and

Jake London, targets on information leakage diffusion and its subsequent impacts on individual and organization. This research begins by defining information leak and distinguishing it from similar concepts such as breaches and browse violations, which are the two primary forms of privacy violations. Relying on a large archival data set from Twitter (with 4,000 original tweets, more than one million retweets, and twenty thousand user connections), we next study the characteristics of leak information and how it is diffused in the online environment (in particular, social media platforms). We expect the findings from this study has significant contributions to our understanding of information leakage in theory and to organizations that intend to detect potential leaked information and even utilize leaked information. This paper is currently at the manuscript preparation stage and is targeted at ***MIS Quarterly*** (to be submitted in December 2017).

Another working paper related to information privacy, collaborated with Dr. Jason Thatcher and Wenxi Pu, takes the lens of a user. In particular, we examine how social media platform features (information transparency and network transparency) affect user's privacy concern and intention of self-disclosure. We argue that information transparency and network transparency have two very distinct mechanisms in shaping user's privacy concern and affecting user's self-disclosure behaviors – information transparency will reduce user's disclosure intention while network transparency will increase it. User's privacy concern has opposite effects on the two relationships as well. We used both survey and experiment to test our hypotheses and to better triangulate our results in this study. We are currently proof-reading and finalizing the paper and will submit it to ***MIS Quarterly*** in November 2017.

III. INFORMATION SYSTEMS' IMPACTS ON USER BEHAVIORS

Given that most online websites are providing certain level of recommendations, companies are even paying to be recommended, how consumers will response to the sponsored recommendations remains an unanswered question. Collaborated with Dr. Weiquan Wang, Dr. Kai Lim, and Honglin Deng (all are from the City University of Hong Kong), this study synthesizes the literature and identifies three types of avoidance, namely, attentional, behavioral, and affective, which may exist when users are presented with sponsored search results (SSRs). Relying on an overarching theoretical framework (i.e., implicit theory), we then examine how these three types of avoidance can be reduced by utilizing different types of social influence cues. Two laboratory experiments are conducted to test the effectiveness of (1) product-related social influence cues (which convey the popularity and quality information related to the focal product) and (2) sponsor-related social influence cues (which convey the credibility information related to the focal seller). This paper is currently **revise and resubmit at ***MIS Quarterly*****.

Together with Dr. Heshan Sun and Shih-Lun Tseng, another paper in my third stream of research investigates how different website presentation formats affect user's learning and flow experience. Specifically, we investigates the costs and benefits of stereo 3D, as a newly emerged presentation format in the online environment. This paper is currently **under review at ***MIS Quarterly*****.

IV. CROSS-DISCIPLINE COLLABORATIVE RESEARCH

In addition to research in information systems, by collaborating with colleagues and researchers in other disciplines, I also study how social network characteristics affect individual behaviors in the

organizational contexts. One of my papers in this realm focuses on organizational citizenship behavior (OCB). This study extends prior studies by adopting a finer-grained approach and examining the differential relationships between friendship and advice ties and OCB. Our results suggest that the relationship is more complex than previous analyses have demonstrated, as this relationship is not always linear. This paper, co-authored with management professors from both Clemson University and Texas Tech University, was presented in the **2017 Academic of Management Annual Meeting**. The paper was also granted as the **Best Accepted Paper** and is forthcoming in *the Proceedings of 2017 Academic of Management Annual Meeting*. We also have a follow up study, which is currently **revise and resubmit at the European Journal of Work and Organizational Psychology**.

The other paper in this realm is collaborated with two professors from accounting field. It examines outside directors' social network centrality within a firm and its influence on outside directors' likelihood of turnover before a firm crashes (i.e., significant decrease in stock market performance). This paper investigates whether outside directors exploit private information acquired through social connections for their personal interest. We find that outside directors who are closely connected with inside managers and directors are more likely to leave the firm before the firm experiences stock performance crashes, as compared to their less connected peers. Our findings indicate that outside directors trade-off their reputational loss from performance crashes against costs involved with giving up the current board position. This paper is targeted at the *Contemporary Accounting Research*. We are now final proof-reading the paper and will submit the paper in December 2017.

Green IS and sustainable information systems is another research domain I have worked on. Collaborated with Dr. Richard Watson, Dr. Marie-Claude Boudreau, and Mr. Jack Levis (the Senior Director of Process Management at UPS), we examined energy informatics that is concerned with analyzing, designing, and implementing systems to increase the efficiency of energy demand and supply systems. A case study was conducted to investigate the application of energy informatics in United Parcel Service (UPS). With a large fleet of trucks and planes, the level of fossil fuel consumption is always important to UPS. This study describes how UPS has improved safety, reduced mileage, lowered emissions, and cut maintenance costs by gathering information every day using proprietary firmware installed in its trucks. This study was published on *MIS Quarterly Executives* in 2010 and has won the **Best Paper Award** that year.

There are a few other collaborative projects published and under review, which I have listed in my curriculum vitae.

FUTUER RESEARCH

In the next three to five years, my research objectives are two-fold. First, I will continue working on the projects currently in my pipeline and convert them to publications in the top tier IS and business journals. According to the stages of these working and work-in-progress papers, I will manage the sequence of them in order to maximally utilize my time as the tenure-clock is ticking.

Second, given the promising while complicated nature of the interplay of information systems, information security and privacy, and social media, besides working on the existing projects, I will be

excited to explore future opportunities in this domain and initiate high quality projects within my expertise. In addition, I will also seek further integration of social network and recommender systems, as I consider the combination of the two – the social recommender system – is still at its nascent stage in research while has great practical and theoretical potentials. I am glad that I have the theoretical background and means to explore the exciting and important ideas lying ahead in this stream of research.