

# **ASU**

# **OPERATION**

# **MENAGEMENT**

**REVIEW**

**vol 1**

**Department of Supply Chain Management**  
**Arizona State University**

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AOR  
C/O Department of Supply Chain Management  
W. P. Carey School of Business  
300 E Lemon Street  
Tempe, AZ 85287

[www.asuomreview.com](http://www.asuomreview.com)

# PREFACE

Understanding, creating, and communicating knowledge ... three pillars of scholarship. This publication, prepared by a small group of dedicated and developing scholars, provides a concise and lucid view of 36 contributions to the operations management literature. It reflects a slice of content covered in a doctoral seminar. It illustrates a creative approach to reinforce learning from the seminar and to disseminate knowledge. I believe it will serve as a valuable resource to both researchers and practitioners. Enjoy!

– Dr. Scott Webster

This volume would have not been drafted without contribution of the director and editors. We would also like to extend our sincere gratitude and appreciation for all the hard work and dedication provided by the voluntary reviewers. These volunteers are Feng Cheng, Kang Hsu, Stanley Limm, Adegoke Oke, Iman Parsa, and Lina Wang.

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# INTRODUCTION

Since the genesis of operations management (OM), scholars have addressed managerial topics, emphasizing the relevance of their studies. Such effort has positioned operations management as an academic field renowned for its connection to practice. Given the research direction, the academic community has flourished in terms of the number of scholars, the volume of research outputs, and the diversity of research themes.

While we appreciate advances in OM by previous contributors, we face another challenge today. The continuous development in OM has led to a flood of new knowledge, which cannot be easily handled by a single research entity. In addition, the field has also deepened the depth of new knowledge, making it much more time-consuming to internalize the new knowledge than previously. Furthermore, real-world problems are becoming more complex and emerging more rapidly. These new challenges increase the friction between stakeholders in the field of operations management. Indeed, as we study OM and other relevant subjects, we consistently witness that stakeholders suffer from the burden of learning new knowledge. Despite the arduous learning process while floundering in the flood of cutting-edge knowledge from recent advances in academia, many graduate students often forget the details of the knowledge as they move onto the next stage of their academic careers. Likewise, although professors are the main entity of pioneering knowledge, many of them are repeatedly chased by their hectic schedules and

thus suffer from insufficient time to digest new knowledge. Meanwhile, practitioners frequently feel distant from academic advances because of the entry barrier intensified by far-reaching scientific advances. Looking back at how OM took place and how it contributes to the real world, one might question as to what the OM community should do to address this burden of new knowledge.

The vision of ASU OM Review (AOR) is to channel new knowledge learned by PhD students to stakeholders of OM. AOR helps its editors understand OM more comprehensively as they evaluate research, address relevant issues, and link new knowledge to real-world issues. Extensive and constructive reviews of AOR also assist peer researchers in navigating their research directions through the fresh eyes of AOR editors, especially in new research domains. Finally, reader-friendly and concise content of AOR eases the understanding of academic knowledge for practitioners, thus bridging the gap between practitioners and academic scholars.

To address and deliver the cutting-edge knowledge in OM, we selected and reviewed studies as follows:

1. Given the academic theme (e.g., service management), each editor (hereafter, “first editor”) independently searched, selected, and reviewed one academic paper published in one of the top OM journals between 2014 and 2018. The journals include *Decision Sciences*, *Journal*

*of Business Logistics, Journals of Operations Management, Operations Research, Journal of Supply Chain Management, Management Science, Manufacturing and Service Operations Management, and Production and Operations Management.* A few exceptional papers published other than these journals (e.g., *Strategic Management Journal*) were also included upon the prior permission of the director.

2. The initial reviews of the selected papers were presented and discussed by the editors in the PhD-level Operations Management seminar (SCM 791, Fall 2018).
3. At the end of the class, editors used the Delphi method to select papers eligible for more extensive reviews. The selection was based on the three-level rating schema; 0 = not recommendable; 1 = considerable; and 2 = strongly recommendable. After the initial vote, the director and editors discussed the voting results and criteria and voted again after the discussion. As a result, of the initial 72 papers in 12 topic areas, the top ranked 36 papers were selected.
4. In December 2018, the director evaluated the initial reviews by first editors and randomly assigned the reviews to the other editors (hereafter, “second editors”). Building upon the initial evaluation by the director, second editors individually reframed the reviews to be more comprehensive and added related cases to the reviews.
5. Evaluation and iteration of reviews were conducted. First, the jointly constructed reviews by first and second editors were

evaluated by the two lead editors (i.e., Seongkyoon Jeong and Seth Washispack; hereafter, “co-editors-in-chief”). Second, the director assessed the evaluated reviews, added more comments, and returned them to the editors. Finally, using the evaluation notes by director and co-editors-in-chief, the first editors revised the reviews, and the second editors updated the cases. This iteration cycle was performed three times until May 2019.

6. After the iteration, external members (e.g., other faculty members) performed friendly reviews in each expertise area. In June 2019, the final reviews were drafted upon this additional review.
7. From January 2019 to June 2019, the co-editors-in-chief contacted the first authors of the papers, and asked questions regarding idea generation process, challenge during research, and future research plans. Of 36 authors, we received 18 responses to our questionnaires. The Q&A with authors were added at the end of each corresponding review.

The content is divided into several sections. Each section starts with a brief review of the topic area and lists reviewed papers. Each review introduces background and a real-world case, discusses key insights and remaining questions, explores related domains, and points out classical approaches and studies.

We hope AOR contributes to not only disseminating the cutting-edge academic knowledge in OM within and outside the academic community but also developing the collaborative understanding of recent advances in OM.

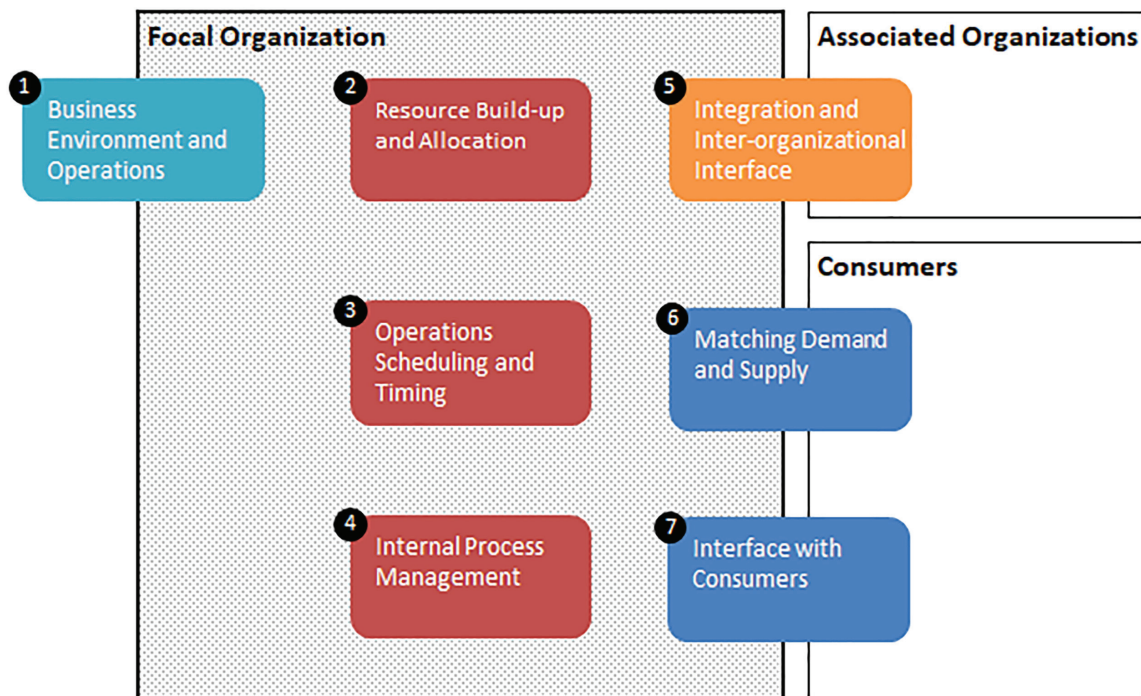
# FRAMEWORK

To increase readers' holistic understanding of operations management, AOR introduces reviews of recent studies using the following framework, as shown in the illustration below. We first categorize the reviews by the organizational boundaries of operations. In Section 1, we focus on the interface between focal organization and business environment such as competition in the industry. The subsequent sections (Sections 2, 3, and 4) address the management of internal operations such as resource build-up and allocation, scheduling and timing, and process management. Next (Section

5), we turn our attention to the areas of integration and inter-organizational interface. Finally, the last two sections (Sections 6 and 7) highlight how firms approach consumers, especially regarding matching demand and supply and interfacing with consumers.

Each section begins with a brief introduction of the section and a list of the reviewed studies. On the introduction page, AOR provides tags for the listed studies that inform readers about academic areas, research methods, and associated sectors to help the reader navigate the reviews.

## Business Environment





**The reviews are constructed in the following structure.**

**Background** explains why the research question is raised and why we need to pay attention to the research topic of the study.

**MiniCase** introduces practices and cases related to the research topic.

**Key Insights** summarizes the research approaches and the results of the study and suggests implications.

**Remaining Questions** discusses unaddressed but important questions associated with the study.

**Want to Know More?** expands our views on the research topic by introducing streams of relevant studies in other dimensions.

**Foundational Classical Studies** lists the classical studies that are used as foundations of the study.

**References** is the list of studies referred to by the reviews.

**Behind-the-Scenes** includes an interview with the authors of the study regarding the idea generation, research challenges, remaining research goals, and current ongoing studies.



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# **BUSINESS ENVIRONMENT AND OPERATIONS**

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The performance of operations is not solely determined by the focal organization's practice. Business entities compete with other entities over customer gain, product sales, and even resource acquirement. Thus, the understanding the impact of business environment is an essential step in planning operations and setting operational goals. Classical studies typically focused on how business environment determines the price and service quality level, especially centering on competition. New emerging studies are exploring more diverse dimensions of the impact of business environment in behavioral aspects (e.g., change in customers' sensitivity to quality and firm's inspiration due to relative performance) and strategic aspects (e.g., business network based human resource management and strategic investment and pricing). In this section, we review recent studies that highlight the new emerging perspectives that bridge business environment and operations strategy.

## Topics in This Section

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### The Dark Side of Competition: Customers Become More Difficult to Satisfy

Based on Buell, R. W., Campbell, D., & Frei, F. X. (2016). How do customers respond to increased service quality competition? *Manufacturing & Service Operations Management*, 18(4), 585-607.

Service Management   Empirical Research   Financial Sector

### Combining Services and Products to Compete

Based on Guajardo, J. A., Cohen, M. A., & Netessine, S. (2015). Service competition and product quality in the US automobile industry. *Management Science*, 62(7), 1860-1877.

Service Management   Empirical Research   Manufacturing Sector

### Increasing Productivity: Hire Someone at Another Firm?

Based on Wu, L., Jin, F., & Hitt, L. M. (2017). Are all spillovers created equal? A network perspective on information technology labor movements. *Management Science*, 64(7), 2973-3468

Innovation Management   Empirical Research   IT Sector

### Is Competition Always Good?

Based on Wani, D., Malhotra, M., & Venkataraman, S. (2018). Impact of competition on process of care and resource investments. *Journal of Operations Management*, 57, 23-35.

Service Management   Empirical Research   Bio-medical Sector

### Actors in the Innovation Play: What's Their Motivation?

Based on Eggers, J. P., & Kaul, A. (2018). Motivation and ability? A behavioral perspective on the pursuit of radical invention in multi-technology incumbents. *Academy of Management Journal*, 61(1), 67-93.

Innovation Management   Empirical Research   Bio-medical Sector

# THE DARK SIDE OF COMPETITION: CUSTOMERS BECOME MORE DIFFICULT TO SATISFY

Based on Buell, R. W., Campbell, D., & Frei, F. X. (2016). How do customers respond to increased service quality competition? *Manufacturing & Service Operations Management*, 18(4), 585-607.

Review by Seongkyoon Jeong

## Background

Scholars have investigated the relationship between service quality, customer satisfaction, and customer retention extensively. The previous literature has found that one of the key drivers for the service quality level is competition, implying that an entry of a new service might induce improvement in service quality and increased defection of customers. Even though these relationships are well studied, the direct relationship between service quality and customer's reaction cannot be easily stated. There are several empirical challenges in revealing the link: 1) the need to observe relative service qualities between services, not average qualities, because customers do not sense the qualities in a precise and absolute scale; 2) the need to consider heterogeneous customers, studies should incorporate how an increase in competition brings out heterogeneous impact; and 3) the customer level satisfaction data should be merged with market level data for the analysis.

## Key Insights

When does increased service quality competition lead to customer defection? To answer the question, this research addresses the three abovementioned challenges using a novel data of nationwide US bank's customer data and market data. Because

customers do not fully grasp service quality in an absolute level across service providers in the market, they sort service providers in the evaluation of services (i.e., they compare service providers). Thus, given that service sensitive customers value the service quality gap of other service providers, service quality sensitivity of customers is correlated with relative service quality position in the market. When customers defect, they follow similar quality providers with better options. In other words, customers who value quality are more likely to defect when a new service with higher quality enters. That is, the entry of a superior quality provider leads to customers' defection to the service. Likewise, price sensitive customers do the same when an inferior service quality provider enters the market. The authors predict there might be confounding effects between the relationship between customer profitability and the defection following the entrance of a competitor with high/low quality; yet, the results show that highly profitable customers are more likely to defect when the entry of a superior quality service provider occurs. Overall, this study shows that customers' satisfaction depends on the relative position of the service in the market and that their switching behavior is heterogeneous and driven by competitors that provide better pyritized options.

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