Chapter 17
Innovation in Scenario Building:
Methodological Advancements and a Foresight Study of the Automotive Industry in Brazil

Ariane Hinça Schneider
Industry Federation of Parana, Brazil

Laila Del Bem Seleme
Industry Federation of Parana, Brazil

Felipe Fontes Rodrigues
Federal University of Parana, Brazil

Marilia de Souza
Industry Federation of Paraná, Brazil

Helio Gomes de Carvalho
Federal Technological University of Parana, Brazil

ABSTRACT

Situated in Paraná state in southern Brazil, the Metropolitan Region of Curitiba (MRC) is home to an automotive sector which plays a major role in the local and national economy. In order to expand the development of the automotive sector and to create new local and worldwide opportunities, the Federation of Industries of Paraná (FIEP) developed and employed an innovative scenario building methodology to analyze the automotive industry's potential for innovation and attendance of new market demands for 2020; which is Sector Foresight. Therefore, results allow the players to have a clearer managerial view of the industry's possible future. This chapter seeks to publicize the experience as well as the results of this innovative project by focusing on the methodology and tools. Data sources included a review of the literature, document analysis, direct observation, semi-structured interviews and two rounds of questionnaires. This experience contributed to innovate the organizational and methodological processes of FIEP, and to improve the perspective of innovation in the automotive sector through a new approach to scenario building. Results also shown this methodology can be applied to other industries in future studies.

INTRODUCTION

The automotive industry plays an important role in the economies of over 40 countries, and is a benchmark for innovation and application in management and production technologies. Brazil is one of the world's key automotive players and ranks fifth worldwide in vehicle assembly (OICA, 2010). Paraná state is home to one of Brazil's leading auto industry clusters, with more than 6,000 related companies located in the Metropolitan Region of Curitiba (MRC).

Due to the industry's importance to Paraná, in 2008 and 2009 the Federation of Industries of Paraná (FIEP) oversaw a foresight study conducted by its Industrial Development Observatory (ODI). It was designed to contribute to the MRC automotive industry by improving the sector's growth and development, and create new opportunities worldwide. Scenario building was chosen as the key tool to assess the industry, while the project's timeframe was set for the year 2020.

This chapter examines the innovative experience and results of the project, specifically the methodology developed and the tools applied. The region's automotive industry is relatively new compared to other Brazilian clusters, and as such it was somewhat unorganized, which hindered its view of the sector's future. Accordingly, this project was driven in part to promote interaction among its key players and develop synergies within the sector.

The innovation of this experience is seen in the creation of a new organizational method (OECD, *Oslo Manual*, 2005): Sector Foresight. It was developed by FIEP to significantly improve its industrial relations through an enhanced view of the industries' possible futures. This also contributed to the acquisition of non-transactional assets, paramount to the automotive industry scenario building exercise. This methodology involves a process of assessing and analyzing opinions from the public and private sectors, universities and research centers, and was conducted in a structured, collaborative, coordinated and synergistic way. When making decisions about the automotive industry's future as a whole, a systematic view of this environment is employed, as it considers the needs and wants of all participants.

This scenario building activity, based on the foresight methodology developed by FIEP, differs from other methods as it enables the participation of different players within an industry, thanks to FIEP's impartiality in overseeing the entire process. It is regarded as an innovative methodology as it includes the perspectives and opinions of multiple stakeholders, not to the organizations individually, but to the industry as a whole, leading to the collection and analysis of strategic information regarding the views of all participants. This new approach to scenario building provides managers of different organizations with a forward-looking, systematic look at the need to innovate in technology, processes and products to meet future conditions. It can also contribute strategically to organizational planning. It not only provides significant improvements for scenario building, but is also an innovative new service provided to industry by FIEP.

FORESIGHT AND SCENARIO BUILDING

Foresight is a methodology to collect and assess expert opinions about the future from the public and private sectors, universities and research centers, through a structured, interactive, participative, coordinated and synergistic process (Godet, 2001). It is used to build strategic views that can spur competitiveness and the development of a country, territory, company or public institution and as shown below, an industrial sector or a productive chain.

The University of Manchester defines foresight as a process of anticipation that assesses expert opinion to set priorities regarding certain assumptions about the future which are constrained by

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