
Editorial

P.D.D. Dominic*, Jafreezal B. Jaafar and Noreen Izza Arshad

Department of Computer and Information Sciences,
Universiti Teknologi PETRONAS,
32610 Seri Iskandar, Perak, Malaysia
Email: pdddominic@yahoo.com
Email: dhanapal_d@utp.edu.my
Email: jafreez@utp.edu.my
Email: noreenizza@gmail.com
Email: noreenizza@utp.edu.my
*Corresponding author

Biographical notes: P.D.D. Dominic received his BSc in Mathematics from the Madras University, India. He has completed his Postgraduate in Management specialised in Information Systems. He received his PhD in Management from the Alagappa University, India. He is currently heading the Information System/Knowledge Management Research Cluster from the Universiti Teknologi PETRONAS. His research interests include information systems, decision support systems, supply chain management, data analytics, e-business and knowledge management. He has published more than 100 publications in international journals and conferences. He has done guest editorial in *IJBIS*, *IJBIR* and *IJITM*.

Jafreezal B. Jaafar is an Associate Professor and former Head of the Computer and Information Sciences Department at the Universiti Teknologi PETRONAS, Malaysia. He holds a degree in Computer Science from the Universiti Teknologi Malaysia (1998), MAppSc in IT from the RMIT University, Australia (2002) and PhD from the University of Edinburgh, UK (2009). His main research areas include big data analytics, soft computing and software engineering. He manages to secure numbered of research projects from industry and government agencies. Based on his publication tract record, he had been appointed as the Chief Editor and reviewer for several journals, and also Technical Chair and Committee for an international conference. He is also active in the IEEE Computer Society, Malaysia Chapter and had been appointed as the Executive Committee for 2016–2018.

Noreen Izza Arshad is currently an Associate Professor from the Department of Computer and Information Sciences, Universiti Teknologi PETRONAS, Malaysia. She received her Bachelor's in Information, Communication and Technology (ICT) from the Universiti Teknologi PETRONAS, Master's in Information Management from the Strathclyde University at Glasgow, Scotland and PhD from the Melbourne University, Australia. Her research focuses on utilising qualitative research approaches, both positivist and interpretivist to study the use of technologies in supporting organisational business processes, healthcare industry and knowledge management. Her teaching interest include knowledge management systems, IT project management, case studies in IS and qualitative research methodologies.

It gives us great pleasure to welcome you to this issue of the *International Journal of Business Information Systems*. This issue is dedicated to the publication of selected papers researching the power of information systems innovation towards digital world.

The first paper is from Michal Halaska and Roman Perka, they explained that the digital technologies and enterprise information systems are aligned with underlying business and manufacturing processes to perform at the highest levels in companies. The focus of the paper is on operational processes running in companies from different perspectives based on state-of-the-art of Industry 4.0 concept. It discusses the potential of process mining techniques for Industry 4.0. The core of the paper demonstrates how can process mining method enhance elements of Industry 4.0 concept through case study from financial sector with the emphasis given on efficiency and monitoring of a loan process. The research shows that management of business and manufacturing processes is very important due to the properties of processes of Industry 4.0 concept.

The second paper is written by Joseph Jeya Anand Selvaraj and J. Reeves Wesley empirically examine the impact of supply chain flexibility on supply chain performance and also to identify the antecedent variables to SCF. This study includes 249 samples from manufacturing industry. We used structural equation model with a partial least square (PLS) approach for examining the model and SmartPLS 2.0 software was used for analysis. The result indicates that the SCF significantly contributes to the supply chain performance namely demand management, supply chain reliability and supply chain knowledge development. The mediation analysis shows that SCF partially mediates the relationships between supply chain capabilities and supply chain performance.

The third paper is from Kamal Uddin Sarker and others is proposed EBSPM public software project data repository has been analysed to reflect the relationship among cost, time, effective hours and functional points to identify eternal influencing factors. The literature review has identified the root causes of failure. Software quality control is a formal approach to make the project successful but until now ambiguous with the integration of quality factors. Our proposed ontology reduces the complexity of project management. This research has established the way of developing an ontology by including maximum quality factors. Theoretical evaluation has been done at the end of the research based on the criteria of standardisation organisations.

The fourth paper from Harry Chandra explained there is a need for rapid decision making in the organisation, causing the importance of developing a real time data warehouse system. In addition, what also needs to be considered is how to make the extract, transform, load (ETL) processes carried out, would not interfering the performance of the operational database being used. The proposed research will have identified which one is the best change data capture method from three types of methods in three database application for each type of data structure to be tested, that supports the RTDW system making process. From the results of research conducted it is proved that the best change data capture method is different for each type of data source tested in the same environment.

The fifth paper from Raza Hasan and others explained in their research study focuses on student success analysis and prediction modelling improving the quality in terms of teaching, delivery and satisfaction. Supervised learning approach has been adopted with different classification models were tested against the dataset distributed over different levels of study and specialisations. Student grades and online activity on the learning management system were considered as the factors to construct the classifying model. In this study, different algorithms were tested for efficiency and accuracy with the provided

dataset for better prediction using WEKA. Random forest was found better and accurate in predicting the student's academic performance. Employing these techniques, it will lead to student preservation and strive for better student satisfaction.

The sixth paper from Irene Wei Kiong Ting and others explains their idea on a survey questionnaire was developed accordingly. With a stratified sampling method, data were collected from the academic staff of one public and one private university located in Malaysia. A total of 200 academic staff members participated in this study. Linear regression analysis was performed to test how knowledge creation (i.e., exploration and exploitation) affects employee engagement. Statistical results show that the exploration and exploitation of knowledge creation positively and significantly affect employee engagement. The proposed model could aid universities in utilising knowledge creation practices to engage employees so as to attain and sustain competitive advantage.

Finally, in the seventh paper, Joseph Jeya Anand Selvaraj and J. Reeves Wesley proposed this empirical paper attempts to understand the sources of supply chain risk and its effect on supply chain demand management. Survey instrument was administered to collect response from the manufacturing companies in India. The data analysis is by SmartPLS 2.0. The result shows that the variables like supply management capability, supply chain information management and supply chain environmental uncertainty management capability are having positive impact on supply chain risk as well as on supply chain demand management. These findings will provide various insights for the practitioners and be used as a knowledge repository in the area of supply chain risk management.