BARRIERS TO SUPPLY NETWORK STRATEGY

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ABSTRACT

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INTRODUCTION

This paper reports on an on-going action research project on supply network strategy. Supply network strategy is a concept integrating operations management, purchasing and supply management, logistics, service management and value chain management (Harland, 1996a). Findings of an interim review of efforts to promote change in the English National Health Service’s inter-organizational supply networks are presented.

The analysis encompasses supply activities within the upstream private sector firms and the many downstream organizational units most of which are part of the National Health Service (‘supply network’). Strategy related to the supply process (‘supply strategy’) is end-customer/stakeholder focused; it focuses on value provided to patients and taxpayers. Supply strategy involves changing inter-organizational supply structures and associated infrastructure, processes and competence to optimise the supply process (Harland, 1996b), taking account of the various and often conflicting requirements of the many players in each network.

CONTEXT OF THE PROJECT

The competence of some supply networks in effective and efficient organization of the inter-organizational supply process has been recognised for some years, though the number of documented cases of supply networks and their structures is limited. These tend to about large, powerful, high volume operations residing in the center of the total supply network, for example Toyota (Womack, Jones and Roos, 1990; Fruin, 1992), Nike (Lorenzoni and Baden-Fuller, 1993), Benetton (Jarillo and Stevenson, 1991), Corning (Lorenzoni and Baden-Fuller, 1993), Nissan (Nishiguchi, 1994), SweFork (Dubois, 1994), Volvo (Kinch, 1992) and
Apple (Jarillo, 1993; Lorenzoni and Baden-Fuller, 1993). Each of these large players controlled the upstream and downstream parts of the network.

This project addresses two gaps in this body of work. It has predominantly been on manufacturing and the private sector; here service provision and the public sector are also studied. Secondly, whereas much research has concentrated on the recognition and incidence of high-performing supply networks, the aim of this project is to determine how supply networks might be developed to improve performance.

Two important debates among management academicians impinge on this work. The first relates to the nature of strategy - whether strategy is planned or emergent, and the second to whether organizations can 'manage' the networks within which they operate, or merely 'cope' within them. The paper briefly reviews both of these debates, and positions the project within them.

THE CENTRAL CASE STUDY

The supply networks that deliver goods and services into the health sector are studied. These include, amongst others, basic foodstuffs, energy, medical consumables, state-of-the-art medical equipment and the provision of clinical-related services such as locum personnel and rehabilitation services.

The project is centred on NHS Supplies (NHSS), an organization established in 1991 to provide a centralised purchasing and distribution service to the NHS. NHS Supplies interfaces with supply networks through eight purchasing portfolios. Currently it principally serves hospital trusts. NHS Supplies influences about £2.5 billion per annum, which is over half of the health service’s non-pay spend. It therefore offers what is
perhaps a unique opportunity to study a wide range of supply networks all
serving a particular sector.

Despite the common 'customer' to all the networks being the NHS, there
is remarkable heterogeneity. For many products and services the NHS is
the only major UK customer, whilst for others which are not health-
specific, it is only one of many. Despite its significance in some markets
and its consequent potential to generate economies of scope and scale,
purchasing in the NHS is frequently criticised. The reasons for this poor
performance are many and complex. The consequence is that the NHS
presents a highly fragmented face to its markets, and so fails to optimise
the value it delivers through its supply processes.

METHODOLOGY

Having described the intellectual background to the project, defined
terminology and described premises, the methodology is presented.

The case study and the research design enable two levels of analysis,
using as the unit of analysis the organization (in this case, NHS Supplies)
and the supply network (in this case, the many supply networks associated
with purchasing portfolio product/service families). Two portfolios are
being studied in depth.

The study is longitudinal, and to date there have been three phases. The
first phase consisted of the development and communication of a technique
for formulating supply strategy. In the second phase, this framework was
used by the senior purchasing team in each portfolio to undertake an
analysis of the existing networks, likely influences and changes in the long
term and, based on these scenarios, to develop plans for strategic change.
The 'first edition' of these plans were completed late in 1996.

Since then, the authors have participated in activities and initiatives, both
within NHS Supplies and in groups involving a number of key network
players, that relate to the implementation of the plans (and, indeed, to their revision). This paper focuses on the findings from a review undertaken of the first year of this third phase: implementation.

The IDEF0 model (see Figure One) (ICAM, 1981; Godwin et al, 1989) has been used to design the structure for this review.

![IDEFO Model Diagram](image)

**FIGURE 1: Basis of analytical framework - IDEF0**

**ANALYSIS AND FINDINGS**

This part, the core of the paper, presents the barriers identified as critically affecting the implementation of supply strategy at the levels of the total NHS supply network and of specific networks (relating to portfolios).

The framework for the analysis, based on IDEF0 and the three phases of the project described above, is illustrated in Figures Two. Aspects to note are firstly that the analysis considers each of the three phases and feedback loops operating between them; secondly, a dual analysis is undertaken by considering NHS Supplies and by considering networks at the portfolio level; thirdly, it takes account of factors and actions that did not feature in plans, but that can be seen to be relevant in retrospect (i.e. emergent aspects of strategy); fourthly, it considers contextual environmental issues at the level of the health sector and in industry sectors where the relevance may be limited to specific networks. The analysis is undertaken in multiple ‘layers’. 
Some barriers relate to particular networks, whilst others are more generic. Issues considered in the analysis include complexity and dynamics, fragmentation/cohesiveness, NHS’s relative influence in the market, ‘historical’ context of relations, competition and collaboration, innovation and technology, and stakeholders.

The final section draws conclusions. The project’s interim conclusions suggest that both ‘coping’ and ‘managing’ are relevant, and that a rational, systematic approach to strategic planning and implementation and a recognition of emerging strategy are useful. In this practitioner-oriented applied study both sets of views are ‘correct’ and they are not mutually exclusive. Methods employed in communicating the concept of network supply strategy, in formulating strategic plans and in implementing them are critiqued.

REFERENCES


Lorenzoni G and Baden-Fuller (1993) "Creating a Strategic Centre to Manage a Web of Partners", Working Paper, School of Management, Univ of Bath
