



NORTH-HOLLAND

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

SCIENCE @ DIRECT®

Technological Forecasting & Social Change  
71 (2004) 27–65

**Technological  
Forecasting and  
Social Change**

# Systemic analysis of UK foresight results Joint application of integrated management model and roadmapping

Ozcan Saritas<sup>a,\*</sup>, M. Atilla Oner<sup>b,1</sup>

<sup>a</sup>*Policy Research in Engineering, Science and Technology (PREST), University of Manchester,  
Manchester M13 9PL, UK*

<sup>b</sup>*Manufacturing and Technology Strategies Research Group, Department of Business Administration,  
Yeditepe University, 34755 Kayisdagi, Istanbul, Turkey*

Received 10 January 2003; received in revised form 29 May 2003; accepted 3 June 2003

## Abstract

This paper proposes a new systems approach to foresight studies. The paper will first indicate the complex and conflicting nature of long-term decision-making process. Then, the need for systems approach will be highlighted by the analysis of 1995 UK Delphi survey results and the scenarios of 2000 UK foresight scenarios. The paper proposes two methodologies, namely Integrated Management Model (IMM) and Roadmapping, in order to overcome challenges introduced by the multidimensional characteristics and complex nature of foresight studies. Based on systemic approach, IMM offers a useful way of developing long-term normative policies and strategies and their transformations into actions by considering necessary changes in organizational structures and behaviors. In addition, roadmapping is used to capture, manipulate and manage information to decrease complexity in the foresight by constructing roadmaps. In the paper, IMM and roadmapping are employed first to analyze UK foresight results and then to develop a new methodology to formulate Delphi events and scenarios for the successful implementation of foresight. This paper also

\* Corresponding author. Tel.: +44-161-275-5935; fax: +44-161-275-0923.

E-mail addresses: [ozcan.saritas@stud.man.ac.uk](mailto:ozcan.saritas@stud.man.ac.uk) (O. Saritas), [maoner@yeditepe.edu.tr](mailto:maoner@yeditepe.edu.tr) (M.A. Oner).

<sup>1</sup> Tel.: +90-216-578-0626; fax: +90-216-578-0797.

promotes the integrated use of foresight techniques such as scenarios and Delphi rather than one for another.

© 2003 Elsevier Inc. All rights reserved.

*Keywords:* Integrated management model; Roadmapping; Foresight

---

## 1. Introduction

Because the world is changing in global and local ways, there are many possible futures. This is the reason why the ability to foresee is more important for both national and regional governments, industries and corporations to shape and move towards desired futures for sustainable development. In order to create wealth and increase quality of life, there is an increasing need to be innovative and to manage change and uncertainty.

In 1990s, foresight became very common practice among many developed and developing countries, regions and organizations in every scale, mostly in order to anticipate new technology areas. Although foresight exercises have been practiced broadly, their successful implementations have not been that wide. This is because the implementation is the most challenging stage of a foresight study. Loveridge [1] mentions the challenges in implementing foresight results. The reasons behind these challenges might be attributed to the multidimensional characteristics and complex nature of foresight.

Foresight studies are complex and uncertain, because they try to anticipate the uncertain future with number of affecting factors such as social, technological, economic, ecological and political (STEPP) aspects. Foresight studies are also conflicting as a consequence of participation of different stakeholders in different disciplines with various visions, goals and expectations.

In this paper, we propose that foresight should be about understanding the future of man and his environment as a part of interacting and interconnected system. As Checkland [2] stated, “we, all of us, should be aware of ourselves as beings in the world, and we are also of a very complex world outside ourselves, of which we are part.”

In order to discuss the challenges to implementation of foresight studies, the paper firstly presents the uncertain, complex and conflicting characteristics of long-term decision-making in general and foresight in particular. After the brief description of UK foresight programs, the paper summarizes the challenges in implementing foresight outcomes. In the light of this background, we present and reanalyze the results of 1994–1995 UK Delphi and 1999–2000 UK scenarios with a new systemic perspective.

The UK is among the countries that conducted several foresight studies in recent years with various aims such as developing visions of the future, building bridges between industrialists, science and government and creation of wealth and improvement of quality of life [1,3]. The following years indicated that the outcomes of these foresight exercises could not be employed extensively, as it was desired at the beginning (see Refs. [1,4]). This paper raises some considerations and problematic points, confronting the successful implementation of foresight outcomes from systems perspective.

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات