

## *Introduction to the Special Issue*

# **Service Innovations for E-commerce**

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## **Introduction**

With rapid advancements of information and communication technologies and its integration with business, e-commerce has become common practices for many business transactions. It has emerged with business processes to deliver values to internal and external customers. The demand of customer-centric services requires innovative approaches to identify customer needs, and design effective processes to deliver values to customers, especially facing the increasing number of Web-based applications (e.g., Web 2.0). Thus, the study of the innovation in services for e-commerce is becoming the next wave of e-commerce research and practices. This special issue aims to advance our understanding of this matter and hopefully to encourage and develop research momentum across disciplines to contribute to service innovations for e-commerce.

In this special issue, four papers are selected to cover the design of customer expectation measurement model and a range of e-commerce service innovations. These papers were chosen, extended, and further revised from those presented at the Eleventh International Conference on Electronic Commerce (ICEC 2009) in August 2009 in Taipei, Taiwan.

The special issue begins with Hsieh and Yuan's paper, "Design of the Customer Expectation Measurement Model in Dynamic Service Experience Delivery." The authors propose a systematic and quantitative expectation measurement model for customer-focused service design and innovation. The proposed model is developed on the basis of Fechner's Law and concepts of operation risk. Such model provides a real time measurement which overcomes the limitation of the traditional empirical approach.

In the second paper, "A Ubiquitous Knowledge-based System to Enable RFID Object Discovery in Smart Environments," Ruta, Di Sciascio, Piscitelli, and Scioscia develop an extended framework to enable the ubiquitous Knowledge Base (u-KB) system in mobile environments. In their framework, semantic matchmaking is carried out using metadata in Radio Frequency Identification (RFID) tags. An evaluation using ns-2 simulation environment is conducted to test the feasibility of the proposed framework.

A large volume of online reviews are available but the quality varies. In response, Huang, Shen, Feng, Baudin, and Zhang, in their paper on "Promote Product Reviews of High Quality on E-commerce Sites," explore two aspects, including noise filtering and author behavior, to discover the product reviews of high quality. In noise filtering, reviews are classified into product reviews, feedbacks to retailers, and commercial spams. Three behavior features pertaining to online reviewers, including personal reputation, seller degree, and expertise degree, are investigated for ranking the product reviews. A behavior model is developed to capture user behavior in making product reviews and voting on others' reviews.

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The special issue ends with a paper that investigates sentiment analysis of online consumer reviews in a Web 2.0 environment. In "Understanding Online Consumer Review Opinions with Sentiment Analysis using Machine Learning," Yang, Tang, Wong, and Wei employ machine learning techniques, namely class association rules and naïve Bayes classifier, to classify online consumer review opinions into product feature classes and generate a summary of consumer reviews. Such techniques help users to identify products with good reviews on the preferred product features effectively and efficiently rather than relying on the general ratings. The investigated techniques overcome the shortcomings of the natural language processing approach. The empirical evaluation shows that their proposed techniques achieve over 70% of macro and micro F-measures.

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