

# 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.

Chuen-Min Huang, Ya-Che Li and Po-Hung Chen in their paper “Wikipedia-based Chinese abbreviation and synonym construction” argue that even though there have been many researches towards synonyms, none of them proposed the resolution to identify the generalized term with its multinomial sub-terms. Their study is the first of its kind to solve that problem. In addition, words will be labeled with their name entity such as names of people, places, and organizations. Search results will be displayed based on the ontology architecture in which the word association can be clearly visualized. A synonym can be any part of speech with the same or similar meaning of another word. Broadly speaking, it covers abbreviations in its scope. By convention, authors tend to indicate their writing with high artistic qualities by using numerous synonyms in context. Due to the interchangeable feature and the rampant growth of new usages, synonyms increase the difficulty of Natural Language Processing (NLP) and vocabulary maintenance. Unlike traditional approaches failed in its fallacy outcomes due to the adoption of statistical methods to determine synonyms, the study aims to construct a comprehensive synonym database via lightweight methods which would also take update issue into serious consideration. The study proposes a research framework based on the analysis of contextual structure of Wikipedia. Due to the lack of a recognized correct corpus to assess synonyms, they adopted a two-stage evaluation including subjective and objective ways. Taken the virtue of continuous user involvement and suggestion, the constructed synonym database will be synchronously updated accordingly. The proposed methods not only can correctly identify abbreviations, synonyms, and homographs, it can also successfully extract generalized terms with its multinomial sub-terms which had never done before. The finding indicates that a greater deployment of the comma algorithm can be undertaken in other customized application. The precision and recall rates of the first-stage evaluation are 72% and 82%, respectively. The user acceptance rate conducted in the second-stage reaching 91% was very promising. As for the

efficiency evaluation, it took only 0.01 second to extract one set of synonyms from the system. The study mainly focused on formal descriptions extracted from Wikipedia. It is suggested that future research may consider applying the proposed methods to confusion word set or social media to fill the gap. The paper contributes to automatic synonym construction research in several ways with a couple of practical implications. First, it demonstrates that a statistics-free, lightweight method can effectively generate a comprehensive coverage of synonyms. Second, the method can work with search engines to conduct big data analysis. Third, the study depicts that synonym construction can be portrayed in terms of ontology architecture to guarantee the sustainability of knowledge and the growth of literacy competencies of users.

Deng-Neng Chen and Po-Ming Su in their paper “A document recommendation system based on content-based filtering and brainwave” show that they have highlighted a new research direction to design the recommender systems based on brainwave. With the development of NeuroIS, the application of neuroscience in information systems research is getting popular. Their research provides a new methodology to design a brainwave-based information system. In a recommender system, the user’s logs and preferences are collected and analyzed to figure out the user’s profile that can be used to develop the system. Brainwave is a kind of biological signal that can be used to indicate different mental condition of a human being. In this research, they applied the brainwave information to identify the attention level of the experimental subjects to design and implement a document recommender system. They used electroencephalography (EEG) to collect the brainwave information, and the association model between users’ brainwaves and preferences were constructed by a neural network. In addition, the brainwave-preference model was applied to develop a document recommender system. They have also conducted an experiment to evaluate the effectiveness of their recommender system. The results show that the recommender system based on brainwave-preference model has better recommendation precision rate than the traditional content-based recommender system. Brainwave can play an important role in the development of recommender systems. Due to the limitation of unstable brainwave information collected in the experiment, it is difficult to request the experimental subjects to read more documents as the training data, and effective experimental samples are also limited. By the advance of EEG and neuroscience, the measuring of brainwave

will be getting more precise and stable and the development of brainwave-based information systems will be more feasible. They have designed and implemented a brainwave-based recommender system in their research. The system architecture can be used in the developments of other information systems, such as merchandises recommender systems in e-stores. With the advance of wearable technology, the EEG will be getting more popular, and more brainwave-based information systems will be developed and applied.

Ya-Han Hu, Yen-Hsien Lee and Jheng-Hsien Lin in their paper “Combining social tagging and reference content for personalized academic document recommendation” propose that their paper is the first that investigates the influence of both internal and external information on making recommendation of academic article. It advances literature in determining valuable article features for optimizing the performance of recommender system. The study aims at developing a novel academic article recommender system. The abstracts of the articles that share similar social tags with and that are referred by the preference articles of the targeted user are used to improve the effectiveness of the recommender system. The study adopts the content-based method to determine the similarity between two academic articles and make recommendations. Seven attributes relevant to academic article, including title, abstract, keyword, reference, reference article, social tag, and article with similar social tag, are used to extend the original preference document vector. The analytic hierarchy process method is applied to determine the weights among the seven attributes by their degree of importance. A web-based recommender system was developed for the evaluation purpose. They invited over 90 subjects and adopted Pair Match and Hit Rate as performance criteria in the evaluation experiment. The evaluation results show their recommendation method outperforms the five benchmarks. External information such as articles with similar social tags and reference articles used in the system can contribute to the better ranking list of recommending articles, in terms of the Pair Match and the Hit Rate. However, the study only considers a limited set of academic articles as the investigated corpus. Future research shall expand the array of articles and consider co-authorship and co-citation relationships as important features. Though the rise of digital libraries makes the acquisition of academic resources easier, a sharp increase of academic articles leads the search for relevant articles ineffective. The proposed method can facilitate researchers in

searching and retrieving relevant academic articles based on their individual preference profile.

Yu-Wen Hung, Kuang-Ting Cheng and Hui-Mei Hsu in their paper “Understanding online service recovery and consequences - A psychological contract violation perspective” integrate perceived justice theory and psychological contract violation perspective to investigate consumer behaviors after service recovery. The paper concludes with implications for online retailers, and future directions for researchers are also discussed. With the rapidly growing competition in e-commerce, online retailers provide diverse products and services to enhance the customer's experience and increase satisfaction. However, service failures cannot be completely excluded. When service failure occurs, it may lead to customer dissatisfaction and switch to competitors who are just a click away. Therefore, service recovery, defined as the response to service failure, is a critical issue for online service providers. The primary objective of the study is to explore the antecedents and consequences of service recovery encounters. In addition, the study also examines the perception of justice in service recovery and how it affects the behavioral outcomes. The research model is developed from a perspective of psychological contract violation (PCV) and perceived justice theory. The model is designed to explore the antecedents and consequences of service recovery violation. The data was collected by questionnaire from 188 Taiwanese online shoppers who have encountered service failure and made complaints. The results show that distributive justice, procedural justice, and interactional justice negatively affects PCV. PCV decreases repurchasing intention and increase negative word-of-mouth intention. Moreover, attribution moderates the relationship between distributive justice and PCV and policy clarity moderates the relationship between procedural justice and PCV. The study relies on questionnaire approach and each respondent answer the questions based on their previous experience. Hence, future research can employ scenario-based survey or experiments to confirm the conclusion of the study. The results provide several managerial implications for online retailers. First, effective service recovery leads to a higher level of repurchasing intention and a lesser level of negative word-of-mouth behavior. Second, online retailers should provide clear service recovery policy, fair compensation, and quick response process to improve customer satisfaction and enhance customer relationship.

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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# **Special Issue on Service Experience Design: Theory and Application**

The service oriented economy is evolving into experience economy. Experience marketing is hence becoming the new marketing model that shapes the research direction on the areas of new product development, information system design, partner relationship improvement, and customer loyalty establishment. While experience is created by the customers and the environment, or the users and the system; enterprises could integrate communication, visual and audio recognition, product presentation, web design, new media, and human experience providers to create value for customer experience. Given the recent trend, the research topics regarding how to design products, services, information systems, and mobile services to increase experience value are becoming more and more important. In order to further stimulate the research activities and provide collaboration platform among the communities, the Information Management Department of Providence University and the Service Science Society of Taiwan called for papers and organized a conference with the theme of “Service Experience Design: Theory and Application”, co-sponsored by Sayling Wen Cultural and Educational Foundation, inviting local and global scholars and researchers from this field of study to propose papers with originality, case studies, and research methodologies. The relevant research topics include: experience economy and operation, service experience design and case study, service innovation and marketing, experience design and operation model, customer oriented information system, service experience engineering methodology, customer oriented service design, service experience design tool, mobile service design, human machine interface design, mobile service experience, human experience service and design, cross cultural service experience design, wearable device application studies, experience design and theory as well as service innovation and design, among others.

The 25 papers received were each reviewed by 2 external reviewers for the first round of review process, in which 12 of them were recommended to present in the “2014 Service Science Research Conference” held on July 10-11, 2014. The authors of these

papers presented their work orally, including their research outcomes and the responses to the reviewers' comments. Three discussants were invited to make oral comment and provide written review comments to these papers. Three papers were finally selected among the 12 and recommended to Journal of Information Management, with the requests to edit the contents according to the reviewers' comments and after the approvals were gained from the initial reviewers and discussants.

My sincere gratitude is to Journal of Information Management for providing the opportunity to publish the research outcomes on this emerging research issues.

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# 「服務體驗設計：理論與應用」特刊

隨著經濟型態從服務導向提昇為體驗經濟，體驗行銷已成為新一代的行銷模式，可應用於開發新產品、設計資訊系統、改善夥伴關係與建立顧客忠誠等。體驗是由顧客與環境或使用者與系統互動所組成，企業可結合溝通、視覺與語音辨識、產品的呈現方式、品牌、空間環境、網站、電子媒體以及人等體驗媒介，創造顧客的體驗價值。因此，如何設計增進體驗價值的商品、服務、資訊系統、行動服務，為當前的重點研究議題。有鑒於此，「靜宜大學資管系」和「台灣服務科學學會」共同主辦此論文徵稿和論壇，並由「溫世仁文教基金會」協辦，以「服務體驗設計：理論與應用」為主軸，公開邀請國內外相關領域的研究者，提出具原創性的研究論文、個案研究或研究方法論，期能深入剖析如何透過服務體驗設計創造顧客價值，進而增進企業競爭力。相關研究議題包括：體驗經濟與營運、服務體驗設計與個案、服務創新與行銷、體驗設計與營運模式、顧客導向資訊系統、服務體驗工程方法論、顧客導向服務設計、服務體驗設計工具、行動服務設計、人機介面設計、行動服務體驗、人體感測服務與設計、跨文化服務體驗設計、穿戴式設備應用研究、體驗設計與理論和服務創新與設計等。

經過徵稿後，共有 25 篇論文投稿，投稿之每篇論文先送 2 位外審委員進行初審後，推薦 12 篇參與 2014 年 7 月 10-11 日舉辦之「2014 年服務科學研究論壇」做論文發表。每篇論文由作者進行口頭報告，內容包括研究成果和初審意見回應，由 3 位評論人進行評論，也提供書面評論意見。再從報告的論文中挑選出 3 篇，要求論文作者依評論意見（初審和評論人）做修改，修改後的論文經初審和評論人認可後，推薦至資訊管理學報。

感謝「資管學報」針對「前瞻性研究議題」提供研究成果發表機會。

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台大工商管理系

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