Chapter XX
Culture as a Dynamic Capability: The Case of 3M in the United Kingdom

Cliff Bowman
Cranfield School of Management, UK

Pauline Gleadle
The Open University, UK

ABSTRACT

The chapter addresses a central dilemma from the viewpoint of dynamic capabilities and the resource based view of the firm: how to manage creativity within New Product Development without sacrificing financial control. The empirical evidence examined concerns 3M’s NPD activity in the United Kingdom from a holistically viewed management control perspective at the organizational level, and a study of the development and launch of a highly successful and radically new product, Genesis. It is concluded that NPD processes within 3M in the United Kingdom display a large measure of coherence juxtaposed with flexibility through the manner in which controls, holistically viewed, are embedded within organizational routines. Using case evidence clear distinctions can be made between dynamic capabilities, resources and product outcomes, and the elements of 3M’s capability can be discerned. The authors conclude that a dynamic capability can consist of both replicable elements, and elements embedded in the culture and routines of the firm that are difficult to imitate.
INTRODUCTION

This paper addresses a dilemma facing many firms: how to manage creativity within new product development processes without sacrificing financial control. It draws on arguments from the new product development (NPD) and managerial control literatures, and relates these to the recent work on dynamic capabilities. Insights from these research areas are drawn on to help us interpret NPD processes at 3M.

The empirical evidence examined concerns the development and launch of the Genesis product line, a radically new version of the industrial respirator or face-mask, substantially differentiated from the competition. While Genesis cannot be described as an ‘emotional product’ in design terms compared to a car for example, it was ground-breaking in concept.

This focus on a particular product launch is in line with Floyd and Wooldridge’s (2000) call for strategy process studies in which the ‘strategic initiative’ is the primary unit of analysis. The discussion then builds on the case evidence of 3M, focussing on how the corporation handles uncertainty whilst enabling flexibility in its NPD processes, with a view to establishing whether 3M practice can be said to constitute a dynamic capability in terms of its organizational coherence.

Implications of the findings for the management of 3M in the UK and the corporation are explored including in terms of whether the outcomes discussed are either replicable or path dependent (Dierickx & Cool, 1989).

“CONTROLLING” NEW PRODUCT DEVELOPMENT

On the one hand, many have argued the basic incompatibility between creativity and financial control from an essentially cultural viewpoint (Armstrong and Tomes, 1996), whilst others focus on the key role of uncertainty in new product development (Cooper, 2001).

The cultural barriers discussed by Armstrong and Tomes (1996) are set out in Table 1. They argue that design within new product development follows quite different imperatives from those of management control, with the designer being akin to ‘hero artist.’ Once it is attempted to render design accountable to managerial control, Armstrong and Tomes argue that outstanding financial returns are unlikely because such bastardized design is likely to be so watered down that the resulting new product is predictable, and so little different to that offered by the competition. It is the very unpredictability of outcomes

<table>
<thead>
<tr>
<th>Table 1. The incompatibility of design and managerial control (Armstrong &amp; Tomes, 1996)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design</strong></td>
</tr>
<tr>
<td>Language of design as ‘quite incommensurate with written and verbal language’ (Armstrong &amp; Tomes, p. 115)</td>
</tr>
<tr>
<td>Communication achieved by design does not work on the rational level (A&amp;T, p. 117).</td>
</tr>
<tr>
<td>The designer as hero artist (A&amp;T, p. 117)</td>
</tr>
</tbody>
</table>
Related Content

The Human Element of the Knowledge Worker: Identifying, Managing, and Protecting the Intellectual Capital within Knowledge Management
www.igi-global.com/chapter/the-human-element-of-the-knowledge-worker/86232?camid=4v1a

Interview: The Systems View from Barry G. Silverman: A Systems Scientist
www.igi-global.com/article/interview-systems-view-barry-silverman/45161?camid=4v1a

Secure Knowledge Management
www.igi-global.com/chapter/secure-knowledge-management/17029?camid=4v1a

The Impact of Personal and Positional Powers on Knowledge Management Systems
Vincent Scovetta (2017). International Journal of Knowledge Management (pp. 18-34).
www.igi-global.com/article/the-impact-of-personal-and-positional-powers-on-knowledge-management-systems/185762?camid=4v1a