E-ISSN: 2706-8927
P-ISSN: 2706-8919
www.allstudyjournal.com
IJAAS 2021; 3(1): 362-368
Received: 12-11-2020
Accepted: 16-12-2020

Saeid Zavareh
Department of Industrial Management, Faculty of Management and Economics, Nooretouba Virtual University, Tehran, Iran

Corresponding Author:
Saeid Zavareh
Department of Industrial Management, Faculty of Management and Economics, Nooretouba Virtual University, Tehran, Iran

Key success factors in implementing process management and providing a framework for assessing organizational readiness

Saeid Zavareh

Abstract
Process management is a systematic and structured approach that is accepted by companies in order to analyze, improve and control processes. This article focuses on identifying and testing key success factors that affect the readiness and success of process management implementation. For this purpose, first by studying the literature and various reports on the implementation of process management in organizations the key factors of success are defined and identified then 13 key factors of initial success and their sub-factors are modified and validated by interviewing executives and process management experts. Thus, in this study, 13 key success factors and 64 sub-factors, in addition to their importance in the success of actions and implementation of process management are presented. In addition, the importance of key success factors and their sub-factors in the implementation of process management has been determined and finally the self-assessment framework based on key success factors and their sub-factors has been presented to assess and measure the readiness of organizations in the implementation of process management.

Keywords: Process management, key success factors, evaluation framework, assessing organizational readiness

1. Introductions
The dynamic environment that drives business today is described by factors known as the "six C's"; Change, Complexity, Customer demand, Competitor pressure, Cost effects and Constraints. All of them have a significant impact on the ability of the organization to meet its business goals and aspirations [10]. In today's world, an organization has a chance to survive if it has the necessary mechanisms to be aware of these changes and factors quickly and has the ability to respond quickly to them. Over time and through experience, organizations have found that a task-based approach to business eliminates flexibility and dynamism. Task-oriented organizations can hardly be flexible in the face of environmental change and adapt to the environment. The approach that is proposed to organizations as opposed to the task approach is a process approach [1]. Therefore, today for survival and success, one must have a process approach and must focus on the performance of processes and their management and improvement.
Process is a set of related or effective activities that convert input into output [7] and process management is a systematic method for organizing, managing and continuously improving the organization's processes. Process management is managing and viewing the organization as a system of multi-tasking processes instead of vertical tasks [5]. In order to achieve success in process management, it is not only necessary to pay attention to the process at the top of all activities and programs of the organization;
The organization should formulate and follow a regular plan in this field, but it is necessary that the key factors of the success of the process management be identified and evaluated with a specific method and plan.

2. Process Management Methodology
Process management methodologies have been developed as different models in the literature; all of these models differ in detail but are the same in terms of general concepts and objectives; For example, the methodology of Juran and Godfrey (2000) consists of an initial phase and three main phases (planning, transfer and operational management) [10]:

Initial phase, process management activity
1) Select key process(s); 2) Determining the owner, team and process management infrastructure.
The first phase of planning: in which the design (redesign) of the process takes place, includes:
1) Definition of the present process; 2) Determining customer needs and process flow; 3) Definition of process criteria; 4) Perform measurement analyzes and other data; 5) New process design and output, new process design.
The second phase, the transition: in which the programs developed in the first phase are transferred from the process teams to the operational forces and are put into operation.
1) Planning for executive problems; 2) planning for executive activities; 3) Using a new process plan.
Phase three, operational management
1) Process quality control; 2) Improving process quality; 3) Periodic review and evaluation of the process.
Process management is not a one-time event and is a continuous process.

3. Key Success Factors (CSFs) in Implementing Process Management

The key factors of success are those areas that the organization needs to focus on in order to be successful in competition [19]. In process management, CSFs are conditions that must be met in order to be successful in performance. Identifying the key factors leads to ensuring that the necessary attention is paid to the areas that lead to success [19]. The purpose of this section is to provide the necessary knowledge about the factors affecting the success of process management.

3.1. Team and Cartier Development

The team is the number of people with complementary skills who are committed to a set of participatory goals, collective performance goals and a shared approach to which they consider themselves responsible [4]. One of the most important results of accepting the process approach is that it has moved from a hierarchical and task structure to a business process structure in which the role of middle managers has been eliminated and teamwork has become the key to doing things [21]. Juran and Godfrey (2000) introduce two types of teams: multi-functional process management team and interim team [10]. Many authors have cited teamwork and team development as the key to success in implementing process management [4, 9, 10, 11, 21]. Ittner and Larcher (1997) cite the use of more and more teams to provide a set of complementary skills and to promote multifunctional collaboration as a key to success [9].

3.2. Communication and Awareness

Communication can show the difference between failure and success. Effective communication includes maintaining enthusiasm, full employee participation, understanding roles and responsibilities in the process, and creating the best in people to enhance their capabilities [22]. Poor communication within the organization is a serious obstacle to the successful realization of the organization's program [23]. In a comprehensive quality system, staffs of process managers are expected to be problem solvers, and decision makers. Free communication is needed here because employees need information to make up-to-date decisions. Without information, they cannot play their roles properly [10]. Effective communication in coordinating the workforce with collective expectations is vital.

3.3. Customer Focus

Organizations are dependent on their customers, they must understand their present and future needs and meet their requirements and strive to exceed their expectations [7]. To deliver high quality products, process owners must not only determine the needs and expectations of customers, but also identify exactly who their customers (internal and external) are. Determining customer demands and expectations requires regular and continuous activity. Process owners must ensure that the sub-process, called the customer requirements sub-process, is performed in the business process [10]. The literature shows that knowing customers and their desires and planning to meet them is one of the main tasks in process management [10, 11, 16, 16, 18, 20]. Juran and Godfrey (2000) believe that process management methodology has common features that distinguish it from other quality management methods; one of these features is the conscious orientation to customers and their needs [10].

3.4. Process Map

Many companies fail to understand the process due to the lack of clarity in the workflow within the organization and often find that different departments for some unpredictable reason perform a simple task and therefore it is difficult to record it [4]. A review of the literature shows that drawing a diagram of processes is one of the most important tasks in the implementation of process management [10, 16]. Process flow diagram presented by Juran and Godfrey (2000) is presented as a step in the implementation of process management and its most important goal is to create a high understanding among the owner and team members - How the process works as well as the team's basic tools for analyzing the process to determine if the process meets the customer's needs [10].

3.5. Process Performance Criteria

The performance of an organization is usually evaluated in relation to the mission of the organization; the key processes (KPs) of any organization are the processes that are key to the presentation of the mission and goals and high performance of the organization. Data from key processes should be controlled by key performance indicators (KPIs) to assess performance levels. Determining the right criteria is often as difficult as achieving the goal itself [4]. One of the key steps in process management is to create appropriate process metrics [4, 10, 11, 12, 16, 20]. Juran and Godfrey (2000) point out that in order to be able to manage processes, it is necessary to perform a variety of measurements (efficiency, effectiveness and adaptability) to measure quality, as well as to define, collect and apply the correct criteria [10].

3.6. Communication with Customers / Suppliers

In order to achieve customer satisfaction, Auckland (1993, 2000) emphasized the importance of managing the supplier-customer relationship as the first step in supporting process management [24]. Ittner and Larcher (1997) have identified customer / supplier relationships as a key factor in the success of process management. Close relationships with the customer in the product development process can have a significant impact on the ultimate profitability of the new

product and ensuring that product design meets customer needs [9].

3.7. Change Management

Change management is related to changing people's behavior [4]. A major process management effort may involve massive spending and accelerating fundamental change in the organization that overshadows thousands of jobs. All of these pose major management challenges. Most changes must be planned, timed and completed [10]. Juran and Godfrey (2000) discuss change management skills across the organization to facilitate changes as a key factor in success and also argue that preparing for change is a step in process management methodology [10]. Balzarova *et al*. (2004) argue that resistance to change is an obstacle to the success of process management [4].

3.8. Project Management Skills

Project management is the application of knowledge, skills, tools and techniques to project activities in order to meet project requirements [15]. Juran and Godfrey (2000) point out that in transferring a new process plan to an operational state, after planning for implementation problems, it is time to plan for implementation. This complex work plan should be done by the owner and the process management team. Therefore, having extensive skills in project management is a key factor in the success of process management [10].

3.9 Modeling

Modeling enables companies to improve internal systems by learning from external sources. Without modeling, companies do not know what position they stand in relation to competitors and executives globally. They will lose the new ways of thinking needed to achieve successful improvement achievements and will not have the methods to evaluate the effectiveness of their processes [17]. Ittner and Larcher (1997) believe that external modeling of products, processes and services can provide valuable information about superior design and improvement methods and is a key factor in process management [9].

3.10. Continuous Improvement

The continuous performance of the organization should be defined as a permanent goal of the organization [7]. Continuous improvement is increasingly essential for the survival and sustainability of the economy in the economic world, so that it has become a broad goal for it and is the only reliable way to maintain market interests for suppliers and customers [10]. Ultimately, continuous improvement is related to endless pursuit of improvement in meeting the needs of domestic and foreign customers [9, 10, 24].

3.11. Empowering Employees

Employees are responsible for the results of actions and participation in business success [1-11]. Process management, proposes development and empowerment of process teams and enables employees to better manage their work [12-27]. Juran and Godfrey (2000) and Ittner and Larcher (1997) consider employee empowerment and its development to be the key to success in order to respond to unforeseen events in the process and customer requirements without the need for manager approval.

3.12. Education

Training should be under a continuous process and its provisions should be tailored to the needs of employees and focus on the development of technical and social skills of individuals [28-39]. Effective training is essential to empower employees to do their jobs more effectively [40-50].

Ittner and Larcher (1997), Balzarova *et al*. (2004), McNeese and Marks (2001), Juran and Godfrey (2000) emphasize staff training [4, 9, 10, 11]. McNeese and Marks (2001) state that training is essential to the success of a process management program and a key component of a quality program [51-63]. Balzarova *et al*. (2004) consider the lack of on-the-job training as an obstacle to the successful implementation of process management and training of team members and managers on the concepts of process management as a key factor in the success of its implementation [64-77].

3.13. Senior Management Support

Senior management must begin by recognizing what process management really means, accepting its benefits for the organization, and acknowledging the fundamental changes that its implementation will bring to the organization. The research literature not only emphasizes the key role of senior management support in the implementation of process management but also their active and daily participation with process managers [8, 18, 20, 25]. Juran and Godfrey (2000) state that high-level leadership of the organization [78-81] and Balzarova *et al*. (2004) believe that the support of senior management and key stakeholders are the key to success in implementing process management [82-90].

4. Analysis

In the previous section, the concept of key success factors in the implementation of process management was introduced and a centralized review of the literature led to the identification of 13 key factors and 64 sub-factors for the successful implementation of process management. In order to determine the importance of each factor among 13 factors and also each sub-factor among the sub-factors related to each factor in the implementation of process management, a questionnaire tool has been used.

4.1. Study Community

Since in this study we sought to validate the factors extracted from the literature and the importance of each of them in process management, so the study population consisting of experts, facilitators and professors in the field of process management was selected that the number of samples answered was 20. The designed questionnaire was given to them and they were asked about the degree of importance of each of the factors and sub-factors in the implementation of process management.

5. Evaluate the Organization in the Successful Implementation of Process Management

The extracted key success factors can be used to evaluate and measure the readiness of organizations in implementing process management. To achieve this goal, you can use a question entitled "Please specify the maturity level of each key success factor in your organization by entering a number from 1 to 6". From the results, the score of each sub-factor can be determined and Equation 4 can be used to measure the readiness of the organization.

6. Conclusion

In order for organizations to be able to maintain their growth and survival in today's competitive environment, it

is necessary to turn to processes, manage and improve their performance. Identifying the key factors of success in the implementation of process management and prioritizing them, enables organizations to focus on areas that lead to more successful implementation of process management, and assess their level of readiness and ability to implement process management by evaluating their level of maturity against these factors. Estimate themselves in the implementation of process management and try to improve it and use self-assessment results to compare themselves with competitors. 13 key factors in the implementation of process management that were introduced in this study, according to the opinions of experts about their importance in the implementation of process management.

If we want to measure different organizations in order to rank their readiness to implement process management based on the presented factors, we can form pairs of matrices, calculate the weights of each index (sub-factor) and each criterion (factor) based on methods of weighting in AHP method and used to rank organizations.

7. References

1. Nick Wildgoose. 6 - Supply Chain Risk Management, In Enterprise Risk Management, edited by Philip E.J. Green, Butterworth-Heinemann, Boston 2016, 75-87.
2. Thomas Long B, William Young. An exploration of intervention options to enhance the management of supply chain greenhouse gas emissions in the UK, Journal of Cleaner Production 2016;112(3):1834-1848.
3. Danping Wang, Gang Du, Roger Jiao J, Ray Wu, Jianping Yu, Dong Yang. A Stackelberg game theoretic model for optimizing product family architecting with supply chain consideration, International Journal of Production Economics 2016;172:1-18.
4. Qiao Zhang, Wansheng Tang, Jianxiong Zhang. Green supply chain performance with cost learning and operational inefficiency effects, Journal of Cleaner Production 2016;112(4):3267-3284.
5. Faisal Aqlan. A software application for rapid risk assessment in integrated supply chains, Expert Systems with Applications 2016;43:109-116.
6. Frank Wiengarten, Paul Humphreys, Cristina Gimenez, Ronan McIvor. Risk, risk management practices, and the success of supply chain integration, International Journal of Production Economics 2016;171(3):361-370.
7. Bo Li, Mengyan Zhu, Yushan Jiang, Zhenhong Li. Pricing policies of a competitive dual-channel green supply chain, Journal of Cleaner Production 2016;112(3):2029-2042.
8. Matloub Hussain, Mehmood Khan, Raid Al-Aomar. A framework for supply chain sustainability in service industry with Confirmatory Factor Analysis, Renewable and Sustainable Energy Reviews 2016;55:1301-1312.
9. Stephan Sluis, Pietro De Giovanni. The selection of contracts in supply chains: An empirical analysis, Journal of Operations Management 2016;41:1-11.
10. Han Wang, Richard Mastragostino, Christopher Swartz LE. Flexibility analysis of process supply chain networks, Computers & Chemical Engineering 2016;84(4):409-421.
11. Nicoletta Paolucci, Fabrizio Bezzo, Alessandro Tugnoli. A two-tier approach to the optimization of a biomass supply chain for pyrolysis processes, Biomass and Bioenergy 2016;84;87-97.
12. Francesco Costantino, Giulio Di Gravio, Ahmed Shaban, Massimo Tronci. Smoothing inventory decision rules in seasonal supply chains, Expert Systems with Applications 2016;44:304-319.
13. Meng Sha, Rajagopalan Srinivasan. Fleet sizing in chemical supply chains using agent-based simulation, Computers & Chemical Engineering 2016;84(4):180-198.
14. Kannan Govindan, Stefan Seuring, Qinghua Zhu, Susana Garrido Azevedo. Accelerating the transition towards sustainability dynamics into supply chain relationship management and governance structures, Journal of Cleaner Production 2016;112(3):1813-1823.
15. Ma Zu-Jun, Nian Zhang, Ying Dai, Shu Hu. Managing channel profits of different cooperative models in closed-loop supply chains, Omega 2016;59(Part B):251-262.
16. Nitaigour Mahalik, Kiseon Kim. 2 - The Role of Information Technology Developments in Food Supply Chain Integration and Monitoring, In Woodhead Publishing Series in Food Science, Technology and Nutrition, edited by C.E. Leadley, Woodhead Publishing 2016, 21-37.
17. Anil Singh, James Teng TC. Enhancing supply chain outcomes through Information Technology and Trust, Computers in Human Behavior 2016;54:290-300.
18. Chong Wu, David Barnes, An integrated model for green partner selection and supply chain construction, Journal of Cleaner Production 2016;112(3):2114-2132.
19. Wenchong Chen, Jing Li, Xiaojie Jin. The replenishment policy of agri-products with stochastic demand in integrated agricultural supply chains, Expert Systems with Applications 2016;48(15):55-66.
20. Xavier Brusset. Does supply chain visibility enhance agility?, International Journal of Production Economics 2016;171(1):46-59.
21. Rosa Caiazza, Tiziana Volpe, John Stanton L. Global supply chain: The consolidators' role, Operations Research Perspectives 2016;3:1-4.
22. Fu Jia, Xiaofeng Wang, Navonil Mustafee, Liang Hao. Investigating the feasibility of supply chain-centric business models in 3D chocolate printing: A simulation study, Technological Forecasting and Social Change 2016;102:202-213.
23. Sónia Cardoso R, Ana Paula Barbosa-Póvoa, Susana Relvas. Integrating financial risk measures into the design and planning of closed-loop supply chains, Computers & Chemical Engineering 2016;85(2):105-123.
24. Mihalis Giannakis, Thanos Papadopoulos. Supply chain sustainability: A risk management approach, International Journal of Production Economics 2016;171(4):455-470.
25. Marco Formentini, Paolo Taticchi. Corporate sustainability approaches and governance mechanisms in sustainable supply chain management, Journal of Cleaner Production 2016;112(3):1920-1933.
26. Liang Tang, Ke Jing, Jie He, Eugene Stanley H. Complex interdependent supply chain networks: Cascading failure and robustness, Physica A: Statistical Mechanics and its Applications 2016;443(1):58-69.
27. Chun Hsion Lim, Hon Loong Lam. Biomass supply chain optimisation via novel Biomass Element Life

Cycle Analysis (BELCA), Applied Energy 2016;161(1):733-745.
28. Martin Tidy, Xiaojun Wang, Mark Hall. The role of Supplier Relationship Management in reducing Greenhouse Gas emissions from food supply chains: supplier engagement in the UK supermarket sector, Journal of Cleaner Production 2016;112(4):3294-3305.
29. Fouad El Ouardighi, Jeong Eun Sim, Bowon Kim. Pollution accumulation and abatement policy in a supply chain, European Journal of Operational Research 2016;248(3):982-996.
30. Jun-Yeon Lee, Richard Cho K, Seung-Kuk Paik, Supply chain coordination in vendor-managed inventory systems with stockout-cost sharing under limited storage capacity, European Journal of Operational Research 2016;248(1):95-106.
31. Onur Kaya, Busra Urek. A mixed integer nonlinear programming model and heuristic solutions for location, inventory and pricing decisions in a closed loop supply chain, Computers & Operations Research 2016;65:93-103
32. Semih Coskun, Leyla Ozgur, Olcay Polat, Askiner Gungor. A model proposal for green supply chain network design based on consumer segmentation, Journal of Cleaner Production 2016;110(1):149-157.
33. Marcel Bogers, Ronen Hadar, Arne Bilberg. Additive manufacturing for consumer-centric business models: Implications for supply chains in consumer goods manufacturing, Technological Forecasting and Social Change 2016;102:225-239.
34. Jianghua Wu, Ananth Iyer, Paul Preckel V. Information visibility and its impact in a supply chain, Operations Research Letters 2016; 44(1):74-79.
35. Felix Chan TS, Aditya Jha, Manoj Tiwari K. Bi-objective optimization of three echelon supply chain involving truck selection and loading using NSGA-II with heuristics algorithm, Applied Soft Computing 2016;38:978-987.
36. Charbel José Chiappetta Jabbour, Ana Beatriz Lopes de Sousa Jabbour. Green Human Resource Management and Green Supply Chain Management: linking two emerging agendas, Journal of Cleaner Production 2016;112(3):1824-1833.
37. Riccardo Accorsi, Susan Cholette, Riccardo Manzini, Chiara Pini, Stefano Penazzi. The land-network problem: ecosystem carbon balance in planning sustainable agro-food supply chains, Journal of Cleaner Production 2016;112(1):158-171.
38. Craige CC, Buser MD, Frazier RS, Hiziroglu SS, Holcomb RB, Huhnke RL. Conceptual design of a biofeedstock supply chain model for eastern redcedar, Computers and Electronics in Agriculture 2016;121:12-24.
39. Felicity Denham C, Wahidul Biswas K, Vicky Solah A, Janet Howieson R. Greenhouse gas emissions from a Western Australian finfish supply chain, Journal of Cleaner Production 2016;112(3):2079-2087.
40. Birome Holo Ba, Christian Prins, Caroline Prodhon. Models for optimization and performance evaluation of biomass supply chains: An Operations Research perspective, Renewable Energy 2016;87(2):977-989.
41. Sushil Poudel R, Mohammad Marufuzzaman, Linkan Bian. Designing a reliable bio-fuel supply chain network considering link failure probabilities, Computers & Industrial Engineering 2016;91:85-99.
42. Cristina Sancha, Cristina Gimenez, Vicenta Sierra. Achieving a socially responsible supply chain through assessment and collaboration, Journal of Cleaner Production 2016;112(3):1934-1947.
43. Carlos Miret, Philippe Chazara, Ludovic Montastruc, Stéphane Negny, Serge Domenech. Design of bioethanol green supply chain: Comparison between first and second generation biomass concerning economic, environmental and social criteria, Computers & Chemical Engineering 2016;85(2):16-35.
44. Sini Laari, Juuso Töyli, Tomi Solakivi, Lauri Ojala. Firm performance and customer-driven green supply chain management, Journal of Cleaner Production 2016;112(3):1960-1970.
45. Miriam Wilhelm M, Constantin Blome, Vikram Bhakoo, Antony Paulraj. Sustainability in multi-tier supply chains: Understanding the double agency role of the first-tier supplier, Journal of Operations Management 2016;41:42-60.
46. Yuan-Hsu Lin, Ming-Lang Tseng. Assessing the competitive priorities within sustainable supply chain management under uncertainty, Journal of Cleaner Production 2016;112(3):2133-2144.
47. Sherif Masoud A, Scott Mason J. Integrated cost optimization in a two-stage, automotive supply chain, Computers & Operations Research 2016;67:1-11.
48. Mehmet Sekip Altug. Supply chain contracting for vertically differentiated products, International Journal of Production Economics 2016;171(1):34-45.
49. Nelson Chibeles-Martins, Tânia Pinto-Varela, Ana Barbosa-Póvoa P, Augusto Novais Q. A multi-objective meta-heuristic approach for the design and planning of green supply chains - MBSA, Expert Systems with Applications 2016; 47(1):71-84.
50. Hongyan Dai, Jianbin Li, Nina Yan, Weihua Zhou. Bullwhip effect and supply chain costs with low- and high-quality information on inventory shrinkage, European Journal of Operational Research 2016;250(2):457-469.
51. Gül Kremer E, Karl Haapala, Alper Murat, Ratna Babu Chinnam, Kyoung-yun Kim, Leslie Monplaisir. Ting Lei, Directions for instilling economic and environmental sustainability across product supply chains, Journal of Cleaner Production 2016;112(3):2066-2078.
52. Michal Kulak, Thomas Nemecek, Emmanuel Frossard, Gérard Gaillard. Eco-efficiency improvement by using integrative design and life cycle assessment. The case study of alternative bread supply chains in France, Journal of Cleaner Production 2016;112(4):2452-2461.
53. Pietro De Giovanni, Puduru Reddy V, Georges Zaccour. Incentive strategies for an optimal recovery program in a closed-loop supply chain, European Journal of Operational Research 2016;249(2):605-617.
54. Fatih Mutlu, Mohamed Msakni K, Hakan Yildiz, Erkut Sönmez, Shaligram Pokharel. A comprehensive annual delivery program for upstream liquefied natural gas supply chain, European Journal of Operational Research 2016;250(1):120-130.
55. Imen Nouira, Ramzi Hammami, Yannick Frein, Cecilia Temponi. Design of forward supply chains: Impact of a

carbon emissions-sensitive demand. International Journal of Production Economics 2016; 173:80-98.
56. Juhong Gao, Hongshuai Han, Liting Hou, Haiyan Wang. Pricing and effort decisions in a closed-loop supply chain under different channel power structures, Journal of Cleaner Production 2016;112(3):2043-2057.
57. Fang Zhang, Junhai Ma. Research on the complex features about a dual-channel supply chain with a fair caring retailer, Communications in Nonlinear Science and Numerical Simulation 2016;30(1-3):151-167.
58. Jianping Peng, Jing Quan, Guoying Zhang, Alan Dubinsky J. Mediation effect of business process and supply chain management capabilities on the impact of IT on firm performance: Evidence from Chinese firms, International Journal of Information Management 2016;36(1):89-96.
59. Zhibing Lin. Price promotion with reference price effects in supply chain, Transportation Research Part E: Logistics and Transportation Review 2016;85:52-68.
60. Mark Jacobs A, Wantao Yu, Roberto Chavez. The effect of internal communication and employee satisfaction on supply chain integration, International Journal of Production Economics 2016;171(1):60-70.
61. Michael Becker-Peth, Ulrich Thonemann W. Reference points in revenue sharing contracts—How to design optimal supply chain contracts, European Journal of Operational Research 2016;249(3):1033-1049.
62. Yun Bai, Yanfeng Ouyang, Jong-Shi Pang. Enhanced models and improved solution for competitive biofuel supply chain design under land use constraints, European Journal of Operational Research 2016;249(1):281-297.
63. Moza Al-Busaidi A, David Jukes J, Shekar Bose. Seafood safety and quality: An analysis of the supply chain in the Sultanate of Oman, Food Control 2016;59:651-662.
64. Jing Zhu, Tamer Boyaci, Saibal Ray. Effects of upstream and downstream mergers on supply chain profitability, European Journal of Operational Research 2016;249(1):131-143.
65. Scott Unger, Amy Landis. Assessing the environmental, human health, and economic impacts of reprocessed medical devices in a Phoenix hospital's supply chain, Journal of Cleaner Production 2016;112(3):1995-2003.
66. Fengli Zhang, Dana Johnson, Mark Johnson, David Watkins, Robert Froese, Jinjiang Wang. Decision support system integrating GIS with simulation and optimisation for a biofuel supply chain, Renewable Energy 2016;85:740-748.
67. Vinod Kumar, Sushil Kumar Purbey, Ajit Kumar, Dubedi Anal. Losses in litchi at various stages of supply chain and changes in fruit quality parameters, Crop Protection 2016;79:97-104.
68. Kenji Matsui. Asymmetric product distribution between symmetric manufacturers using dual-channel supply chains, European Journal of Operational Research 2016;248(2):646-657.
69. Marcus Brandenburg. Supply chain efficiency, value creation and the economic crisis – An empirical assessment of the European automotive industry 2002–2010, International Journal of Production Economics 2016;171(3):321-335.
70. Byung-Gak Son, ManMohan Sodhi, Canan Kocabasoglu-Hillmer, Tae-Hee Lee. Supply chain information in analyst reports on publicly traded companies, International Journal of Production Economics 2016;171(3):350-360.
71. Yun Huang, Kai Wang, Ting Zhang, Chuan Pang. Green supply chain coordination with greenhouse gases emissions management: a game-theoretic approach, Journal of Cleaner Production 2016;112(3):2004-2014.
72. David Richard Lyon. Chapter 3 - Methane Emissions from the Natural Gas Supply Chain, In Environmental and Health Issues in Unconventional Oil and Gas Development, edited by Debra KadenTracie Rose, Elsevier, 2016, 33-48.
73. Mingquan Cui, Maoying Xie, Zhina Qu, Sijun Zhao, Junwei Wang, Yang Wang, *et al*. Prevalence and antimicrobial resistance of Salmonella isolated from an integrated broiler chicken supply chain in Qingdao, China, Food Control 2016;62:270-276.
74. Michael Ashby F. Chapter 5 - Materials Supply-Chain Risk, In Materials and Sustainable Development, edited by Michael F. Ashby, Butterworth-Heinemann, Boston, 2016, 85-100.
75. Wei Wang, Gang Li, Cheng TCE. Channel selection in a supply chain with a multi-channel retailer: The role of channel operating costs, International Journal of Production Economics 2016;173:54-65.
76. Nazmul Alam SM. Chapter 6 - Safety in the Shrimp Supply Chain, In Regulating Safety of Traditional and Ethnic Foods, edited by Vishweshwaraiah PrakashOlga Martín-BellosoLarry KeenerSiân AstleySusanne BraunHelena McMahonHuub Lelieveld, Academic Press, San Diego 2016, 99-123.
77. Annelies De Meyer, Dirk Cattrysse, Jos Van Orshoven. Considering biomass growth and regeneration in the optimisation of biomass supply chains, Renewable Energy 2016;87(2):990-1002.
78. Zhen-Zhen Jia, Jean-Christophe Deschamps, Rémy Dupas. A negotiation protocol to improve planning coordination in transport-driven supply chains, Journal of Manufacturing Systems 2016;38:13-26.
79. Daniel Klein, Christian Wolf, Christoph Schulz, Gabriele Weber-Blaschke. Environmental impacts of various biomass supply chains for the provision of raw wood in Bavaria, Germany, with focus on climate change, Science of The Total Environment 2016;539(1):45-60.
80. Omid Sanei Bajgiran, Masoumeh Kazemi Zanjani, Mustapha Nourelfath. The value of integrated tactical planning optimization in the lumber supply chain, International Journal of Production Economics 2016;171(1):22-33.
81. Ribeiro I, Kaufmann J, Schmidt A, Peças P, Henriques E, Götze U. Fostering selection of sustainable manufacturing technologies – a case study involving product design, supply chain and life cycle performance, Journal of Cleaner Production 2016;112(4):3306-3319.
82. Chunguang Bai, Dileep Dhavale, Joseph Sarkis. Complex investment decisions using rough set and fuzzy c-means: An example of investment in green supply chains, European Journal of Operational Research 2016;248(2):507-521.

83. Yong Shin Park, Gokhan Egilmez, Murat Kucukvar. Emergy and end-point impact assessment of agricultural and food production in the United States: A supply chain-linked Ecologically-based Life Cycle Assessment, Ecological Indicators 2016;62:117-137.
84. Martha Demertzi, Rui Pedro Silva, Belmira Neto, Ana Cláudia Dias, Luís Arroja. Cork stoppers supply chain: potential scenarios for environmental impact reduction, Journal of Cleaner Production 2016;112(3):1985-1994.
85. Laura Roibás, Aziz Elbehri, Almudena Hospido. Carbon footprint along the Ecuadorian banana supply chain: methodological improvements and calculation tool, Journal of Cleaner Production 2016;112(4):2441-2451.
86. Heti Mulyati. Sustainability in Supply Chain Management Casebook: Applications in SCM: a book review. Journal of Cleaner Production 2016;110(1):198-199.
87. Katrina Lintukangas, Anni-Kaisa Kähkönen, Paavo Ritala. Supply risks as drivers of green supply management adoption, Journal of Cleaner Production 2016;112(3):1901-1909.
88. Jukka Hallikas, Katrina Lintukangas. Purchasing and supply: An investigation of risk management performance, International Journal of Production Economics 2016;171(4):487-494.
89. Giri BC, Sharma S. Optimal production policy for a closed-loop hybrid system with uncertain demand and return under supply disruption, Journal of Cleaner Production 2016;112(3):2015-2028.
90. Per Engelseth. Aligning end-to-end seafood supply through a series of markets, International Journal of Production Economics 2016;173:99-110.