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## Editorial

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Welcome to V14 N3 issue of *IJWET*. It consists of four papers covering various aspects of web technologies. The first paper; 'From user generated content to social data warehouse: processes, operations and data mining' is by Afef Walha, Faiza Ghazzi and Pr. Faiez Gargouri. According to these authors, social data warehouse (SDW) combines corporate data with user-generated content (UGC) to improve decision maker analysis. UGC data are heterogeneous, unstructured and informal. To get meaningful and valuable information, it is important to carry out extraction, transformation and loading (ETL) processes during SDW development.

To reduce the complexity of ETL design steps and the inadequacy of the existing approaches applied to support UGC data, the authors of this paper have developed a new generic modeling ETL approach, called ETL4Social. The ETL4Social concepts are partitioned into three languages (ETL4Social-P, ETL4Social-O and ETL4Social-D) to respectively specify ETL Processes, Operations and Data. These authors argue that through these languages, the complexity of ETL design was significantly reduced by portioning the different aspects of ETL design (control flows, data flows and data models). The model needs to be validated and empirical studies conducted to verify its effectiveness.

The second paper is 'Using timed and coloured Petri nets for modelling, simulation, and analysis of integration solutions' by Francine Freddo, Sandro Sawicki, Rafael Z. Frantz and Fabricia Roos-Frantz. The research in this paper is concerned with the analysis of the behaviour and identification of possible performance bottlenecks of the application integration solution, through the analysis of its slots in the design phase. The variables analysed are:

- 1 the time permanence of messages
- 2 the number of messages accumulated.

The conceptual model of the integration solution will be translated into a mathematical simulation model using Petri nets. The aim of the research is to develop a mathematical model to simulate integration solutions in the design phase, i.e., before the implementation and testing stages, in order to reduce costs, risks and time. A real-life problem in the area of marketing was used as a case study. In addition, simulation scenarios similar to those of an actual operating process were defined. The experimental results were collected after 25 executions for each scenario, following the law of large numbers.

According to these authors, the computational simulations were performed using CPN Tools, which allow the use of coloured and timed Petri nets. Finally, the verification of the equivalence of the formal simulation model with Petri nets and the conceptual model was performed using formal verification techniques. More empirical studies must be carried out to verify its uses.

The third paper ‘Analysing the characteristics of crowdsourcing platforms for improving throughput’ is by Ayswarya R Kurup and G.P. Sajeev. According to these authors, crowdsourcing leverages human intelligence to gather solutions on tasks that cannot be accomplished by automated tools. This system consists of components such as the requester, task, worker and the crowdsourcing platform. These authors argue that traditional approaches do not explore the various features of these components and the dependencies among them. The main objective of this study is to analyse the behavioural characteristics of crowdsourcing components and the impact of these characteristics on producing high quality results in crowdsourcing systems. These authors have analysed the characteristics of the components of crowdsourcing systems using a trace-driven approach. Initially, an empirical study has been carried out on the data, collected from well-known crowdsourcing platforms. The findings have been used to design a tool for generating an unbiased workload and its analysis, analogous to the empirical data. Finally, the empirical and synthetic workload has been used for analysing the features of components that boost the quality and productivity of crowdsourcing platforms. They also argue that the results demonstrate that success rate and activeness positively affect the productivity of workers, while the number of available human intelligence tasks (HITs) and the time duration affect the productivity on each task. Further studies are necessary to verify the results.

The fourth paper is ‘Generating creative ideas for new product development in frugal innovation: a hybrid technique of TRIZ contradiction matrix and morphological analysis’ by Zhenfeng Liu, Jinfeng Wang and Lijie Feng. The authors of this paper argue that the frugal innovation is an emergent phenomenon, there is little research in how to develop new products for the frugal innovation. The aim of this study is to gain insight regarding the generation of creative ideas for new product development for frugal innovations that help reduce the resources, time and cost. More specifically, their research aims to create a multidimensional systematic innovation technique (MSIT) that hybridises the TRIZ contradiction matrix and MA to realise frugal innovation.

This paper introduces a model for new product development of the frugal innovation known as the multidimensional systematic innovation technique (MSIT). The model includes the innovation dimensions and the innovation algorithms, for generating creative ideas to the frugal product development. The developing process of MSIT is divided into the fuzzy front end (FFE) and the new product development (NPD) stages. The MSIT approach is evaluated in a case study in the Chinese coal-bed gas control technology. The results show that the MSIT provides a novel research perspective for the frugal innovation by identifying the crucial role played by the innovation process in defining or framing the frugal innovation techniques. It can be used in new product development for the frugal innovation. Despite the advantages of the MSIT in realising the frugal innovations, some limitations exist. More empirical studies need to be performed to validate the MSIT and further research to overcome the identified limitations.