

Editorial

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Biographical notes: Srikanta Patnaik is a Professor in the Department of Computer Science and Engineering, SOA University, Bhubaneswar, India. He received his PhD (Engineering) in Machine Intelligence from the Jadavpur University in 1999 and supervised 12 PhD theses and more than 30 MTech theses in the area of machine intelligence, soft computing applications and reengineering. He is the Editor-in-Chief of *International Journal of Information and Communication Technology* and *International Journal of Computational Vision and Robotics* published by Inderscience Publishing House, England and also the Editor-in-Chief of a book series on *Modeling and Optimization in Science and Technology* published by Springer, Germany.

As innovation becomes more democratic, many of the best ideas for new products and services no longer originate in well-financed corporate and government laboratories. Instead, they come from almost anywhere. In this scenario, companies cannot afford to rely entirely on their own research, but instead should buy or license processes or inventions. Recently, open innovation is a new paradigm, where it assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology. In this new paradigm, dedicated groups within the universities are now coming forward to help smooth interactions with industry partners, but the number is very less and limited to only few universities. Attention is needed to help academics to develop the skills needed to identify, negotiate, setup and manage projects that deliver mutual benefit. There is an essential role to be played by university research offices, technology transfer, and corporate liaison offices, as well as technology entrepreneurs. This special issue covers four contributions from various parts of the globe.

The first paper entitled 'Micro-instructional design in the context of e-learning: towards micro-instructional engineering design' by Sofiane Aouag has highlighted the use of micro-instructional engineering design for e-learning system, which means the detailed modelling and design of specific components and adaptations for teaching specific materials. They have highlighted that the instructional designer should apply projection for specifying models of each component of e-learning environment to be constructed by other actors of the design.

The second paper entitled 'An empirical study on objectives and outcomes of university patents based on the accelerated examination of patent applications in Japan' by Daisuke Kanama has reported an empirical study concerning the outcome of university patents by focusing on the accelerated examination of patent applications. Their empirical analysis found that a positive correlation between the number of objectives and the accelerated patent ratio. Their analysis also found that both

technological realisation and license income have a positive correlation with the number of objectives

The third paper entitled 'Could open source ecology and open source appropriate technology be used as a roadmap from technology colony?' by Babasile Daniel Osunyomi, Tobias Redlich and Jens Peter Wulfsberg has presented a notion of technology colony and how it affects innovation and development, and also to explore the significance of open source ecology (OSE) and open source appropriate technologies (OSAT) concepts as a roadmap to eliminate the effects of technology colonisation on the sustainable development of emerging economies.

Last but not the least, the paper entitled 'Mapping the position of higher educational institutes in national economic advancement: a comparative analysis' by P.K. Ghosh, Ankur Kashyap and Rajat Agrawal has presented the role of higher education institutes in national economic development, from various angles and aspect with a specific focus on university-based research in large economic nations. They have reported their findings based on the evidence from existing data and research from industry, higher education, public and private institutions working at national or international level.

Although the idea of open innovation was originated from the west, but gradually it has been accepted by the countries across the globe. Furthermore, in this special issue, you will find contributions from different countries. In all the contributions, it has been reported about the university's readiness and there initiative in this directions.

I must thank the paper contributors of this special issue and I am sure that the readers shall gain inside about their new domain out of these contributions.