

## EDITORIAL

# Organizational Capability: Skills Related to Organizational Knowledge

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Organizations have to face a more rapidly changing environment than ever before. The development of science and technology provides new knowledge opportunities that bring the effectiveness and efficiency of organizations' activities. However, organizations have to challenge themselves to explore, assimilate, apply, and share the new knowledge. Economic globalization has successfully enlarged the market for organizations; however, the organizations are exposed to more competitors and more unexpected influence than before. Furthermore, the customers equipped with rapidly updated information and knowledge are developing ever-increasing expectations. Considering this current environment, organizations must respond fast to pace up with the change of customers' requirements for better market performances.

In order to help organizations achieve excellence in the fast changing environment, researchers and practitioners have been focusing on understanding, analyzing, modeling, and validating organizational performances. Capability is one fundamental factor behind various approaches. With the enhanced organizational capability, an organization is capable of handling activities from strategies to daily decisions that are important to maintain an excellent performance. Here, we have two fundamental questions:

- 1) What are the main components that make up the organizational capability?
- 2) How does organizational capability impact the organizational performance?

In this special issue, five papers are selected by answering these two questions above. These papers cover theoretical and practical progresses in the effort to achieve good performances of organizations from various perspectives of organizational capability, which are important for properly *designing* an organization. The authors contribute to reveal how the interaction of knowledge, skills, and emotion influences the capability and performance of an organization in a complex and integrated fashion.

The first paper, by Wang and Zeng and titled "Organizational capability model: Toward improving organizational performance," proposes a theoretical model of organizational capability. The authors argue that the organizational capability is constituted by organizational knowledge, skill, and emotion, which are

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converged and emerged from individual knowledge, skill, and emotions. While the organizational knowledge is widely accepted as the major impetus of organizational performances, it is indicated that skills and emotions are of equal importance. Skills determine if the right knowledge can be found to attack the right problem whereas emotions determine how much knowledge and skills can be applied in completing a piece of work.

The second paper, authored by Hustad and titled “Knowledge Management in Distributed Work: Implications for Boundary Spanning and its Design,” deals with the skill of managing knowledge in the work, which includes boundaries of functions, divisions, geographies, time, languages, and cultures. For a better performance in such a complex context, organizations must improve their capability to overcome boundaries in knowledge sharing, creation, storage, and retrieval. Observations in three multinational firms reveal that knowledge management initiatives for coping with boundaries ensure sharing and the creation of knowledge.

The third paper, authored by Koohborfardhaghighi and Altmannand and titled “How Organizational Structure Affects Organizational Learning,” investigates the organizational learning skill from the organizational structure perspective. Organizational learning skill is dependent on the information flow among individuals of the organization. Organizational structure determines the path of information flow via communication. With the aid of computer simulation, the authors find that the organizational learning skill will benefit from the organizational structures with free linking at department and manager levels. The finding has important implications in organizational design for improving organizational learning skill.

The fourth paper, authored by Vong *et al.* and titled “Investigating the Roles of Knowledge Management Practices in Empowering Rural Youth to Bridge the Digital Divide in Rural Sarawak”, investigates the value of knowledge management practices in a government project by using the records of interviews with some participants. The participants of the project are trained with knowledge management skills including knowledge acquisition, knowledge utilization, and knowledge sharing. These skills help the participants gain useful knowledge of computer, improve personal employment ability, and promote knowledge spreading, which has led to the success of the participants as well as this project itself.

The last paper, authored by Sathitsemakul and Calabreseand and titled “The Influence of Emotional Intelligence on Employees' Knowledge Sharing Attitude: The Case of a Commercial Bank in Thailand,” addresses the influence of emotion on the knowledge sharing skill. A set of research hypotheses are derived from a model describing the determinants of attitude including internal motivation, organizational motivation, and emotional intelligence. In the case study, public data validate that the emotional characteristics have a strong impact on knowledge and skills, which will then facilitate the performance of commercial banks in Thailand.

This special issue is formed by the JIDPS journal's effort in addressing the topic of organizational design. We will soon have special issues on teaching and learning design. Together with previous themed issues on artistic design, healthcare design, and engineering design, we intend to show the fundamental regularity and oneness behind various design problems and processes.

### **Authors' Biography**

**Xiaoying Wang** is a Ph.D student in the Concordia Institute for Information Systems Engineering at Concordia University, Montreal, Canada. She received her Master's from the same institute. Her research interests include design methodology, project management, organization decision-making and material processing.

**Dr. Yong Zeng** is NSERC Chair in Aerospace Design Engineering and a professor in the Concordia Institute for Information Systems Engineering at Concordia University, Montreal, Canada. Zeng's research interest is in understanding and improving design activities, especially creative design activities. In addition to developing a new design methodology Environment Based Design (EBD), he has been developing formal

and experimental approaches to design research. He collaborates with aerospace companies, pharmaceutical companies, software development companies, and municipality for the applications of his research results.

**Dr. Aurelie Aurilla Arntzen Bechina** is professor at the University College of South East Norway. She is the co-founder of the Institute for Knowledge and Innovation South-East Asia (IKI-SEA) hosted at Bangkok University. She received her Ph.D. in Automation, from INSA (Institute National des Sciences Appliquées) of Strasbourg, France. She has several years combined consulting, teaching and research IT experiences from several well-known International institutions in Australia, Thailand, Sweden, Germany, Norway and France. Her academic interests are broad ranging from real-time systems development to the conception of knowledge systems. As an independent consultant, she has been working in project management, training, business process improvement, and information and knowledge management systems. She has participated and co-led several European projects. She served as an expert evaluator for the European commission and the Norwegian research council.

**Dr. Kyoung-Yun Kim** is an associate professor in the Department of Industrial and Systems Engineering at Wayne State University, where he directs the Computational Intelligence and Design Informatics (CInDI) Laboratory. Dr. Kim's research focuses on design science; design informatics; manufacturing awareness on design; semantic assembly design; and product life-cycle modeling. Dr. Kim has received external funding from several US federal agencies including NSF, DMIDII, NIDRR, VA, DOD, DOE, and industries including Ford and GM. Currently, Dr. Kim is the site director for the NSF Industry and University Cooperative Research Centre (I/UCRC) for e-Design. Dr. Kim received top cited article award (2005-2010) from Journal CAD and 2003 IIE Transactions Best Paper Award. Dr. Kim's education includes a Ph.D. in Industrial Engineering from University of Pittsburgh.

**Dr. Ying Liu** is currently an Associate Professor (SL) in the School of Engineering at Cardiff University. He has a solid record of accomplishment with more than 16 years of research on design and manufacturing informatics, machine learning, data/text mining, information retrieval, computational intelligence and their joint research and application in design and manufacturing. He is an Associate Editor of the ASME Journal of Computing and Information Science in Engineering (JCISE) and the Journal of Industrial and Production Engineering (Taylor & Francis) and is on the Editorial Board of Advanced Engineering Informatics (ADVEI). Dr. Liu's research is well funded by different government agencies, e.g., Hong Kong CERG (now GRF), A\*STAR Singapore, MOE Singapore, and recently by EPSRC UK and industry on manufacturing informatics and Industry 4.0, from design knowledge management, energy modelling, process improvement, human-robot collaboration to data-driven design using big consumer data analytics.