
Editorial: interactions between people and information technology in the digital age – Part I

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1 Introduction

In the digital age, Information Technology (IT) acts as the central infrastructure in modern businesses. Without IT, enterprises may lose competitive advantages in processing and winning orders, production planning and control, marketing, decision making, resources planning and control, product or process innovation and many other strategic and operational activities. With IT, it is used effectively and the users will have the potential to create a competitive advantage.

People play an important role in ensuring successful implementation and utilisation of IT in any types of enterprises, including those in public and private sectors. However, there is a gap between IT development and people ability to learn and adapt to new and evolved IT. Unlike larger and high technology smaller firms, many Small- and Medium-sized Enterprises (SMEs) may not have the resources and skills to adapt and use advanced IT. This scenario raises a significant dilemma – where the speed of IT development is so rapid which makes it very difficult for non-specialist in IT, for example, managers, to be able to utilise such development effectively and let alone gaining any competitive advantages.

This Special Issue of *International Journal of Information Technology and Management (IJITM)* on ‘Interactions between people and information technology in the digital age’ aims at providing a collection of recent research on this respect. Conceptual, empirical, experimental and case-based papers were welcomed. The objectives of this Special Issue are:

- 1 to identify innovative methods and models to address the gaps between IT development and IT take-up and
- 2 to identify new quantitative and qualitative approaches for analysing the interactions between people and IT, for example, using agent-based modelling.

Following with the normal *IJITM* review guidelines, we received many quality contributions to this special issue. A total of 15 papers were accepted for publication and these papers have been divided into two parts of this special issue. Part I of this Special Issue contains seven papers ranging from contributions from researchers and practitioners focusing on areas related to knowledge management, business intelligence, organisational learning and e-learning. A mix of theory building and empirical study papers that have strong relevance to the practical world are available. Part II of this Special Issue contains eight papers. We provide a brief overview of the papers, which appear in Part I of this issue.

Lee et al. in their paper, ‘Collaborative environment and technologies for building knowledge work teams in network enterprises’ purports that efficient sharing of knowledge is crucial in the building of knowledge work team. The importance in developing appropriate collaborative technologies to be embedded in the knowledge generation and sharing processes has been often undermined for the successful launching of Knowledge Management (KM) programmes. The essentials of the new knowledge environment and collaborative technologies that are used to support knowledge work are outlined. It is noted that the type of collaborative technologies and environment required depends on the nature of the business. Two case examples of pending KM programmes, one in an airline industry and another in an electronics manufacturer are illustrated. It is

found that a detailed understanding of the business process and customisation and alignment of the technologies are the two most important factors in designing the most appropriate knowledge environment.

The paper, 'Dynamic interactive framework to link business intelligence with strategy', by Tu and Chang suggests that previous literatures have focused on technologies of Business Intelligence (BI) like data warehouse, On-Line Analytical Processing (OLAP) and data mining but a few cases explained how to link BI with strategic goals. This paper illustrates a whole picture to describe different levels of BI from a globalisation perspective. Knowing that system dynamics plays an important role of causation validity and dynamic feedback interaction, a dynamic interactive framework of Global Business Intelligence System is proposed for practical operation to improve conventional Balanced Scorecard Systems in industry. The combination of value creation process of Global Balanced Scorecard and BI units forms the dynamic interactive processes for system users to link strategic goals and BI.

Chow et al. in their paper, 'A knowledge and analytical-based intelligent system for customised logistics management' highlights that in recent years, logistics service companies have been seeking numerous technologies and logistics information systems to support daily logistics operations. However, the planning and decision making of logistics activities is still done manually, where subjective judgement is made by logistics service providers through analysing multiple knowledge/information sources and various quantitative and qualitative criteria. In this paper, the use of an intelligent decision support system, namely, Knowledge and Analytical-based Intelligent System (KAIS), to embed the information communication and decision support technology in aiding such decision-making process is explained. KAIS is developed by integrating Analytic Hierarchy Process (AHP), Case-Based Reasoning (CBR) and portal technologies seamlessly, which is suitable for application in various dynamic logistics operations environment. By using KAIS in Eastern Logistics Limited (ELL), the overall logistics service quality and customer satisfaction level is significantly enhanced through making accurate decision and systematic planning of logistics operations.

The paper, 'The potential changes and development of China's logistics industry through implementing the ubiquitous logistics', by Jiang and Nam claims that little research could be identified on the applications of 'ubiquitous' in the logistics field. This paper puts forward the concept of ubiquitous logistics and proposes the implementation of ubiquitous logistics in China's logistics industry. Considering the complexity and difficulty of the implementation task, they design the implementation procedure from the 'surface' aspect and 'point' aspect to implement the ubiquitous logistics in China step by step. The possible opportunities that are brought about by implementing ubiquitous logistics to both logistics industry and other industries in China are discussed.

Wu et al. in their paper, 'The ERP implementation: A quantitative model for organisational learning' explores the long-term impact of Enterprise Resource Planning (ERP) investment decisions that are costly from an organisational learning perspective. Their objective is to evaluate the interactions between people and ERP implementation, with an emphasis on the learning aspect. They address the gaps between ERP development and its implementation and identify new quantitative approaches for analysing the interactions between people and ERP, using the Real Options concept for modelling. Three important contributions to the literature are made by this research, namely the emphasis of the importance of organisational learning in ERP implementation

and evaluation of its strategic value with a quantitative model; illustrative data in conjunction with an analytical formula are elaborated on so that companies can easily understand and apply the evaluation method with spreadsheet software and the application of option-pricing theory on ERP projects to capture their real value.

The paper, 'Education and training in the knowledge-based economy: the application of knowledge management', by Psarras states that as we are moving into an era of 'knowledge capitalism', knowledge management in combination with information management will play a fundamental role towards the success of transforming individual knowledge into organisational knowledge. The increasing economic importance of knowledge, which currently redefines the links among education, work and learning, makes the role of KM quite crucial. This paper presents the key concepts of knowledge management, discusses their applicability to education and training and proposes new ways of using KM for the development of modern education and training in the new knowledge-based economy.

Dharaskar and Thakare in their paper, 'Technique to develop effective e-learning software to simulate a teacher using SCORM-based interactive multimedia RLO for non-linear teaching' notes that Reusable Learning Objects (RLO) are small, self-contained modules of learning that tackle a single concept, information, procedure or fact that can be delivered independently. It is argued that to develop independent RLO for linear teaching method is a straightforward job, but the process becomes tedious for non-linear Funnel approach teaching because of two characteristics of RLO namely reusability and independent nature. The text-based RLO can be modified easily, but the multimedia-based RLO development is an irreversible process. Thus, it is more tedious job to develop multimedia-based RLO for non-linear teaching process. The interactive multimedia is a better choice for developing e-learning software. To use these technologies for effective e-learning solutions, the developer should have in-depth knowledge of e-pedagogy, which makes the process more complicated. To develop web-based e-learning solutions the Learning Management System (LMS) is essential. The SCORM compatible RLOs are needed for LMS, which adds further overheads. The magnitude of complexity increases if these RLOs are used to simulate the teacher of programming languages. This paper describes a special technique to do this job. In the case study, the technique has been applied to develop e-learning software for Microsoft Visual Basic and tested over 120 students over one and a half year.

We could not have done this by ourselves and we totally appreciate the efforts and support of all who were involved in making this special issue possible, which includes the authors, referees, Chief Editor of Inderscience, editorial staff of *International Journal of Information Technology and Management* and the Editor of the Journal. The guest editors gratefully acknowledge the assistance provided by the Chief Editor of Inderscience, the Editor of the *International Journal of Information Technology and Management* and the referees who reviewed the manuscripts for this Special Issue.