

COPING WITH PROJECT COMPLEXITY

**A study of a yearly facelift car project at Volvo Car
Corporation**

Xianghong Hao

AKADEMISK AVHANDLING

För avläggande av ekonomie doktorsexamen i företagsekonomi som med tillstånd av Handelshögskolans fakultetsnämnd vid Göteborgs Universitet framlägges för offentlig granskning fredagen den 10 oktober 2008, 13.15 i CG-salen vid Företagsekonomiska institutionen, Vasagatan 1, Göteborg.

ABSTRACT

University of Gothenburg
School of Business, Economics, and Law
Department of Business Administration
P.O. Box 600
405 30 Göteborg, Sweden

Author: Xianghong Hao
Language: English
ISBN: 978-91-7246-270-0
Doctoral thesis, 2008
252 pages

Coping with Project Complexity

A study of a yearly facelift car project at Volvo Car Corporation

Earlier studies of project management have constructed a conceptual framework for examining industrial projects from inside such projects where the focus is on the intrinsic characteristics of project complexity. In these studies, project complexity derives primarily from its associated technological and operational aspects. By contrast, this study, using an elaborate analysis of how a project relates to its context, shows that project complexity is a contingent construct and emphasises the relevance and importance of understanding wider, contextual contingencies of project organization.

This study focuses on three Critical Incidents that arose in the later phases of a major, yearly facelift car project (a project updating existing models) at Volvo Cars in Sweden. In examining how solutions to the engineering problems of the Critical Incidents were reached, the study shows how product development entails high levels of uncertainty and complexity in terms of product requirements, timelines, and technical solutions. Furthermore, the study shows that project complexity, reflected in different project aspects such as time, team, and task, derives primarily from organizational and contextual elements.

The relational complexity is characterised by complex, organizational interdependencies that require effective and intensive coordination and cooperation across many technical and organizational boundaries. This relational complexity is triggered and intensified by three contextual factors:

- The historical influence of the traditional company way of organizing facelift projects that frames the overall project progress;
- The organizational changes and outsourcing; and
- The emergence of a new material with great technical and economic potential.

The day-to-day task of coping with project complexity is metaphorically illustrated as “a dare devil stunt” followed by a “fire-fight” – in seeking solutions to technical problems in a time-constrained milieu, the automotive engineers make a bold, headlong rush followed by a focused, high intensity effort. In the “fire-fight”, teamwork spirit and “social capital” (socialising relationships) are critical in the search for negotiated and coordinated resolutions.

By drawing on the concept of organizational routines, the study asserts that relational complexity is a result of the disconnection between different aspects of organizational routines. Thus, the long-term coping strategy for handling project complexity requires developing organizational routines based on an understanding of this disconnection, best achieved by narrowing the gaps between the ideas and the reality that result from this disconnection.

Key words: project complexity, VCC, open system, relational, qualitative aspect, organizational change, outsourcing, innovation, coping, organizational routines