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IT for future e-business management

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Information technology (IT) plays an important role in e-Business management. It enables the development of e-Business information systems and affects the way of how the e-Business is conducted. To support e-Business based organizations in achieving excellence and the competitive edge, IT for Future E-Business Management must rise to new challenges by providing tools to analyse large volumes of data from various sources and support decision making, generating models for investigating factors in fast growing e-Commerce sectors, and developing mechanisms for improving the efficiency of processes, etc.

The special issue of Information Systems and e-Business Management (ISeB) relates to IT for Future E-Business Management. The motivation for this special issue is to broaden our horizon in the latest information technologies for future e-Business management. The special issue attracted a range of high quality submissions from researchers working in the areas. This issue consists of six high-quality papers selected and extended from the 10th IEEE International Conference on e-Business Engineering (ICEBE 2013). All submissions were considered and subjected to a rigorous review process according to ISeB standards.

The first paper, by Chen-Fang Tsai et al., proposes an adaptive mechanism that incorporates a wide range of green component design (GCD) strategies to improve the availability efficiency of GCD processes. The concept of green manufacturing is introduced to E-Business which is different from traditional cost driven business model. A self-adjusting mechanism to enhance the versatility and generality of a

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genetic algorithm (GA) is designed to improve GCD availability efficiency. The effectiveness of the proposed algorithms has been examined in a GCD chain. The experimental results show better reproduction optimization than the traditional approaches.

The second paper, by Diego Leyton, José A. Pino and Sergio F. Ochoa, proposes an E-Business Technology Acceptance Model (EBTAM) to study acceptance before actual deployment of a new system in small and medium-sized e-Business organizations. The model was evaluated at three stages of a system replacement process in three companies, and the results show that EBTAM provides reasonable predictions about technology acceptance without requiring expert evaluators or many users, and thus is easier to implement and use in small organizations.

The third paper, by Chien-Hsiang Lee et al., proposes a novel concept called the prospect service that has a flexible interface to allow functional flexibility. The paper also defines a meta-model to specify service patterns with prospect services and adaptable workflow constructs to model flexible and adaptable process templates. An automated instantiation method is further introduced to improve the feasibility of automated composition. The proposed model is evaluated via empirical studies and the proposed automated instantiation method evaluated via simulations. The results show the advantages of the proposed model in terms of composition time and accuracy, and the proposed automated instantiation method in terms of the efficiency.

The forth paper, by Feng-Teng Lin, Hsin-Ying Wu and Thi Nguyet Nga Tran, investigates the factors that influence customer intention regarding Internet banking services in Vietnam. Elements of an extended technology acceptance model (TAM) and the theory of planned behaviours are adopted for the investigation. The strength of the hypothesized relationships is evaluated via structured equation modelling (SEM), and the results indicate that the use of Internet banking services in Vietnam may be motivated by a set of specific factors.

The fifth paper, by Hsueh-Hsien Chang and Ching-Lung Lin, proposed a feature extraction technique of the power signatures in the energy management information system (EMIS), Hellinger distance, to effectively reduce the number of power signatures representing load state transition and aging signals. The identification of state transition and aging of loads from the back-propagation artificial neural network (BP-ANN) is evaluated via experiments and the results demonstrate the high success rates and the feasibility in load operations of EMIS applications. Through this work, the e-business for energy market becomes possible.

The sixth paper, by Chien-Ho Wu, Jung-Bin Li and Tsair-Yuan Chang, designs a tentative data analysis assistor, SLinRA^{2}S, to ensure a consistent and sound application of statistical methods for data analysis. SLinRA^{2}S is implemented in Java on an open platform and it invokes R for statistical functions. Outputs from SLinRA^{2}S were verified against outputs from SPSS for correctness and validity. As a result, the proposed statistical model could potentially used in wide range of commercial applications.