

# Managing the trade-off implications of global supply

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## Abstract

The cost versus response trade-off is a growing logistics issue due to many markets being increasingly characterised by demand uncertainty and shorter product life cycles. This is exacerbated further with supply increasingly moving to low-cost global sources. However, the poor response implications of global supply are often not addressed or even acknowledged when undertaking such decisions. Consequently, various practical approaches to minimising, postponing or otherwise managing the impact of the demand uncertainty are often only adopted retrospectively. Even though such generic solutions are documented through case examples we lack effective tools and concepts to support the proactive identification and resolution of such trade-offs. This paper reports on case-based theory building research, involving three cases from the UK and USA used in developing a conceptual model with associated tools, in support of such a process. © 2006 Elsevier B.V. All rights reserved.

*Keywords:* Supply chain; TOC; TRIZ

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## 1. Introduction

Addressing the strategic as well as the cost implications of functional decisions continues to be elusive. In the past the resulting misalignment was commonly associated with the incremental nature of such change (Hill et al., 1998), but this does not fully explain the mismatch that commonly results from outsourcing decisions. Research suggests that such decisions often lack a holistic perspective (Baines, 2003) resulting in a sub-optimal cost focus. The growth in global sourcing, however, is increasingly encroaching on markets charac-

terised by shorter product life cycles and increasing demand uncertainty. Global supply from low-cost sources is, therefore, increasingly prone to aggravating the cost versus response trade-off (Nair and Cross, 2006)—a problem that is now widely cited, particularly in the apparel industry (Lowson, 2003).

Practical strategies to address such supply chain misalignments have been widely reported over the years, such as Bennetton, Sports Obermeyer (Fisher et al., 1994), Hewlett Packard (Feitzinger and Lee, 1997) and more recently Zara. However, the tendency to think functionally rather than holistically persists (Fisher et al., 1997; Fisher et al., 2000; Ferdows, 2003; Geary et al., 2006).

This paper seeks to explain the growing significance of the cost versus response trade-off as well as presenting a conceptual approach to managing such trade-offs in the context of the supply chain. Three

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case studies, associated with outsourcing, are subsequently analysed in relation to this approach.

**2. Research programme design**

This paper is part of a wider research project aimed at exploring strategies and supporting concepts used to improve the level of stability within a supply chain. The conceptual framework is derived from the initial secondary research (see Exhibit 1) and from this some key questions were derived:

- How does internal and external system variation and uncertainty impact on a supply chain?
- How and why do different strategies limit such variation and uncertainty?
- How and why does the trade-off concept support the strategy development process?
- How can a company use investments in inventory and capacity to provide greater stability in the internal and external phases of a delivery system?

In choosing case studies that explicitly exhibit the instability associated with the cost versus delivery speed trade-off, a number of companies involved in realigning their strategies following outsourcing decisions were selected. This resulted in a further question—under what conditions does local rather than strategic decision making tend to predominate? This paper addresses these questions in relation to the three case studies associated with outsourcing.

The case-based research method was adopted, given the explanatory nature of the research questions being posed (Yin, 1994). Cases were chosen and administered in accordance with replication logic (Eisenhardt, 1989). The unit of analysis

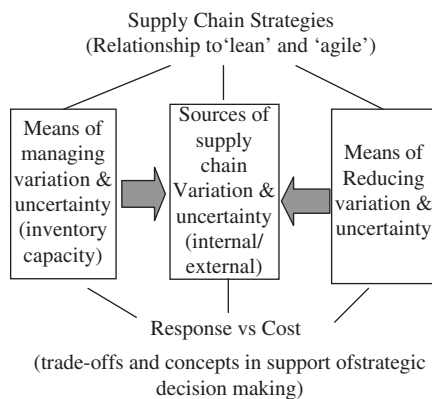


Exhibit 1. Conceptual framework.

was the company and data was collected with a research protocol using multiple sources of evidence. The data collection method included plant observation, semi-structured interviews, archival records and documents, with due attention being given to triangulation and subsequent analysis (Miles and Huberman, 1994).

**3. Secondary research used in the derivation of the conceptual model**

The research has identified three conceptual approaches to managing trade-offs in supply chains, with particular reference to the cost versus delivery speed trade-off. This review of previous research and practice is structured to reflect the derived model.

*3.1. The trade-off concept and continuous improvement*

The emergence of management science in the early part of the last century was functionally structured and resulted in local optimisation centred on cost. In this way the level of inspection and the size of batches were determined via cost models that provided a means of optimising the conflicting requirements (see Exhibits 2 and 3).

By the 1960s the need for organisations to be aligned to specific market requirements was identified (Burns and Stalker, 1961) and Skinner (1969) exposed the strategic need to align the operations management sub-functions to satisfy market requirements other than price. This work was further developed (Hayes and Wheelwright, 1979; Hill, 1985) with concepts to help distinguish the different

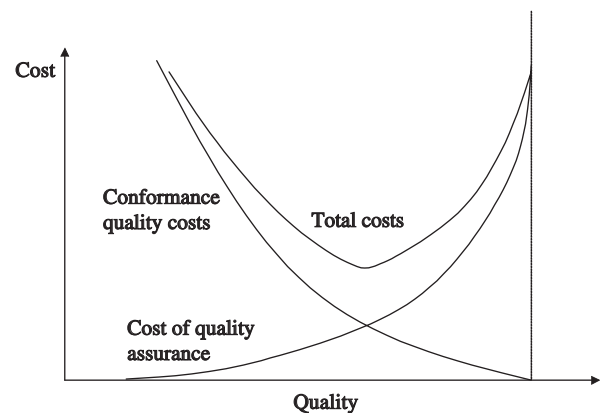


Exhibit 2. Traditional conformance quality cost model.

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