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## Editorial

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In the past decade, business firms around the world have been experiencing a fast pace of changes in the business environment. One of the most noticeable changes with a strong impact is globalisation of the business environment. As a result, business firms is now facing a lot more complicated and wider spectrum of business activities in the upstream and downstream of the supply chain, and need to deal with a vast network of customers and suppliers throughout the world. The globalisation brought about unprecedented changes in the business environment, and posed significantly more complicated problems and challenges in a larger scale for the business firms, and at the same time created greater opportunities. In the age of globalisation, it is imperative, in order to survive and prosper, that business firms need to build competitive capabilities in manufacturing and service.

This special issue is seeking to address various issues of how to build manufacturing and service capabilities. The focus is on presenting practical cases as well as theoretical discussions on how business firms have been trying to develop those capabilities in the various industries. The special issue will also take advantage of the 5th International Supply Chain Management: Symposium and Workshop in Tokyo, Japan, 8–10 March 2012 (SCM Tokyo; <http://symposiumscm2012.mmrc.ac.jp>).

Thus, the articles in this special issue of the *International Journal of Productivity and Quality Management* address various issues related to building competitive capabilities in

manufacturing and service industries by using case studies and theory applications. They have been subjected to multiple rounds of reviews for conference and journal submissions. We would like to express our sincere appreciation for the professors who participated in the review process and provided valuable comments for the papers. Their dedication and service helped to produce a special issue of high quality.

Hong et al. explore the topics of business network integration and discuss its theoretical and managerial implications for quality and productivity performance. Business network integration has become an important issue in the age of globalisation because business activities become more complicated and interrelated around the world these days. They first review the three theory streams of business network, business process redesign, and supply chain risk management, and next present a research model to define the drivers, practices, and outcomes of business network integration. The paper continues to make propositions to explain the interrelationships among the three theory streams, and presents the implications for quality and productivity.

Kim et al. address the importance of project management as the source of competitive capability for both manufacturing and service industries. The paper adopted the resource-based view of the business firm's capability and used a value, rarity, inimitability, organisation (VRIO) framework of strategic management to investigate the role of project management assets in building the sustainable competitive capability for a business firm. They collected data through a survey of 167 experienced project participants in various industries such as construction, engineering, manufacturing, and etc. The results of the study show that intangible project management assets are particularly useful in achieving the VRIO characteristics of the PM process, and therefore could be the source of competitive capability for the business firm.

Byun and Lee discuss the supply chain management strategies, and compare the advantages and disadvantages of push and pull strategies by using empirical investigation of the supply chain management literature. This paper further expands the framework of push-pull supply chain by including the concept of ownership pattern, and applies it to the case studies of steel industry in Japan and Korea to investigate the benefit of vertical integration. The study finds that the steel processing centre plays a role of push-pull boundary and is important in implementation of supply chain strategy in steel industry. It further suggests that the push-pull boundary will determine the quality of service and thus become the source of competitive capability.

Kwon and Hong conduct a comparative study to assess the efficiency of the smartphone providers by using the data envelopment analysis (DEA) techniques, which is well known for examining the competitive patterns of products and services. The paper shows how to utilise the DEA technique as a strategic decision support tool and measures the efficiency of business firms based on multiple year performance outcomes. They also demonstrate that the DEA efficiency trend can be used as a significant indicator of a company's sustainability for the near future. This study is a new attempt to apply the benchmarking concept to the smartphone industry where short-term strategy and rapid innovation dominates.

Hwang et al. study the role and impact of customer contact in service operations by examining the relationship between customer contact and service quality in airline industry. This paper first reviews the previous research on customer contact and service quality, and develops a research model containing three dimensions of customer contact and five dimensions of service quality based on the previous research. They conduct an empirical study by assessing the impact of customer contact on the five dimensions of

service quality, and provide interpretations and insights with the results of analysis. This paper extends the previous research in the line of customer contact and service quality by applying the concept and measurement model to the cases of airline industry.

Hiraki proposes a method to address a mixed-model sequencing problem that currently exists in automobile manufacturing. Supply chain management should solve the various requirement;

- 1 levelling the workloads for each process
- 2 maintaining a constant rate of production for all the parts
- 3 meeting delivery dates of distributors.

In order to simultaneously satisfy these three goals, the paper proposes a two-stage approach. First, the production period is divided into shorter periods. Next, a production schedule is established for each period to realise smoother production on the assembly line.

Suh discuss about the knowledge transfer in global production networks. By examining global production support system of Toyota, he argues that three components function as a knowledge transfer network: the mother plant, the operations management consulting division (OMCD) (*seisan chosa shitsu*), and the global production centre (GPC). The mother plant supports the production of foreign plants. The OMCD has a role in maintaining, diffusing, and providing education about the Toyota Production System (TPS), at both foreign plants and domestic plants. The GPC develops tools for training both foreign and domestic human resources. This paper indicates that multiple organisational units can cooperate for effective international knowledge transfer.

Oki also explores on the knowledge management in global production networks. He focuses on the role of home bases in the internal competition among global production sites. He first classifies home bases into three categories: home competitor, home coordinator, and home cooperator. The role of home bases in each category is clarified through the case studies. This paper finds that home bases can encourage internal competition by serving as competitors who have accumulated unique knowledge of improving their performance. This paper also finds that home bases can encourage knowledge sharing among subunits by serving as coordinators who exploit knowledge about activities of foreign units and trusting relationships with foreign units.

Kobayashi et al. argue total inventory management from the upstream in suppliers to the downstream in retailers. They investigate on the organisational process of integration for total inventory reduction in Omron Healthcare. This paper clarify that requisites for total integration are goal sharing among stakeholders and a high level of manufacturing capability. Most importantly, they suggest that a flexible upstream manufacturing capability drives the integration into downstream activities.

We appreciate all the participants of the 5th International Supply Chain Management Symposium and Workshop that was hosted by the Manufacturing Management Research Center (MMRC) at the University of Tokyo, Japan for making the conference a very useful and memorable event with a lot of insightful presentations and discussions between the academics and industrial practitioners. Our special thanks go to Professors Takahiro Fujimoto, Junjiro Shintaku, Youngwon Park and other organising committee members for their dedicated efforts to make the conference an overwhelming success. Also, our international committee members provided excellent support for promoting the conference and inviting many participants from academic institutions and

business firms. It is our hope that academics and practitioners around the world continue their support for the SCM symposium and workshop meetings in the future.

We conclude by thanking Dr. Angappa Gunasekaran, Editor-in-Chief of *International Journal of Productivity and Quality Management* and Mrs. Barbara Curran of Inderscience Publishers for making this special issue possible. Your continued support of *IJPM* is appreciated.