

Editor's Introduction

In this issue of *Journal of Information Management*, we are delighted to present four research papers. The summaries of these papers are as follows.

Chia-Ying Li, Shwn-Meei Lee and Wei-Min Huang in their paper "Applying the Elaboration Likelihood Model for Consumer Innovativeness and New Product Adoption" argue that previous studies have pointed out domain-specific innovativeness having a significant and positive effect on new product adoption. However, these previous studies focus on the characteristics of innovative adopter, but do not explore how to stimulate domain-specific innovativeness through providing information. In addition, even though providing the same information, not every consumer has the same degree of domain-specific innovativeness. The persuasiveness of information for domain-specific innovativeness may be affected by a consumer's involvement (motivation) and innate innovativeness (ability). Therefore, the study integrated domain-specific innovativeness with Elaboration Likelihood Model to investigate consumers' new-product adoption behavior. Involvement and innate innovativeness were used as the moderating variables to explore the influences of persuasive messages on domain-specific innovativeness. In order to validate the proposed model, questionnaires were used to collect data from smart phone users who adopt APPs. Partial least squares analysis was employed to test the research model. Argument quality and source credibility have positive influences on domain-specific innovativeness. Domain-specific innovativeness further affects new-product adoption behavior. Besides, involvement mediates the influences of argument quality on domain-specific innovativeness, while innate innovativeness moderates the influences of source credibility on domain-specific innovativeness. Except for involvement and innate innovativeness, some variables have been found relevant in the existing literature for consumer innovativeness, such as subjective norms, and product attributes. Future research could find more critical variables to explain consumers' new-product adoption behavior. The demand of APPs significantly accelerates, followed by the increasing selling of smart phones. APPs vendors have to consider how to implement marketing strategies to attract consumers to use, especially early adopters. Early adopters, such as opinion leaders, may create positive word-of-mouth, and persuade other consumers to purchase the product. The findings of the study provide suggestions and managerial implications for APPs vendors

while launching a new product.

Chia-Ping Yu, Christina Ling-Hsing Chang and Kuan-Nan Huang in their paper “A Concept Map Approach to the Study of Knowledge Construction Processes in Computer Supported Collaborative Learning” provide a concept mapping technology as a valuable tool to observe the knowledge construction process in the virtual context. Their data also shows only few learning activities involve knowledge verification or manipulation, indicating that computer supported collaborative learning (CSCL) may not help learners to engage in the learning or knowledge construction processes. Through observation of learners’ involvement and knowledge presentation in the virtual context, the study examines and clarifies the knowledge construction process in CSCL. Analyzing discussions among learners in the virtual context, the study describes the knowledge construction process and investigates the learning models used in the interaction process. A concept map and content analysis approach is adopted to analyze the knowledge construction and interactive learning processes as well as to measure learning performance. Their first finding is that most virtual learners adopt a “hierarchies” and “relationships” mode to link relevant knowledge, and seldom use “cross-links” and “examples” to construct their knowledge. In light of the finding, the study advises that instructors should allow learners to continue to utilize the “hierarchies” and “relationships” mode and at the same time, encourage learners to adopt the “cross-links” and “examples” learning mode. Secondly, the data reveals that a considerable number of learning activities in the virtual space consist of information sharing and comparison.

Yi-Fen Chen and Chiao-Yu Shih in their paper “The Pursuit of Fairness-Exploring Factors Influencing Online Group Buying Intention from the Perspective of Perceived” investigate factors influencing online group-buying intention from the perspective of perceived fairness. It advances the literature on consumer perceived fairness in explaining online group buying behaviors. The study explores the effects of price situations on consumer perceived fairness and purchase intention in online group buying. The study also examines the moderating effects of waiting time and consumer demands on perceived fairness in online group buying. A 2 x 2 x 2 (price situation: favorable/unfavorable X demand degree: high/low X waiting time: long/short) online experiment was conducted. The experiment results demonstrated that consumer perceived fairness increases when facing favorable price situation in online group buying. Demand degree and waiting time moderate the effects of price situation on perceived fairness. Additionally, perceived fairness is positively related to purchase intentions. The study used laboratory test. However, as with most online studies, the possible self-

selection bias makes it impossible to confirm that the study participants are representative. Future research could examine perceived fairness and purchase intention in a real market situation. Moreover, the study was conducted in Taiwan using Taiwanese subjects. The results thus may or may not be applicable to consumers in other cultures. It would be interesting to find out whether culture influences online group buying intention. The paper provides several managerial implications with online group buying companies. Companies may use consumer demands and waiting time to set price in online group buying. Also, companies may develop different price strategies to create consumer segmentation.

Tzu-Tsung Wong, Kuan-Liang Liu and Yun-Da Han in their paper “Dirichlet Priors for Markov Naïve Bayesian Classifiers with Multinomial Model for Gene Sequence Data” develop a Markov Bayesian classifier that remedies the strong conditional assumption on naïve Bayesian classifier by Markov assumption. Since the k-mer method uses an overlapping sliding window to extract features from raw sequence data, the conditional independent assumption on features is clearly violated. In the opposite, the Markov model that assumes each feature is dependent on previous features fits k-mer extraction method perfectly. The RDP classifier is computationally efficient and does not require sequence alignment. It also works well with short sequences and provides a unique niche for applications using the NGS technologies that generate millions of short sequences. The performance however, is hampered by the conditional independent assumption on features. The dependency is especially obvious in attributes by which the k-mer method extracts sequences from sequences with sliding window where each attribute is overlapped by k-1 base with its previous and next attribute. The study developed a multinomial Markov-based Bayesian classifier which remedies the unrealistic independent assumption by Markov model. In order to prevent probability estimate of feature to become zero and distort the classification result, Laplace estimate is usually utilized as a prior for all features. However, the setting assumes a fix confidence level for all features. In the study, they further develop a noninformative generalized distribution for prior setting that will allow different confidence level settings for different features. The experimental results on bacterial 16S and fungal 28S rRNA gene sequence sets show that the proposed model can achieve higher prediction accuracy than the well-known RDP classifier in all ranks. Since the number of priors for a class value in the Markov naïve Bayesian classifier is two instead of one in the naïve Bayesian classifier, the best noninformative Dirichlet priors do enhance the performance of the Markov naïve Bayesian classifier. The study proposes to model DNA sequences as

a k^{th} order Markov chain on the alphabet A,C,G and T. That is, the probability of observing a particular symbol only depends on the k previous one. Since under the model, the probability of a read can be written as a ratio of products of the probability of overlapping k -mers, it does introduce additional computational overheads to the current implementation of the RDP classifier. However, the overhead is just one time calculation during training process practically. Since the ability to obtain thousands of rRNA sequences from environmental and Human Microbiome Project samples using high-throughput sequencing technologies has become a reality, accurate sequence classification is a critical component of ecological interpretation of environmental datasets. The approach used in this article to evaluate bacterial and fungal sequences proves to be a valuable tool to determine the most important factors affecting classification accuracy.

Finally, on behalf of the editorial team, I would like to thank all the authors and reviewers for their collaborative efforts to make this issue possible. It is our sincere wish that this journal become abilingual knowledge exchange platform among information systems researchers around the world.

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