

Decision Making in Online Social Networks

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Online Social Communities and Networks (OSN) have become widely popular as a source of data or reference for those seeking advice. With accelerated speed there are more and more websites tapping into the ‘wisdom of crowds’ as a source of information that influences our everyday decision-making. The internet has revolutionized the manner in which individuals obtain the information they need to make decisions.

Using OSN can accelerate or decelerate the DM process for both individuals and communities through the accessing of data from multiple sources. While ample independent research exists on OSN and DM, there is a lack of research into how online technology affects the making of decisions that have an impact on our lives. How do we use OSN in our most important everyday decision-making? The synergy of these themes provides a unique research perspective from which to take a fresh look at both DM research and the actual process of DM as it is affected by the use of OSN.

The main purpose of this mini-track is to explore and extend, as well as challenge, existing knowledge of OSN and DM. We hope to understand and ascertain whether OSN can support and empower users in their decision-making process and particular phases (1) identify and conceptualize new phases (if any) in the decision-making process that is integral to OSN conversations (2) explore the structure and sequence of

decision-making phases arising out of the use of OSN (3) identify biases, strengths and weaknesses of the human psyche that could be attenuated and/or enhanced through appropriate design of OSN for decision-making and (4) seek practical guidelines for the design of OSN that support blended decision-making processes that leverages the wisdom of crowds.

This mini track has been running for more than 3 years and continues to attract interesting and futuristic papers. This year we had an overwhelming number of submissions with a diverse range of topics. The five selected papers investigated key issues that exist in the research area.

The first paper, *A Probabilistic Model for Malicious User and Rumor Detection on Social Media* touches on the impact of fake news on social media and its significant impact on people's lives, especially during complex and controversial events. The authors have proposed a model that describes user maliciousness with a two-sided perception of rumors and true stories. The learning algorithm behind the model is to discover latent attributes and detect rumors based on such attributes, supposedly more effectively when the stories involve retweets with mixed intentions. Using real-world rumor datasets, the authors showed that their approach and algorithm can outperform existing methods in detecting

rumors, especially for more confusing stories.

The second paper, *Empowering users regarding the sensitivity of their data in social networks through nudge mechanisms*. This paper attempts to come up with the approach to assess the sensitivity of the information available in OSN. It focuses on quantifying data sensitivity as the combination of already established data sensitivity analysis and adapting them to the OSN domain. The authors also propose a way of scoring publication sensitivity as the accumulative value of the sensitivity of the information types.

The third paper, *Do I Care Enough? Using a Prosocial Tendencies Measure to Understand Twitter Users Sharing Behavior for Minor Public Safety Incidents*. Social media has been used to assist victims of crises, this paper focuses on smaller scale public safety incidents such as suspicious activities, and minor robberies. It investigates whether prosocial tendencies affect Twitter users' decisions to share minor public safety incidents on Twitter. The study's results showed a positive relationship between being prosocial and sharing public safety incidents on Twitter. However, once additional variables introduced, (number of public safety official accounts followed, news exposure on social media, and tweet/retweet frequency), then the relationship are mediated.

The fourth paper, *Facebook Marketing Intelligence* tries to shed some light on the lack of empirical knowledge about the extent of influence of Facebook marketing on the decision-making process of consumers. This study contributes to these gaps in the literature and investigates the influence of Facebook marketing activities on the decision-making process of

consumers. The findings revealed four Facebook marketing activities that affected the first two phases of the decision-making process. These Facebook marketing activities were advertisements, recommend/share, likes and reviews. Whether they had an impact has been tested with the help of survey among 112 respondents. The results of the regression analysis showed that all four Facebook marketing activities had a positive influence on the decision-making process.

The fifth and the final paper, *Follow-back Recommendations for Sports Bettors: A Twitter-based Approach* discusses how Social network-based recommender systems are powered by a complex web of social discussions and user connections. The authors discuss that users on such platforms consume the disseminated content to a greater or lesser extent based on their interests. Quantifying this degree of interest is a difficult task based on the amount of information that such platforms generate at any given time. Thus, the generation of personalized profiles based on the Degree of Interest (DoI) that users have towards certain topics in such short texts presents a research problem. This paper addresses this challenge by following a two-step process in generation of personalized sports betting related user profiles in tweets as a case study. The proposed model used to profile users interested in sports betting. The authors also conducted experiments using real Twitter dataset geolocated to Kenya shows the effectiveness of our approach in the identification of tweeter's DoiSBs as well as their correlation with their friendship network.