Journal Snapshot

Journal of Information Management

Houn-Gee Chen
Editor-in-Chief
National Taiwan University
hgchen@ntu.edu.tw

Introduction to the Journal

Journal of Information Management (JIM) was established in 1992 by the Association for Information Management of the Republic of China (Taiwan). Initially, it was a semi-annual publication and upgraded to a quarterly journal in 2004 as a response to the large number of high quality papers submissions. It is the most desired publication outlet for local scholars due to its reputation. It has been included in the National Science Council's Taiwan Social Science Citation Index (TSSCI) since 2000. Publication in the journal is counted as high quality research and is important for the authors' promotion and grant application.

JIM publishes both technical and managerial research with no particular preference. It covers many research areas in information systems, including: management information systems, decision support systems, strategic information systems, AI and expert systems, bio and medical information management, e-commerce and e-business, system development, project management, knowledge management, man-machine Interface design, information and organization, information and society, electronic organizations, internet and corporate operation, information technology application and management, telecommunications technology, software engineering, and all other information management related topics.

The editorial board consists of the Editor-in-Chief and 16 renowned scholars to serve as senior editors. Reviewers of the journal come from a wide range of academic institutions and are selected based on the relevance of their areas of expertise to the papers to be reviewed. JIM receives about 200 submissions each year, of which about 10% are English manuscripts. All submissions are double-blind peer-reviewed. The average acceptance rate is about 23% in recent years. JIM maintains both hard-copy publication and online presence.
In order to provide a snapshot of the papers published in the journal, abstracts of eight papers published in the most recent issue (Volume 16 number 1) in Jan 2009 are provided below.

Journal Snapshot/Chen

Developing Perception-Aware Expert System to Improve Information Search Performance

Yu-Liang Chi and Yen-Chun Chen
Chung Yuan Christian University

Abstract

In order to facilitate perception as information retrieval criteria, this study utilizes human feelings and cognition as the design elements of a knowledge base building. Owing to human feelings are complex mental processes, how to translate these physiological states into executable information is a challenge. This study learns from Kansei Engineering (KE) to propose a development approach for obtaining knowledge base design elements. The primary tasks include gathering human feelings in a word form, grouping similar words into a high-level semantic structure, and identifying important semantics as design elements for ontology building. A walkthrough example of identifying dog breed names is given to demonstrate the advantages of this design. Implementation results indicate that the new design allows users to search their needs by simply giving perceptions of what they saw or felt without much domain expertise. Consequently, this study overcomes limitations of keyword-based search by applying a perception-aware of ontology development.

The Model of Collaborative Customer Relationship Management: An Application of the Customer Relationship Establishment in the EC Environment

Cheng-Lun Tsai and Ming-Hsien Yang
Fu Jen Catholic University

Abstract

In the Internet age that enterprises value strategic partnership, collaborative commerce has become an important electronic commerce (EC) application. Customer relationship management (CRM) is an effective tool that utilizes information technology (IT) in relationship marketing to promote the enterprise's sales performance. Integrating the theories related to collaborative commerce and the CRM, the study develops a collaborative CRM model that shares CRM resources with proper value across collaborative enterprises. To test the technological and operational feasibility of the collaborative customer relationship management (CCRM) model, the study developed a CCRM platform prototype system and conducted three experiments to: (1) test the reliability of analyzing customer profile rules using genetic programming (GP); (2) study the technical availability of the CCRM platform; and (3) study the impact of enterprises' adopting the CCRM model on their CRM performances in the stage of customer acquisition within EC environment. The experiment results show that GP can produce accurate, completed and consistent target customers profile rules, the CCRM platform using Web Services as the information technology architecture base is technically feasible, and the result of experiment shows that enterprises' adopting CCRM model can generate positive impact on their CRM performances in the stage of customer acquisition within EC environment.

Route Assignment for Distributed Leased Lines in Mobile Cellular Network

Yung-Chia Huang
Mobile Business Group, Chunghwa Telecom

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San-Yih Hwang
Nationl Sun Yat-Sen University

Abstract

When a large number of base stations fail due to the breakdown of some transmission circuit in a mobile cellular network, base stations located in neighboring areas may take over those malfunctioned base stations and continue to provide the access service of mobile communications for users in surrounding areas, thereby reducing the area in which mobile communications are out of service. Therefore, if leased circuits in base stations could complete the route distribution configuration prior to the onset of malfunction, it could decrease the impact of circuit breakdown and traffic loss. Also, the efficiency would be improved if the circuit assignment personnel could complete the job when determining the leased lines for a newly installed base station, so as to avoiding reassignment in the future and subsequently reducing the cost.

In this study, we use a graph structure to represent the present mobile cellular network and develop various route-selection strategies. We define the "Optimal Route Assignment" for a newly constructed base station, which refers to the route assignment that causes the least disconnection area when any circuit in the network is broken. We show that A* algorithm can be used to achieve optimal route assignment. However, the computing the optimal route using the A* algorithm is time consuming. Measures such as computation time and least hops are incorporated in designing other heuristic strategies for route assignment. These strategies are parametric and we carried out experiments by adjusting and controlling parameters using real routing data.

The experimental results demonstrate that there is no single winner among the proposed strategies. We identify a number of best strategies for different operating regions.

An Integrated Model of ERP Users' Continuance Intention： Social Cognitive Theory and Expectation – Confirmation Theory

Shih-Wei Chou and Pi-Yu Chen
National Kaohsiung First University of Science and Technology

Abstract

Many of the prior studies emphasize the impact of an IT (information technology) user's beliefs and attitudes on behavior. Few of them address their relationship from the perspective of individual differences. Given the high cost of implementing ERP and the benefit gained from continuance ERP usage tends to compensate the cost, understanding how an ERP user's continuance intention becomes critical. Drawing on social cognitive and expectation-confirmation theory, we propose a model aiming to delineate the relationship among dynamic individual differences (computer self-efficacy, computer anxiety), static individual differences (personal innovativeness in IT) and continuance intention. This study also investigates whether an ERP user's confirmation moderates the above relationship. Through a field survey of 305 respondents, most of the proposed hypotheses were supported—individual differences affect continuance intention either directly or indirectly (through confirmation or satisfaction). The relationship between personal innovativeness in IT and ERP continuance intention is negatively contingent on knowledge half-life. Finally, confirmation moderates our model.

Improving Technology-Mediated Learning Effectiveness: An Investigation of Psychological Learning Process and Collaborative Learning Performance

Tsai-Hsin Chu
National Chiayi University
Hung-Lin Peng
National Dong-Hwa University

Abstract

Research on technology-mediated learning (TML) emphasizes benefit of collaborative learning. However, research findings on whether TML collaborative learning could improve the learning effectiveness are inconsistent. To have a better understanding of TML learning outcome, it needs an integrated consideration about how the technology and the instructional strategy could trigger the learner's psychological learning processes and then could result in the particular learning outcome (Alavi and Leidner 2001). This study extends the psychological learning process of Alavi and Leidner's framework by social cognitive theory, which is concerned learning as the reciprocal influences among environment, person's internal factors and learning outcomes. Our findings show that the psychological learning process mediates the effect of collaborative learning outcome. Specifically, self-efficacy is the most important mediator. In addition, TML collaborative learning can improve learner's self-efficacy, outcome expectation and goal commitment to bring about a better learning outcome. This effect is not produced immediately. Instead, it is achieved as the learners continuously participated in the on-going learning activities. This finding has provided a satisfactory explanation for the inconsistent conclusions suggested by current literature.

Modeling Customer Value Using Fuzzy Theory and Markov Chain

Jinn-Yi Yeh
National Chiayi University
Tai-Hsi Wu
Department of Business Administration
National Taipei University
Kai-Ping Li
Department of Information Management
National Chiayi University

Abstract

Because of progressive development of information technology, the relationship between enterprises and customers becomes more complicated. Therefore, it is an important issue for resource allocation among customers. To allocate resources efficiently and reduce costs for marketing budget, customer value analysis turns to be an important tool. In this paper, fuzzy theory, Markov chain and RFM model are integrated to evaluate customer lifetime values. This approach calculates the profit contribution of customers in every purchasing situation. Firstly, customer purchasing state is updated contiguously by fuzzy theory and RFM model with transition matrix which represents the probabilities among purchasing states. Then the profit contribution of each period is computed by using revenue and cost data. Finally, the profit contribution of each customer is accumulated through some discounting consideration. This will

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construct the final customer lifetime values. The proposed method has been evaluated by using sales records from a well known medical company in central Taiwan. The proposed model outperforms other methods and obtains a good accurate rate for estimating of customer lifetime values.

The Impact of Knowledge Sharing Types and Team Learning Capability on Team Creativity

Mei-Hsiang Wang, Tarng-Yao Yang, and Kuo-Chan Huang
Southern Taiwan University

Abstract

Creativity is important in teamwork because it leads to many benefits. However, creative teams result from knowledge sharing among members. This article investigates the effects of knowledge sharing types on team creativity and then analyzes the influence of the team learning capability on team creativity of knowledge sharing in teams. By examining 65 teams collected from high-technology firms in Taiwan. We test direct and moderated relationships between knowledge sharing types with team creativity. Results show that only interpersonal interaction knowledge sharing type has a direct effect on team creativity. Furthermore, the result shows that team learning capability (i.e., knowledge discrimination and knowledge application) have effects on the relationship between technology/documentation knowledge sharing type and actual experience knowledge sharing type. Theoretical and practical implications are discussed.

A Study of Applying Knowledge Maps to Instructional Material Design of E-learning

Ruey-Shiang Shaw and Ming-Chao Hsieh
Tamkang University

Abstract

Knowledge maps could help learners to understand the relationships of complex concepts between course chapters and units. Knowledge maps would reduce the problems of instructional material design, such as too enumerative and lack of integration. Therefore, knowledge maps could improve the learning performance. Especially, in the Internet age, information is overloading and the relationships among information are too complicate, that raises the research issues about knowledge maps which could clearly represent the relationship of components of knowledge.

This research tries to study the learning performance of applying knowledge maps to instructional material design of e-learning. A knowledge map of ADO.NET e-learning material as the example was constructed firstly in this research. This knowledge map was transformed from the existing browsing type of the instructional material of ADO.NET in Internet. Then, an experiment for learning performance between two types of ADO.NET e-learning materials design was performed. The results of experiment show the knowledge map type could significantly improve learning score and learning satisfaction. This research implies that knowledge maps are helpful tools to increase the learning performance for the instructional material design of e-learning.