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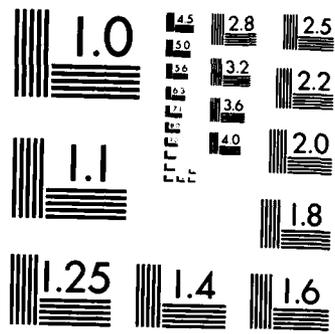
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SUMMARY AND CRITIQUE
FOURTH INTERNATIONAL CONFERENCE
FUTURE ANALYSIS, FORECASTING AND PLANNING FOR
TELECOMMUNICATIONS, ENERGY AND PUBLIC UTILITIES

June 30, 1982
Paris, France

Bridger M. Mitchell

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August 1982

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SUMMARY AND CRITIQUE

Fourth International Conference

Future Analysis, Forecasting and Planning for
Telecommunications, Energy and Public Utilities

June 30, 1982
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I would like to offer a brief, personal view of this Fourth International Conference. In preparing the material for this synthesis I have been mightily assisted by Jean-Pierre Bienaime and Tony Knight. They deserve the credit for the insights, but only I and the long Parisian evenings are responsible for their inelegant expression this afternoon.

Within their national borders, public utilities and public enterprises operate in a largely homogeneous environment. To a considerable extent, the same market conditions, national economic factors, and technology are found throughout any one country.

It is in comparing the public enterprises of different countries that significant differences among the basic environments of these organizations emerge--differences in the economic structure and organization of the industry, in the role of national government, and even in the analytic techniques used by forecasters. This conference has brought together the managers and decisionmakers from these major public enterprises with planners and analysts responsible for forecasting the future directions of these firms and it includes representation from both the public enterprises and from academic and commercial analysts. Largely absent, however, are representatives of



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the growing number of firms now offering competition to the traditional monopoly public enterprises.

From this heterogeneity of backgrounds one might make a miniature forecast that there would be a considerable diversity of topics for discussion at this conference, and a variety of planning and forecasting techniques. Witness the scope of this conference, conveyed by its title--"Future Analysis, Forecasting and Planning for Telecommunications, Energy and Public Utilities." An inspection of the titles of the workshop papers also illustrates the variety of interest brought to this meeting.

Are there, then, any threads that weave together these varied interest, techniques, and decision problems? Drawing on the presentations of the speakers in the initial preliminary section, one can identify three principal emphases. The first theme is the need for communication--communication between decisionmakers and analysts. Managers need to understand the major factors that are included and, also, to understand those omitted from any forecast. From several of the speakers came the plea for transparency of the essential features of the forecasting technique. Equally, there is need for greater communication between the two major groups of analysts represented at the conference--the quantitative forecasters who base their prognostications on market and technological measurements, and the qualitative forecasters who develop scenarios based on hypotheses regarding largely the nonquantifiable factors that affect the telecommunications and energy enterprises.

The second major theme has been the integration of quantitative forecasting and qualitative futures analysis. Today it is widely

realized that changes in environmental conditions can radically alter the outcome of a management plan. Calls for integrating quantitative and qualitative aspects of forecasting have been echoed again by this afternoon's distinguished panel.

The final theme would be the improvement of forecasting and planning techniques--those methods used by both quantitative and qualitative forecasters as they are applied to the practical, non-postponable decisions faced by managers of the enterprises.

The conference, in its workshops, reflects these coordinating themes. Indeed, the very organization of the conference around nine workshops emphasizes especially the goal of increasing communications. For a forecasting conference, particularly an international conference, this is a nearly novel approach, and one not without risks.

Do these three conference themes--communications among decisionmakers, planners, and analysts; integration of quantitative and qualitative analysis; and advancement of technical methods--find their continuation in the working group session?

Stimulated by the prepared papers, the workshop discussions have frequently been animated and have actively involved most participants. These exchanges have extended to the hallways and lunch tables, and I have no doubt will continue well beyond this week.

In various guises, the inevitability of uncertainty has been stressed. The two key sources of forecasting uncertainty appear to be, first, random error associated with a quantitative forecasting model, and second, uncertainty due to changes in environmental factors that are either exogenous or simply unspecified in the forecasting model. One conclusion, I think broadly shared, is stated in T. Boley's paper:

Single outcome forecasts should be avoided...such forecast tend to imply certainty. Management attention should be focused on the assumptions underlying...forecasts rather than the methods used, and on examining the implications of alternative outcomes caused by changing those assumptions.

The need for transparency of forecasting and successful communications with decisionmakers was well illustrated by T. A. Chaudry and G. Dupuy's report on introducing total factor productivity measurements into the budgeting process of telecommunications companies.

It found that:

...support at a high [management] level...is essential for success, but such support can be obtained only if the model builder communicates the essence of the model to the nontechnical managers in simple terms and demonstrates its effectiveness in doing the job that the managers needed to have done.

Two or perhaps three of the workshops were organized around the theme of integrating quantitative and qualitative methods. In several other sessions the discussion of presupposed conditions in the decision environment of the telecommunications and energy services emphasized the necessity of bringing "quantitative scenarios" into play. These industries find themselves particularly affected by three types of qualitative or exogenous factors:

- 1) Macroeconomic conditions, such as the levels of national production, foreign trade balances, world prices, and natural resources availability,
- 2) Government policy and public opinion, particularly as it affects the economic structure of the industry and the pricing and growth of particular services.

- 3) Changing technology, in its effect on costs, the development of new services, the emergence of potential competition, and (particularly in energy supply) its effect on the environment and public health.

Finally, much of the workshop exchanges--and those which continued outside of the formal sessions--concerned technical matters of model specifications, scenario design, and a host of other methodological matters at the heart of the technology of forecasting and futures analysis. Here, my unsystematic sampling of conferee's opinions suggests that for this conference, no less than for more conventionally organized conferences, the opportunity for informal, impromptu conversations and the establishment of new collegial relationships is a key benefit reaped by most conferees.

In an ideal conference, the plenary sessions would reveal fundamental insights that establish new conceptual connections, the prepared papers would vitally interest each listener and provoke animated discussions, and the integration of the conferences purposes and themes would be so apparent that no syntheses would be considered necessary! Alas, this conference--much more than any public enterprise--exists in an environment of limited resources. Thus, simultaneous translation of the small working sessions or advanced distribution of presented papers is outside of the foreseeable budget.

One can, however, make some small suggestions for improved functioning and effectiveness. For the most part, workshop papers were well grouped, but occasionally the paper that would best fit with several others had been placed in a different session; in such cases

much of the benefit of communication was lost. Communication would also have been aided by having a complete listing of each workshop and its papers available at the opening of the conference, along with the abstracts of the papers that were presented. But in the larger scale of the conference purposes these are small matters.

In summary, in ~~these~~ ^{presented} plenary sessions and in ~~the~~ workshops we have all been participants in an experiment to increase the communication among planners and managers, forecasters and future analysts. I have no doubt that we leave with a greater appreciation for the difficulties we face in informing the decisions of public enterprises and public utilities, but also with an expanded understanding of the effort and contributions of our colleagues to this challenging process.

For myself and on behalf of the participants I would like to say an enthusiastic word of thanks to Otto Tomasek and Nicolas Curien, the co-chairman of this conference. You have taken up the organizing responsibilities voluntarily and have expended a great deal of time and personal commitment over the last two years to make this conference possible. In this you have been ably assisted by your industrious planning committee and by the eminent advisory committee to the conference. To the chairman, panelists and speakers: our appreciation for your advance preparation and your presentations here. And to our hosts here at the School for Telecommunications we express our gratitude for your warm hospitality, the smooth functioning of the conference's interrelated sessions, and fine meals we have enjoyed.

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