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The advanced role of corporate foresight in innovation and strategic management – Reflections on practical experiences from the automotive industry

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ABSTRACT

This paper portrays the current state of practice of a corporate foresight unit within a multinational automotive company, working with this task assignment for more than three decades. It describes how the early detection of medium- to long-term developments in the broader business environment, including social and market developments, is integrated into innovation and strategy processes. The purpose of this paper is to give an account of foresight practice in an automotive company that (1) covers the full range of roles and practices of a mature foresight group, (2) describes case examples how such roles and practices are played out in practice and (3) concludes with general recommendations for organizational design and processes. The paper highlights five major fields of foresight practice which encompass strategic issues in different working fields: early detection in new business environments, trend research for the generation of product innovations, prospective evaluation of innovation ideas, exploration and development of new business, and cross-functional dissemination of future-related issues. Practice examples in each field detail features of the integration of foresight in corporate processes. The paper finishes with characterizing the organizational architecture of a mature corporate foresight group, a discussion and overall conclusions.

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1. Introduction

In recent decades several large enterprises in such diverse sectors as energy, automotive, insurance, telecommunications and information technology have established strategic planning processes including *permanent corporate foresight units* addressing the long-term prospects of business environments, markets and new technologies and their implications for corporate strategies and innovation (for further case studies and research streams on corporate foresight covering diverse practices and branches see (Baron et al., 2003; Burmeister et al., 2004; Burmeister & Neef, 2005; Becker, 2002; Daheim & Uerz, 2008; Van der Duin, 2006; Müller & Müller-Stewens, 2009; Mendonca et al., 2009; Rohrbeck, 2011; Rohrbeck &

Gemünden, 2011; Rohrbeck & Bade, 2012)). Depending on genesis, branch and institutional set-up diverse labels are used to describe *research-based activities* in business pursuing a *future-oriented perspective on the broader business environment* to support strategy and innovation processes in the company. Terms like “(industrial) futures research”, “business futures”, “strategic foresight”, “strategic business intelligence”, “strategic marketing intelligence” are also used to describe this field of practice. The organizational set-ups are diverse (see Section 4).

In the automotive industry *research* departments focusing on future developments, innovation and technology have a relatively short history. They were mostly founded as part of *integrated R&D* in the 1970s, 1980s and 1990s.

A few car manufacturers established small “non-technical” research groups as part or partners of the larger technology-oriented research and advanced engineering units (e.g. Daimler, General Motors, Toyota, Volkswagen, BMW, Audi, Nissan). This

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was grounded in the insight that the long-term success of an automotive company not only depends on the successful management of the core functions of automotive value creation (procurement & supply, engineering and vehicle development, manufacturing, marketing & sales) but also requires that *long-term developments in the “non-technical” spheres of the business environment*, in markets and society, have to be taken into consideration. This emphasis on enhancing technology roadmaps, current market research and competition analysis by including long-term peripheral vision (Day & Schoemaker, 2004) and societal dimensions corresponds to the qualification of “Third Generation Foresight” in the scientific discourse about foresight in the context of innovation policy (Georghiou, 2001). This also corresponds to one of the core conclusions of Rohrbeck, who analyzed a diverse set of corporate foresight activities, that “large incumbent companies tend to be slow and ignorant and need to build dedicated structures for detecting and proactively managing discontinuous change” (Rohrbeck, 2011).

“Corporate foresight” is defined here as “an ability that includes any structural or cultural element that enables the company to detect discontinuous change early, interpret the consequences for the company, and formulate effective responses to ensure the long-term survival and success of the company” (Rohrbeck, 2011).

In the literature on corporate foresight one finds only few reports on how foresight is actually *integrated in innovation and strategy processes*. Also, if case studies or practice examples are cited, they are mostly either anecdotal, abstract or do not represent the full spectrum of activities of the respective units. Also external researchers only get limited insights into company practices because of issues of confidentiality. To cover the existing gap and enable deeper insights, the purpose of this paper is to give an account of foresight practice in an automotive company that (1) covers the *full range of roles and practices* of a mature internal foresight group, (2) describes case examples how such roles and practices are played out in *practice* and (3) concludes with general recommendations for *organizational design* and processes.

This introduction gave a short account of the driving forces that put corporate foresight on the research agenda of an automotive company. The following Section 2 briefly reflects the characteristics of the methodological approach taken here. Section 3 outlines the mission as well as the organizational embedding of Daimlers' foresight unit. It portrays 5 main roles and associated fields of activity that integrate the long-term business and market environment into the strategy and innovation processes of the business units. For each field at least one role example is described, sometimes two. Section 4 highlights some basic organizational features of foresight research within an enterprise that bolster this function. Finally, Section 5 discusses overall conclusions from the long evolution and maturation of foresight activities at Daimlers' foresight unit.

2. Method

This paper is based on an *auto-ethnographic* account of the development and implementation of the corporate foresight unit at Daimler. In scientific terms the approach is *ethnographic* and *inductive*, reflecting practical experiences, cases, roles and processes over many years and condensing these observations

into categories, criteria, structured descriptions and recommendations. The author has accompanied the units' evolution for 24 years, conducting many foresight projects with diverse topics and methods, serving heterogeneous business units ranging from automotive to air transport and services as well as clients from such diverse divisions like business development, product strategy, marketing and sales, and human resource strategy. For 19 years he has (co-) managed the change of the group and its adaptation to new topics, roles and organizational demands. This approach with the author being part of the system implies that this not an objective scientific analysis. But it can be argued that three major factors contribute to balance subjective bias. First, the advanced seniority of the author gives him leeway and equanimity to reflect the evolution of the unit with *some distance*. Second, the classification of the major working fields portrayed in Section 3 is not arbitrary, because the fields describe clusters of activities that are *distinct* from each other in core features and it is very likely that external researchers would come up with a very similar description of the tasks, roles and processes of the foresight unit. This also applies for Section 4, because many of the criteria used to describe the organizational architecture of the unit can be objectified. Third, the role examples that build the core of this article also describe the *processes* how foresight is implemented organizationally and identify factors that were necessary for successful project work.

3. Roles and practices of future-oriented business environment research at Daimlers' foresight unit

3.1. Mission and scope of activities of Daimlers' foresight unit

Daimlers' Society and Technology Research Group (STRG) was one of the first foresight groups to be established within a company. Since 1979 it has investigated, in close cooperation with technological research and engineering, marketing and strategic planning, the *contextual* factors shaping tomorrow's markets, technologies and products. Deviating from the then widespread mainstream path of most technology management and forecasting, STRG started with two basic premises. First, before focusing on technology, a broader view of the market environment, including *societal factors*, has to be taken into account. Second, to learn about complex and dynamic environments, foresight dedicated to innovation has to concentrate on an “outside-in” *perspective*. Thus the mission of STRG started as *science-based futures and business environment research* to support strategy and product innovation processes for Daimler and its business divisions. The key question of this mission is: what business environment trends shape future markets and contexts for the automotive industry and the mobility business, and what key challenges do these pose for Daimler? (cf. Fig. 1).

The business environment is defined *broadly* and comprises *societal, economic, political, ecological* and *technological* domains. The analyses are conducted on macro, meso and micro levels. They are oriented between a *medium* and *long-term temporal horizon* (5–15 years).

The research group unites about 30 research scientists from *diverse disciplinary and regional backgrounds*. The group is based in Berlin and Sindelfingen (Germany), and dedicated teams in Sunnyvale (United States of America) and Beijing (China) support the international horizon. For its international projects

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