



Sustainable supply chain quality management: A systematic review

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ABSTRACT

Maintaining profitability measures while conducting business through environmentally and socially sustainable operations is an optimization challenge for organizations globally and for our society. Aiming to contribute to the research streams on this global challenge, this paper studies the state of the art literature on two management methodologies along with sustainability management from an integration perspective: quality management with its intraorganizational focus and supply chain management with its interorganizational view. The paper establishes key themes, trends and new avenues for research through a structured systematic review. The systematic review undertaken includes both descriptive analysis and thematic synthesis of state of the art quality management, sustainability and supply chain management integration literature. Integration synergies of quality and supply chain management were established including performance improvements and integration increasing the effect of both methodologies. Incorporation of sustainability into quality and supply chain management was identified to be a highly emerging area with multi-dimensional (financial, ecologic and social) approaches highly in need for more sustainable supply chains. Ultimately, a new, emerging research area was revealed: sustainable supply chain quality management. Although, several reviews were conducted on the quality, supply chain and sustainability management practices, this study is one of the very few, undertaken from the perspective of all three approaches and cumulative integration. This contribution provides an initial theoretical framework to guide future theory building on a fruitful research avenue.

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1. Introduction

Customers, legislation bodies and other interested parties are demanding higher business performance from organizations environmentally, socially and financially through responsible management of products, processes and services. Consequently, sustainability management (SM) is now a strategic parameter for the continuity of businesses, for satisfying the current society needs while not sacrificing the ability of meeting future needs. Achieving triple bottom line (TBL) performance which is hitting economical profitability measures while continuously improving on environmental and social impact levels through synergistic policies and strategies is an intricate matter for the industry and sustainability field (Rajeev et al., 2017).

Supply chain management (SCM) facilitates integration between the customer base, the distribution network, activities internal to firms and supply base, thus SCM practices highly influence organizational performance, sustainability performance and how this is perceived by the external stakeholders of firms. In the current trend of globalization and increasing competition, the strategic management of all external and internal stakeholders from raw material suppliers to end users is the primary focus for SCM, hence SCM is well positioned as an influential management method for sustainability performance of organizations (Reefke and Sundaram, 2016). Stemming from this strategic position of SCM and perceived direct impacts on key stakeholders, sustainability research streams incorporated triple bottom line considerations into SCM approaches, resulting in the highly growing research avenue of sustainable supply chain management (SSCM) (Ansari and Qureshi, 2015). Seuring and Müller (2008) articulated SSCM as “the management of material, information and capital flows as well as collaboration among firms along the supply chain while taking goals from all three dimensions of sustainable development, i.e. economic, environmental and social, into account which are derived from customer and stakeholder requirements”. Türkay et al. (2016) point out the current research need to integrate all sustainability dimensions (historically economic dimension considered only) in supply chain design and planning for holistic sustainability assessments of supply chain strategies.

Stakeholder focus is at the center of quality management (QM), sharing the common end goal with SCM i.e. customer satisfaction (Talib et al., 2010). QM philosophies endeavor not only to consistently satisfy or exceed customer expectations but also to meet the expectations of other interested parties important for the continuity of organizations e.g. public, regulatory bodies, suppliers. Siva et al. (2016) highlighted the role of QM in sustainable development of organizations and recommended investigation of QM tools and techniques to facilitate business sustainability improvements. Supply chain quality management (SCQM) is an emerging research area, incorporating SCM and QM practices to achieve higher levels of customer satisfaction through enhanced collaboration within the network of firms and higher performing processes upstream and downstream to organizations, for higher quality products and services (Robinson and Malhotra, 2005).

1.1. Research objectives

Based on the promising, state of the art research streams on the integration of the strategic management philosophies of QM and

SCM with the sustainability imperative, this study aims to address the following research questions:

- What are the relationships between the quality, supply chain and sustainability management methodologies?
- What are the key integration issues of quality, supply chain and sustainability management methodologies including synergies, complications and further avenues for integration?

Our research motivation is to support and contribute to facilitation of continued research on the interdependencies between the influential methodologies of QM, SCM and SM with an in-depth study on the current literature on this emerging subject, which we believe will benefit the industry practitioners, the academic theoreticians and our society. Several recent literature reviews were conducted on the integration of SCM with sustainability (Rajeev et al., 2017; Reefke and Sundaram, 2016), QM with sustainability (Siva et al., 2016) and QM with SCM (Sharma et al., 2012; Talib et al., 2011), establishing knowledge bases on research themes, integration issues and synergies along with emphasis on further integration potential for firm performance and sustainability improvements. On the other hand, there are no, or highly limited reviews undertaken to date from the lens of all three (QM, SCM and sustainability), connecting links and exploring further synergies with a view to support future development of more holistic management models (as represented in Fig. 1). The research objectives set out in this review stem from this principle of providing new insights and a collective perspective that has not yet been established in integration research streams that grew in isolation to each other.

The subsequent sections of this paper contain the following: Section 2 describes the systematic literature review research materials and methodology utilized; the descriptive outcomes of the research streams and results of thematic analyses are provided in

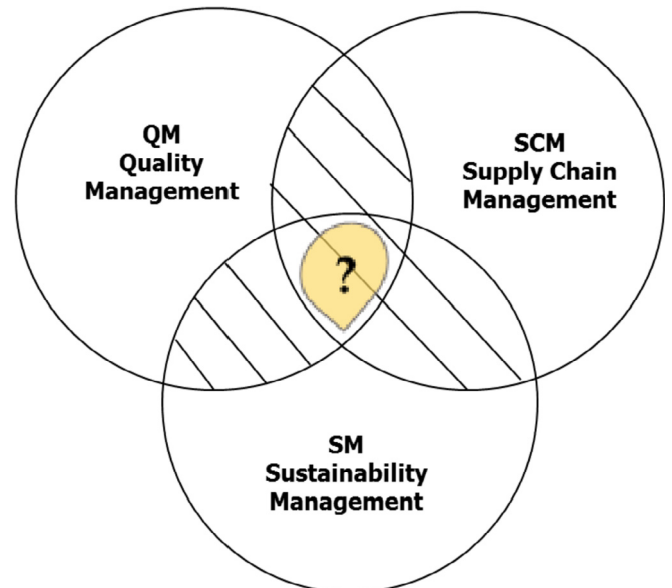


Fig. 1. The aim and scope of the literature review.

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