



Strategic foresight in corporate organizations: Handling the effect and response uncertainty of technology and social drivers of change

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ABSTRACT

Today many companies in many industries put a lot of efforts into monitoring and investigating emerging drivers of change in their business environment, particularly in relation to new technologies and events in the social, economic, political and ecological landscapes which surround their industry. So far scholars in the literature on foresight and future studies focused on the techniques and practices for analysing the “state” uncertainty about the likely path of evolution of emerging drivers of change. Anyway, less attention was devoted to the “effect” uncertainty about the impact of drivers of change on the competitive position of the firm and to the “response” uncertainty about how to take advantage of these drivers. These are the main issues we take into account, through a field research on firms that, notwithstanding they were able to properly assess the likely evolution (state uncertainty) of relevant drivers of change in their industry, either were successful or dramatically failed in handling the effect and response uncertainty of these drivers. Moreover, we carried out multiple case studies of some large companies that have established an organizational unit dedicated to strategic foresight. Overall, the results of our research may contribute to improve the effectiveness of strategic foresight and to increase its value added to the planning process of corporate firms, while providing helpful insight to public organizations that promote foresight exercises for enhancing the competitiveness of local firms.

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1. Introduction

Literature on strategy [1–3] and on organization theory [4–6] emphasized for a long time the external environment of the firm as a major source of uncertainty for managers in charge to detect emerging opportunities and threats and to respond timely to them. “Environmental uncertainty” has been defined as the lack of accurate information about organizations, activities and events in the external sectors of the business (micro and macro) environment of the firm, and as the difficulty to understand what the major changes are or will be [5–7].

According to Milliken [8], there are three specific types of uncertainty concerning drivers of change: uncertainty about their evolution (“state” uncertainty); uncertainty about their impact on the competitive position of the firm (“effect” uncertainty); uncertainty about the response viable to the firm (“response” uncertainty).

In order to cope with environmental uncertainty many multinational companies started back in the '60s to engage in future studies. The term “environmental scanning” became widely used to refer to the search for information about emerging drivers “in a company outside environment, the knowledge of which would assist top management in its task of charting the company’s future course of action” [9: p.1]. A large set of future-oriented techniques and methods have been developed and applied: roadmaps [10–12] and scenarios [13–17] are by far the most popular ones. But there are many others, e.g., Delphi, relevance trees, cross impact analysis, simulation modelling and systems dynamics, and game theory [18–20]. More recently, the term “Foresight” has become commonly

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used to encompass the wide range of approaches and activities which aim at helping managers to handle uncertainty [21–23]. In this paper, we use the term “strategic foresight” instead of “foresight”, in order to emphasize its tight relationship with the strategy formulation process.

Up to now research efforts of most scholars focused on “state” uncertainty, by analysing how and to what extent strategic foresight may help managers to anticipate the likely evolution of drivers of change. Anyway, handling state uncertainty is not enough: there are many cases of firms which properly foresaw the evolution of relevant changes in their external environment, yet failed to govern and take advantage of them in the long run. Future success depends as much on handling the “effect” uncertainty and the “response” uncertainty about drivers of change as it does on handling their state uncertainty, by addressing the following key issues:

- How to anticipate the impact of drivers of change on the industry structure and the competitive position of the firm? How to draw the implications of drivers of change for strategy formulation?
- How to cope with drivers of change? How should business managers define the most appropriate responses for exploiting these drivers and thus developing the new resources and organizational capabilities they require?

These are the main research questions we tackle in this paper. Given the open-ended nature of these questions and the lack of adequate analysis in the literature on strategy and foresight, we based our research on the case study approach [24]. First of all, we analysed the cases of: Kodak in the imaging industry; Nokia in the mobile phone industry; Luxottica in the spectacles industry; Starbucks in the coffee industry. All these firms provide meaningful examples, since they were all able to foresee the evolution of the main drivers of change (e.g., emerging technologies and shifts in social values) in their business (see Table 1). Anyway, they adopted very different approaches for assessing the impact of these drivers on the structure of their industry (i.e., Porter’s Five Forces) and on their competitive position, so achieving different results. By contrasting these approaches, we aim at drawing some lessons on how handling the “effect” uncertainty of drivers of change. The case studies were based either on published sources (conference presentations by top managers, financial reports, articles on both business magazines and scientific journals) and our interviews to top managers.

Moreover, we analysed the organizational and methodological framework of strategic foresight in a sample of large international companies. These firms are Shell, Nokia, Philips, Siemens, BASF, Morgan Stanley, and Daimler. In particular, we interviewed the top managers and executives of their strategic foresight team. All these firms provide very meaningful examples because they started a long time ago to engage systematically in foresight as a continuous process embedded in strategy formulation. As they gradually examined and reviewed the impact of foresight, they learned how they could improve their framework and integrate results in strategic decision making. The insights and materials we draw from these cases allow us to support and to refine our conclusions about the ways to handle the effect uncertainty of drivers of change and, most of all, to investigate the kind of behaviours and strategic postures a firm may adopt for handling the response uncertainty of these drivers.

We think that the relevance of our research lies in the uneven success and popularity gained so far by strategic foresight. While some scholars provide evidence that in the last two decades many large firms regularly relied on these activities and techniques [25–28], the impact of strategic foresight on the performance of the firm is actually blurred and some scepticism arises regarding its real value added [29–32]. In this context, we think that deepening our understanding of how to assess the effect and the response uncertainty of drivers of change is a key requirement for improving the effectiveness of strategic foresight activities and thus for fostering its diffusion and standing both in the business sector and the academic community. Moreover, it’s worth mentioning that foresight activities are performed not only by corporate firms, but also by other organizations (e.g., national and regional governments, trade associations, and chambers of commerce) which promote and support some foresight exercises in order to sustain the competitiveness of local firms [33]. Our research may help as well these public organizations to optimize their efforts, by improving the ways they scope and define the targets of their foresight activities.

The paper is structured as follows:

- firstly, we provide a literature review of the research studies on environmental uncertainty and strategic foresight;
- secondly, we discuss how to handle the “effect” uncertainty of drivers of change: we focus on the most appropriate analytical approach to be adopted in order to fully grasp their impact on the industry structure and the competitive position of the firm;
- thirdly, we outline some basic guidelines for coping with “response” uncertainty of drivers of change;
- finally, we conclude by pointing out the main contribution of our paper to the research stream of strategic foresight and future studies.

Table 1

Assessing the “effect uncertainty” of drivers of change: summary of the selected cases.

Industry (firm)	Driver of change	Source of identification	Evolution of the driver (state uncertainty)
Imaging (Eastman Kodak)	Digital imaging technologies	Technology Foresight; Strategic Competition Analysis	Progressive and complete substitution of film-based technology
Communication (Nokia)	1G and 2G wireless technologies	Technology Foresight; Strategic Competition Analysis	High penetration rate of mobile phones: establishment as mass market product
Spectacle (Luxottica)	Advanced materials; interest by fashion designers	Technology Foresight; Strategic Competition Analysis	Booming demand for fashion-oriented spectacles
Coffee (Starbucks)	New pattern of socialization	Social Foresight	Wide diffusion/consolidation of the new pattern

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