Guest Editorial Preface

Special Issue on Systems Analysis and Systemic Thinking:
Research and Teaching Issues (Part 2)

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In this issue of the International Journal of Information Technology and the Systems Approach (IJITSA), we report six high-quality research papers. The first three of them were accepted as part of the previous special issue on "*Systems Analysis and Systemic Thinking: Research and Teaching Issues*", co-edited by the Doncho Petkov, at Eastern Connecticut State University, USA, George Schell, at University of North Carolina, Wilmington, USA, and Theophilus Andrew, at Durban University of Technology, South Africa. The remainder three papers were accepted as regular submissions.

The first paper *Better Use Case Diagrams by Using Work System Snapshots* is authored by Narasimha Bolloju, at LNM Institute of Information Technology, Jaipur, India, and Steven Alter, at University of San Francisco, USA. It shows how a technique from Work System Theory, called Work System Snapshot (Alter, 2013) can be applied to better development of use cases, an important technique in Object Oriented Analysis and Design. The effectiveness of this approach was tested in a laboratory experiment. Given the fact that work system snapshots can be more easily defined in collaboration between developers and the clients this is a promising advance in the strive to produce better use cases in software development.

The second paper by theauthors Lynda Holland, at University of Wolverhampton, UK, and Joy Garfield, at University of Worcester, UK is titled *Linking Research and Teaching - An applied Soft Systems Methodology Case Study*. It applies the original seven stage model of Checkland's Soft Systems Methodology (SSM) to analyze and improve the teaching of a postgraduate Information Technology course on Research Methodology taught at a British university. The paper has relevance for the teaching of research methodology to Information Technology postgraduate education and for the teaching of soft systems thinking as there are not many recent published case studies documenting an application of SSM.

The third paper titled *IS Design Considerations for an Innovative Service BPO: Insights from a Banking Case Study* is authored by the authors Myriam Raymond, at University of Angers. France, and Frantz Rowe, at University of Nantes and SKEMA Business School, France. The authors draw from their involvement in a case study on an IS application for a banking Business Process Outsourcing project in Egypt. They use Alter's Work System Method (see Alter, 2013) as a framework for formulating design recommendations for similar systems. From that point of view the paper is of interest both to the systems community and to the design science researchers in the field of Information Systems.

The remainder three articles were accepted through the regular submission process of IJITSA.

The paper entitled *An Initial Examination into the Associative Nature of Systems Concepts*, is authored by Charles E. Thomas at Illinois State University, USA, and Kent A Walstrom at Illinois State University, USA. The authors argus that a Systems Thinking is implicitly required to organize

our thoughts on the information systems we analyze, design, build and operate. Furthermore, authors support the notion of Systems Thinking as one of the four core skills expected in System Analysts. However, Systems Thinking is rooted in a conceptual system named Systems Theory, and according to some literature cited by authors, it is suggested that its understanding is highly intuitive. Consequently, the authors investigated in this paper, through an experimental setting with two samples (undergraduate and graduate students) with the purpose to examine the correct associative understanding of 9 basic systems theory constructs with 6 usual concepts used in analysis of information systems. Results revealed two interesting insights: 1) graduate students outperform to undergraduate students, but 2) its distribution of proportions on correct responses is almost similar. Hence, this empirical research contributes to the identification on the extent of understanding correctness on the core concepts of the Systems Approach used implicitly in the Information Systems area.

In the next article entitled *Assessing the Potential Improvement and Open Systems Development Perspective could offer to the Software Evolution Paradigm*, James Cowling and Wendy Ivins, at Cardiff University, UK, addresses the problem of large-scale software systems evolution. The authors used a soft-systems methodology (SSM) research approach to describe the managerial and engineering challenges of software evolution. Then, they were based on the Lehman's concept of evolution and Open Innovation, and compare the characteristics of three categories of software project management approaches: 1) plan-driven one, 2) agile one, and 3) open source. The authors conclude that the three approaches can contribute to the elaboration of an initial model for evolutionary software engineering. However, many relevant challenges are also present. Then, the authors contribute to the software engineering discipline with the proposal of a novel evolution model based on three relevant project management software engineering approaches, derived from the application of SSM.

In the final article entitled *A Case of Academic Social Networking Sites Usage in Malaysia: Drivers, Benefits and Barriers*, Maryam Salahshour, Halina Dahlan, and Noorminshah Iahad, at the Universiti Teknologi Malaysia, at Malaysia, conducted a survey on current users and non-users of Academic Social Networking sites (ASNSs) with a sample of a top Asian university. The authors collect data from 82 current users and 128 non-users. These samples were selected only from faculty, research fellow and graduate students. The results reported from authors indicate still a low rate utilization of ASNs. However, this study also revealed perceived benefits such as: collaborative and peer-to-peer learning, assistance in research and learning activities, and sharing research documents. Regarding the drivers for the utilization of ASNs, it was found the following ones: need to contact external colleagues, positive attitude toward technology, and normative suggestion from others. This study found the following barriers for using more widely ASNs: lack of trust, privacy and security assurances. Hence, this research contributes to the Information System discipline with useful insights for Higher Education Institutions located in similar development countries with the interest in deploying and taking advantage of modern ICT academic tools.

Hence, we consider that this 18th IJITSA issue contributes –as past issues- to advance our scientific and practical knowledge of structures, mechanisms, and plausible solutions on relevant theoretical and real problems found in the fields of Information Technology, Software Engineering, Systems Engineering and Philosophy of System Sciences, from an interdisciplinary systems paradigm. High-quality research papers that contribute to this aim are welcome in this journal. Finally, we (guest editors and editor-in-chief) express our sincere gratitude to: paper's authors, reviewers, and IGI editorial staff, for their valuable participation and assistance.

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