

Making sense of network dynamics through network pictures: A longitudinal case study

David Ford, Michael Redwood*

School of Management, University of Bath, Bath BA2 7AY, UK

Received 1 March 2005; received in revised form 9 May 2005; accepted 12 May 2005

Abstract

There have been a number of attempts to describe and analyse networks and company positions in them and to help companies to manage or change their “network position” [Håkansson, H. & Snehota, I. (1995) *Developing Relationships in Business Networks*, Routledge, London; Ford, D., Gadde, L. -E., Håkansson, H., Snehota, I., (2003) *Managing Business Relationships*, 2nd Edition, Wiley and Sons Ltd.]. But most of these have confined their attention to a particular point in time or have looked at network evolution over a restricted time period, such as Lundgren (1995) [Lundgren, A. (1995) *Technological Innovation and Network Evolution*, Routledge, London and New York.] and Andersson (1996) [Andersson, Per (1996), *The emergence and change of Pharmacia Biotech 1959-1995*. The power of the slow flow and the drama of great events, doctoral thesis, Stockholm School of Economics, Stockholm.]. This paper is based on the idea that insights into the dynamics and evolution of networks and companies may be found by taking a longer term perspective. It uses historical documents and correspondence to examine the evolution of a network and of a single company within it over a period of close to a century. The paper highlights the fact that networks and networking are not modern inventions, but are intrinsic to the nature of business activity. The case study also provides illustration of a number of network phenomena, such as network position, networking and the paradoxes that are endemic in networks. Finally, the paper concludes with some lessons that may be drawn from the case for successful management in a network.

© 2005 Elsevier Inc. All rights reserved.

Keywords: Networks; Innovation; Network evolution; Leather; Booth and Company; Technology development

1. Introduction

The operations of business networks and of the companies within them have become better understood during the last decade. Various attempts have been made to describe and analyse networks and company positions *at a particular point in time* and to help companies to manage or change their network position (Ford, Gadde, Håkansson, & Snehota, 2003; Håkansson & Snehota, 1995). There have also been some studies that have examined network evolution over time, such as Lundgren (1995) and Andersson (1996). It is clear from this research that networks are not created, controlled, operated or owned by a single company. There

are no new networks. When a new company emerges, it does so into an existing network. The company's start and subsequent development will be affected by the interactions that are and have already taken place in that network. But in turn, the company will have an effect on the network itself.

This paper seeks to show how insights into the development of a single business can be obtained by examining the interplay between the business and the evolving network of which it forms part. The paper examines the case of a single business and the surrounding network over an extended period of nearly a century, encompassing a number of technological life-cycles. By taking this long-term view of social, economic, technical and political events and the actions of significant actors within the network, the paper also aims to shed further light on these processes of network evolution. The paper relates this evolution to current and emerging ideas on the dynamics of business networks,

* Corresponding author. Tel.: +44 1225 826726.

E-mail addresses: mnsidf@management.bath.ac.uk,
mike@mikeredwood.com (M. Redwood).

Table 1
The three network paradoxes

PARADOX 1:
A company's relationships are the basis of its operations and development.
BUT
These relationships may also tie it to its current ways of operating and restrict its ability to change.
PARADOX 2:
A company's relationships are the outcome of its own decisions and actions.
BUT
The company itself is equally the outcome of its relationships and what has happened within them.
PARADOX 3:
Companies try to manage their relationships and control the network that surrounds them to achieve their own aims.
BUT
The more that a company achieves this ambition of control, the less effective and innovative the network will be.

including the 'Model of Management in Networks' (Ford et al., 2003). The analysis also takes into account the inherent paradoxes of networks as described in Table 1 (Håkansson & Ford, 2002).

2. Making sense of changing times

Håkansson and Snehota (1995) explain that even if a business tries to remain static within its network, the network itself is continuously evolving and changing all the companies within it. Conversely, they observe that when actors choose to make a number of small positional moves, it does not take long before the whole network may look substantially different. Each member of the network can have an impact on the look and form of the network (Andersson, Håkansson, Johanson, 1994). Thus over a period of time we can expect to see significant changes in the characteristics of the network and the presence, absence or position of any one company within it.

Naturally we expect companies to try to influence those around them in order to better secure their long-term future. But these attempts at influence will be based on the company's view of the complex inter-dependencies that exist in the network, their "network picture" (Ford et al., 2003). But it is unrealistic to think that a company can "make sense" of a network of effectively infinite size and complexity (Blankenberg, 1992; Holmen & Pederson, 2001). Lundgren (1995) suggests that when a company is analyzing its position it must set boundaries for the network it examines which are appropriate to the particular decisions that it is making. This creates a dilemma for any business since significant events may take place in distant parts of the network, or in "another" network, not fully associated with the main or obvious one. Also, threats to the future of a business often come from unexpected locations. For example Christensen (1997) describes how a company can be outflanked by a new technology offering apparently

inferior benefits into a separate, although linked, sector of the network.

This suggests that the network pictures of companies, on which their interactions are based provide an important explanatory tool for both the researcher and the manager. Managers need to examine their own network pictures and those of the companies around them *and the assumptions on which they are based*. These may form a way of improving their understanding of the dynamics of the network and to reduce the danger of missing significant changes. Consequently the choice of network "horizons" is a major decision for management in the drawing of their "network pictures" (Ford et al., 2003).

We will now use the concept of network pictures to explore the interplay between a company and the surrounding network by examining a large scale case study of the leather network.

2.1. The development of the leather industry in the 19th century and the Booth Family of Liverpool

A complex network has surrounded the production and use of leather for many centuries. Participants in the network included those who trapped or farmed animals for their hides or furs. There were also local tanners who processed these and were often forced to cluster together by cities to limit the environmental effects of their noxious trade, or were often ostracised by society because they practiced it. Royalty were also closely involved because of their demand for fur and leather goods for their courts, and for many vital military needs. Townships wanted to acquire the technology of leather for reasons of industry or prestige and specialist traders operated in wide networks of relationships to buy and sell their wares. Suppliers of a wide range of raw materials including bark, alum, dyestuffs and even dog faeces were also involved. Many of these were members of guilds that sought to regulate trade, membership and technology. Every country in the world had and retains some form of tanning and leather industry.

2.2. The United States in the network

Prior to the 19th century the leather industry in the US had been craft-based. Farmers tanned hides and turned them into shoes and other goods on their own farms. Itinerant shoemakers traveled around and helped farmers with a lot of animals make shoes from them. They would also help farmers to trade products and a small export trade took place with the southern colonies who preferred to focus land and time on cash crops.

There was an unusual convergence of events. The opening of the west with the trans-Mississippi railroads, the introduction of the telegraph and refrigeration and the growing needs of the population for clothing and footwear led to big changes in the location and the structure of the leather industry (Hoover, 1937). European ideas of the

Download English Version:

<https://daneshyari.com/en/article/10496353>

Download Persian Version:

<https://daneshyari.com/article/10496353>

[Daneshyari.com](https://daneshyari.com)