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Are Efficiency and Responsiveness Good for Performance? The Mediating Role of Competitive Capability

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Abstract

Efficiency and responsiveness are widely identified supply chain strategies and capabilities. In most of the supply chain fit literature, a positive relationship between efficient/responsive strategy and performance has been presumed. However, the question is left unanswered whether these strategies are indeed positively related to performance and, if so, how. The answer is not straightforward, particularly when efficiency, a widely accepted supply chain strategy, is also considered a standard qualifier that may not be an order winner in a competitive marketplace. In this work, we ask whether these strategies are indeed positively related to performance. Specifically, we aim to answer the following research question: are efficient and responsive strategies and capabilities effective in achieving performance improvements? Specifically, we consider the two dimensions of efficiency and responsiveness as directed by the supply chain strategy and indicated by the operational capability. Based on the competence-based theory (CBT) of the firm, we propose a conceptual framework between strategy-driven innovation, competitive capability and performance, and specify the associations in both efficiency and responsiveness dimensions. A large dataset from New Zealand (NZ) businesses is used to test the relationships, and access to the data is obtained from Statistics New Zealand. We also examine the mediating role of competitive capability in both to the relationship, and investigate how these associations differ with product characteristics. Overall, we find a negative relationship in the efficiency dimension and a positive association in the responsiveness dimension. While the mediation effects are generally supported, the hypothesized moderation effects are partially supported as product type moderates the relationships in a direction opposite from what is suggested in the supply chain fit theory. As such, this work improves our understanding of how strategies in efficiency versus responsiveness can affect firm performance. We make several contributions. First, we contribute to the growing supply chain fit literature, by evaluating the mediating role of operational capabilities in both dimensions and answering whether and how efficient and responsive strategies improve performance. We find that product type moderates the relationships in the opposite direction from what is suggested by the supply chain fit theory. Second, we contribute to the supply chain strategy literature and find that efficiency could be negatively associated with performance. Third, this work contributes to the current body of knowledge by empirically investigating the impact of efficient and responsive strategies for New Zealand exporters. Though results derived from single-country data might seem not immediately generalizable, this work provides important insights for businesses in New Zealand and other countries facing similar contexts; we hope this could inspire future work extending the study into other contexts.

Keywords
Supply chain fit, efficiency, responsiveness, and structural equation model (SEM).

Biographies
Quan Zhou is a Lecturer in the area of operations and supply chain management at University of Wollongong. She obtained a PhD in Operations and Supply Chain Management from University of Auckland in 2016 for her research in managing medical supplies in national reserves. Quan is a strong proponent of practice-inspired research, and is

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Tava Olsen is Professor of Operations and Supply Chain Management, Director of the Centre for Supply Chain Management, and joint Head of Department for the departments of Information Systems and Operations Management and Accounting and Finance at the University of Auckland Business School. She has previously served as Deputy Dean at the University of Auckland Business School. Prior to joining Auckland, she was Professor of Operations and Manufacturing Management in the Olin Business School at Washington University in St. Louis, which she joined after serving as an Assistant Professor in the Department of Industrial and Operations Engineering at the University of Michigan, Ann Arbor. Tava received her B.Sc. (honours) in Mathematics from the University of Auckland and her Masters in Statistics in 1992 and Ph.D. in Operations Research in 1994, both from Stanford University. Tava's research interests include supply-chain management; pricing and inventory control; and stochastic modelling of manufacturing, service, agricultural, and healthcare systems.

Timofey Shalpegin received PhD in Operations and Supply Chain Management at HEC Paris before joining the ISOM department at the University of Auckland Business School in 2015. His research lies in the domain of collaborative product development. Timofey develops analytical models to capture the incentives of supply chain members involved in collaborative product development and studies ways to align conflicting incentives in the supply chain.