
Editorial

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1 Introduction

Traditionally, the domain of operations and supply chain (OSC) management addresses the challenges of productivity, quality, on-time delivery, flexibility and cost reduction

apart from ‘uncertainties and variability’. In recent times, the practitioners and researchers are focusing more on developing ‘green products’, utilising ‘green processes’, and developing strategies for ‘reverse supply chain (SC)’. Later, it was realised that being ‘environmentally friendly’ is not sufficient; rather, the OSC should cater to an organisation’s ‘triple bottom line’ by demonstrating economic, environmental and societal development. In the last few years, with the phenomenal growth in the field of robotics, information and communication technologies, OSC began to utilise ‘smart automation’, ‘near-field communication’, and ‘internet of things (IoT)’, leading to another phase of revolution called Industry 4.0. This provided researchers with newer opportunities as well as newer challenges. It is in this context, the XXII Annual International Conference of Society of Operations Management (SOM 2018) attempted to bring in the academicians and practitioners to jointly discuss and deliberate through their plenary talks and paper presentations on the theme ‘Operations and supply chain management at cross roads: challenges of big data, Industry 4.0, sustainability and global uncertainty’. The conference was conducted from 20–22 December 2018 at the Indian Institute of Management Kozhikode (IIMK), Kozhikode, Kerala, India.

Prof. Angappa Gunasekaran, the Editor-in-Chief of the *International Journal of Service Operations Management (IJSOM)*, was kind enough to approve our request for bringing out a special issue on the theme of ‘Operational excellence in services’ in support of SOM 2018. This special issue aims to compile the highly rated papers that dealt with the above theme and got presented in SOM 2018. In addition, the special issue was also made open to international authors to attract articles that document relevant and rigorous research on the above theme to ensure adequate diversity and an international flavour.

2 Purpose of this special issue

In recent times, the increase in the growth of service business leads to increased competition. The customers are highly demanding to provide cost-effective, high quality, timely and value-added service (Wu, 2015). Hence, service organisations are forced to improve their service offerings through unique service strategies, packages and delivery systems. The managers of such service organisations are trying to provide a better customer experience through enhanced service-scape, improved service quality, and efficient utilisation of technology and thereby striving to achieve operational excellence (OpEx).

OpEx can be defined in multiple ways: Wheelwright and Hayes (1985) and Hayes and Upton (1998) conceptualised it as ‘using operations as a competitive weapon’. They refer to ‘Toyota Motor Corporation (TMC)’ as an operationally excellent organisation, as TMC could successfully demonstrate that operations can be used as a strategic weapon. Other researchers such as Fok-Yew et al. (2013) define OpEx as an umbrella mechanism that provides a high level of integration between an organisation’s strategy, action, programs, practice and performance. Since service organisations face similar pressure and competition as manufacturing organisations, OpEx seems to be highly applicable to stay relevant in the business. In this context, the special issue tries to collate high-quality papers from researchers and practitioners that propose unique frameworks of OpEx; use existing frameworks and models to demonstrate an improved performance of service organisations; utilise empirical methods, analytical models and case studies of service

organisations that lead to ‘OpEx’. In addition, papers dealing with any of the below issues were welcomed:

- business improvement mechanisms such as lean, Six Sigma, quality management systems for achieving OpEx in service businesses
- unique practices, procedures and tools for carrying out process/product/service improvements that can lead to OpEx in the service business
- methodologies and models to assess and improve OpEx in the service context
- surveys, case studies describing interesting OpEx transformation from diverse sectors of service businesses
- performance measures and metrics for OpEx within the various type of service businesses.

However, the special issue on ‘Recent trends in supply chain management (SCM)’, which we planned to bring along as part of the SOM 2018 Conference, could not materialise. Hence, those papers that dealt with exciting problems in the domain of SCM, which were selected by the conference’s session chairs, were also included in this special issue. Although services and SCM are considered separate domains in operations, we could see a strong linkage between these two domains. Carter et al. (2015) identified six foundational premises about the SC. One of the premises was “the supply chain consists of both a physical supply chain and a support supply chain.” This support chain generally includes service businesses that help in achieving the objectives of a manufacturing SC. They also noted that their views might omit the concept of ‘service SCs’, which is a missing link.

“A closer look at a manufacturing SC would reveal that it encompasses every effort in producing and delivering a final product from the supplier’s supplier to the customer’s customer” (Chen and Paulraj, 2004). Although products are made in an SC, they happen primarily on the upstream side of the SCM – i.e., between the manufacturer, supplier and the supplier’s supplier. Even in the upstream SC, the other activity called delivery involves a significant number of service organisations such as ‘transport service providers’, ‘custom clearing agents’, ‘freight forwarders’, etc. to facilitate the timely production and supply of products.

Even the suppliers can be considered as ‘service providers’. Since the manufacturers outsource the production of a specific component or sub-assembly to tiers-I or II suppliers, the manufacturer as a customer expects not only on-time delivery of right quality of products in right quantity, but also ‘customer service’. This involves value-added activities, such as vendor managed inventory, information sharing, joint problem solving, supplier involvement in the design, etc. Thus, even the organisations deemed as suppliers and producing a product can be equated to a ‘service provider’. On the downstream side of an SC, the product from a manufacturer is moved to the distributor/warehouse, then to the retail shops and finally to the end customers. All the firms involved in the downstream activities of an SC are indeed service organisations providing transportation, storage and transactional services. Other enablers of an SC, such as information sharing, fund flow, etc., are provided by service organisations such as internet service providers, banks and other financial organisations, insurance service providers, etc. Thus, the entire SC too can be considered as a ‘network of service

organisations'. Naturally, it seems relevant that the special issue on 'Operational excellence in services' may also include papers that address novel problems related to these organisations in an SC.

3 Methodology

To compile this special issue, we, the conference chairs, invited only those authors who registered and presented their papers at SOM 2018 Conference and whose papers were rated highly by the esteemed session chairs. The invited authors were requested to submit the extended version of their articles. As mentioned earlier, the call for papers for this special issue was made open to international researchers to comply with the global stature of *IJSOM*. All the manuscripts were subjected to a strict double-blind review and underwent two rounds of revision before acceptance. At this juncture, we would like to thank all the reviewers who helped us in the review process. Their thoughtful comments and pointers improved the quality of the manuscripts that are published in this special issue.

4 Results achieved

A snapshot of the articles that are part of this special issue is presented below. The selected papers are grouped under two categories: services domain, which comprises articles that deal with problems and solutions within service organisations and SC domain, which includes manuscripts that deal explicitly with issues and solutions in the area of the SC.

4.1 Services domain

Ramtiyal et al. have tried to understand the perceived risk associated with adopting a mobile payment system from a retailer's perspective. They identified the perceived risk factors through literature review and discussion with experts. They commented that the relative degree of severity of these risk factors is not investigated. They noted that understanding the same is essential for the retailers to adopt the mobile payment system, and having a wide variety of payment systems enables OpEx in retailing. They utilised a multi-criteria decision-making model – particularly the fuzzy analytic hierarchy process (FAHP) to model the seven perceived factors and assessed its relevance with respect to three different retailing formats: traditional, established and emerging. They concluded that the traditional retailing format tends to have a higher perceived risk regarding the mobile payment system.

In another study, de Souza Gomes dos Santos et al. investigated whether the dimensions established by the SERVQUAL scale is adequate to measure the quality of services provided by Brazilian fast-food restaurants from the perspective of university students. They utilised a questionnaire comprising of 21 items, which was modified from the initial SERVQUAL instrument. They added new dimensions such as food and safety while retaining reliability, promptness, empathy and tangibility. Based on the analysis of the results, they found that none of these dimensions and items met the expectations of these university students, indicating an overall dissatisfaction about the quality of

services provided by fast-food companies in Rio de Janeiro, Brazil. Such a critical insight can help the fast-food restaurants' managers to identify better mechanisms and adopt best practices to improve the quality of service and thereby lead them to a path towards OpEx.

Eldose et al. focused on predicting the percentage of students progressing from a specified year to the next in an academic program of the educational institute. They also tried to understand the probability that a student will graduate within the stipulated time of the academic program. They feel that these aspects are crucial for an educational institution that would like to remain relevant and be world-class in a highly competitive and ranking-based educational market. They demonstrated the same using a case study of an engineering college located in the southern part of India. They applied the Markov chain for analysing the students' academic performance and used it for prediction. They believed that the results obtained from this study could be used to reduce the failure rate and the withdrawal of students from a program through well-designed interventions such as remedial classes and mentoring. They also demonstrated the effectiveness of these interventions by comparing the before and after situations.

Kadhim and Ahmad studied the relationship between the application of total quality management (TQM) and education performance in secondary schools located in Iraq. They collected data using a questionnaire in nine cities in Southern Iraq, where the Iraqi Government has implemented TQM in all the schools. They obtained around 340 responses from the managers and leaders of the school and tested various hypotheses using Smart PLS. They concluded that implementing TQM positively affects educational performance, and utilising information technology (IT) and ensuring compliance enhances this relationship. Thus, they hinted that the integration of TQM with IT can lead to OpEx in educational services.

In another study, Renganathan and Srinivasan studied the just-in-time production environment involving a mixed model sequencing. They noted that the concept of 'product rate variation (PRV)' can also be used in services such as scheduling job interviews, round-robin sports tournaments, etc. However, they commented that PRV might not be a good measure. Hence, they suggested 'sum of completion time variances' as an alternative measure and demonstrated its effectiveness using various metaheuristics such as tabu search and genetic algorithms. They noted that the proposed measure is better as it also considers the processing and changeover times, which are not included in the PRV.

4.2 SC domain

Escobar et al. developed a multi-objective optimisation model for a SC of mass consumer products to design a closed green cycle distribution network. They anchored their study in the context of Columbia, where the companies have to balance between maximising financial profits and reducing environmental pollution for obtaining tax benefits. They demonstrated the proposed multi optimisation model using a real case study of a multinational food company's distribution network. They also performed a sensitivity analysis to show that these objectives (profit-making and reducing emissions) perform in opposite directions. They concluded that when smaller vehicles are used, cost becomes higher while emissions are reduced. On the other hand, when larger vehicles are used, transportation costs reduce while emissions increase.

Sant, in his paper, has explained that greening efforts by the organisation can lead them to achieve OpEx. He utilised a multiple case study approach to uncover the real benefits of greening initiatives of the SC. An interview-based survey was conducted with senior management of multi-national companies such as Borges, Nestle India and Fenesta India. He concluded that greening the SC indeed help the companies to achieve superior economic performance. Greening allows the firms to charge higher prices, and at the same time, results in cost reduction. However, he cautioned that achieving these benefits depend on establishing tight contractual requirements between the various players in an SC.

Priyadarshi et al. have addressed the issue of losses occurring in the post-harvest supply chain (PHSC) and identified the various impediments or causes such as lack of value addition process at the village level, lack of an attitude towards agriculture and its related entrepreneurship, etc. to name a few. They claimed that these impediments are related to one another, and the managers need to address the same holistically. Hence, they used interpretive structural modelling (ISM) supplemented with MICMAC analysis to unravel the interactions among the impediments and their hierarchies. They also suggested some potential solutions to reduce the impact of these impediments and thereby the agricultural losses.

Yamini noted that all the SC members could enhance the overall SC profit if they practice OpEx. In this context, she studied the influence of wholesale price contracts and returns contracts on ordering and pricing decisions and their effect on maximising overall SC profit. She utilised a game-theoretic approach to mathematically model the situation, where demand is sensitive to the retailers' retail price and promotional efforts. She developed multiple models – one under deterministic demand, one under the stochastic demand, one under decentralised decision-making, one under centralised decision-making for these two different contracts. She concluded that “it is difficult to coordinate the supply chain using returns policy when the demand is influenced by promotional effort and selling price together.”

5 Conclusions

The summary of the papers would reveal that authors from diverse countries such as India, Iraq, Brazil, and Columbia have contributed to this special issue. Similarly, the authors have utilised various research methods such as surveys, case studies, and mathematical models to address unique research questions. In particular, the analytical techniques span multi-objective optimisation, metaheuristics, Markov chain, fuzzy AHP, to name a few apart from qualitative research approaches such as ISM, interviews, etc. We hope the readers of this special issue would find this eclectic mix of research papers in both services and SC domains interesting and relevant.

We want to extend our sincere thanks once again to Prof. Angappa Gunasekaran for providing us with the opportunity to guest edit this special issue. Thanks are also due to representatives from Inderscience Publishers – Mr. Albert Ang and Ms. Norma Banks for their support and cooperation.

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