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Supply Chain Development: Insights From Strategic Niche Management

May 2008 · The Learning Organization 15(4):336-353

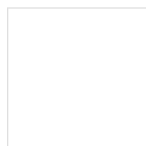
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Eindhoven University of Technology[Citations \(24\)](#)[References \(76\)](#)[Figures \(1\)](#)

Abstract and Figures

Purpose The purpose of this paper is to contribute to the study of supply chain design from the perspective of complex dynamic systems. Unlike extant studies that use formal simulation modelling and associated methodologies rooted in the physical sciences, it adopts a framework rooted in the social sciences, strategic niche management, which provides rich insights into the behavioural aspects of complex innovation dynamics of emerging supply chains. **Design/methodology/approach** The use of the framework is illustrated by means of a case study about the development of a new biofuels supply chain in East Africa. **Findings** Three key dynamic processes are found to be at the core of new supply chain development: networking, learning and the management of actor expectations. The case analysis suggests the need to actively manage these processes and suggests possible ways of doing so. **Research limitations/implications** Generalisability is limited since the research is based on one case study. Additional case studies using the same framework would help to validate and extend the results obtained. **Practical implications** Implications for strategic managerial decision making include the need to encourage stakeholder networking and shared learning, and managing their expectations. **Originality/value** The paper uses an innovative conceptual framework to examine new supply chain development, which yields new insights into how these processes can be actively managed and supported.



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Supply chain development: insights from strategic niche management

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Abstract

Purpose – The purpose of this paper is to contribute to the study of supply chain design from the perspective of complex dynamic systems. Unlike extant studies that use formal simulation modelling and associated methodologies rooted in the physical sciences, it adopts a framework rooted in the social sciences, strategic niche management, which provides rich insights into the behavioural aspects of complex innovation dynamics of emerging supply chains.

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Originality/value – The paper uses an innovative conceptual framework to examine new supply chain development, which yields new insights into how these processes can be actively managed and supported.

Keywords Supply chain management, Fuels, Energy sources, Tanzania, Strategic management

Paper type Case study

Introduction

Competitiveness and growth are increasingly seen to be driven by effective organization and co-ordination of entire supply chains, rather than by strategies and processes of individual firms (e.g. Vonderembse *et al.*, 2006; Bechtel and Jayaram, 1997; Tan, 2001; Cooper *et al.*, 1997; Martínez-Olvera and Shunk, 2006). Recent years have witnessed the emergence of a wealth of studies aiming to contribute to effective supply chain design, organization and management (see, for instance, Schary and Skjott-Larsen, 2001; Burt *et al.*, 2003; Simchi-Levi *et al.*, 2003).

Conventionally, writers in this line have been emphasizing supply chain design and management techniques in which the functioning of the supplier system can be predicted, controlled, and optimized. In a survey of models and methods of supply

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... Genus and Mafakheri used a neo-institutional approach to analyze bioenergy and sustainable energy systems in the UK [24]. The strategic niche management (SNM) framework has been used to explain the reason for the complicated development of biofuels in the EU [25]; to provide guidelines for the development of policies for stimulating biofuels [26]; and to provide insights for the emergence of a new biofuel supply chain [27]

... Differences in perception had a slight influence on patterns in biodiesel production and production capacity. This finding is in line with the process of stabilization and convergence of actors' expectations claimed by strategic niche management authors [27]

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... Van Eijck and Romijn (2008) [45], using SNM as analytical tool, presented a study in Tanzania centered on the production of biofuels through a plant called *Jatropha Curcas* Linnaeus. Caniëls and Romijn (2008c) [46] adopted SNM to study the supply chain design from the point of view of complex dynamics systems analyzing the development of a new biofuels supply chain in East Africa. Kwon (2012) [47], to expand the market share of alternative fuel vehicles, explored the market obstacles and possible policy options, presenting SNM as an effective tool able to strength the policy consequence of financial incentives, especially when is present a strong network effect. ...

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... Most of the lessons learned can be seen as a reiteration of the framework (Opazo, 2014;Byrne, 2009;Verbong et al., 2010;Derwisch et al., 2016;Kamp and Bermúdez Forn, 2016;Xue et al., 2016). SNM is also often used in a non-standard way, e.g. for value chain analysis (Rehman et al., 2010;van Eijck and Romijn, 2008; Caniëls and Romijn, 2008b; Caniëls et al., 2007) or is enriched with other theories, such as learning-based approaches (Drinkwaard et al., 2010;Romijn et al., 2010) and Social Network Analysis (Caniëls and Romijn, 2008a). These extensions give1 A Technological Innovation System (TIS) perspective (Bergek et al., 2008;Hekkert et al., 2007;Wieczorek and Hekkert, 2012) is often considered as one of the transitions frameworks. ...

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December 2008 · Journal of Business Market Management

● Dario Miocevic

The idea of effectiveness measurement in supply chain context stresses the importance of value development process for the forthcoming member of the chain. The main purpose of this paper is to develop a conceptual model of organizational buying effectiveness in the supply chain context, emphasizing the importance of marketing orientation in the purchasing process. Literature has revealed that ... [\[Show full abstract\]](#)

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September 2009 · Supply Chain Forum

● Julien François · ● Uche Okongwu · ● Jean-Christophe Deschamps · ● Matthieu Luras

As firms search to maximise value through the effective management of their various business activities, it is increasingly important to identify and understand the key factors that can significantly impact on the performance of the supply chain. The Supply Chain Operations Reference (SCOR) model enables to identify four distinct processes (plan, source, make and deliver) that constitute a supply ... [\[Show full abstract\]](#)

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August 2007

● Chengbo Wang · Craig Fergusson

Small and medium-sized enterprises (SMEs) are facing great competitive pressures. In order to increase the competitiveness of a SME in its endeavour to survive in the market place with other SMEs and larger competitors, this research is to develop a conceptual model based on the application of case-based reasoning (CBR) methodology to facilitate the supply chain strategy development process for ... [\[Show full abstract\]](#)

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Chaos theory and strategy: Theory, application, and managerial implications

June 2007 · Strategic Management Journal

● David Levy

This paper argues that chaos theory provides a useful theoretical framework for understanding the dynamic evolution of industries and the complex interactions among industry actors. It is argued that industries can be conceptualized and modeled as complex, dynamic systems, which exhibit both unpredictability and underlying order. The relevance of chaos theory for strategy is discussed, and a ... [\[Show full abstract\]](#)

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