

Systems Research Institute, Polish Academy of Sciences

Preprints

TRANSITION TO ADVANCED MARKET ECONOMIES



Abstracts

of papers prepared for the IFORS Specialized Conference

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SESSION 16

SYSTEMS MODELLING

BUILDING AND MANAGING LARGE SCALE POLICY MODELS

Frederic H. Murphy

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There are two aspects to building successful policy models. First, the modeling technology chosen must provide a fair representation of the subject modeled. Second, the models must be operable in a reasonably efficient manner so that timely policy analyses can be produced. The choice of technology for representation and operability interact in many ways. For example, some technologies become cumbersome when representing scenarios involving regulations that affect markets. There are tradeoffs such as detail represented versus operability. Using our experience with energy policy models, we show how the choice of modeling technology affects the operations of a policy analysis staff. We illustrate the kinds of decisions one has to make in trading off detail versus size for aggregate models of the electric utility sector.

MANAGEMENT OF ADVANCED ECONOMIES AS COMPLEX SELF ORGANIZING SYSTEMS

Borys Segerstahl

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Oulu, Finland*

This paper reviews three key characteristics, complexity, entropy, and self organization, of advanced market economies. These economies are large-scale dynamic systems which can defeat attempts at strict analysis, prediction, and control. Different management strategies for dealing with the complexity of these systems is discussed. The economic system is assumed to be a self-organizing dissipative structure in Prigogine's sense. The practical problem related to the design of policies intended to move hierarchical economies towards market orientation and self organization is analyzed, assuming that the society in which the economy exists can be described as a complex adaptive system.

DIFFERENTIA SPECIFICA OF MANAGEMENT DECISION

Kazimierz Klośński

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In my paper, I would like to define a notion of management decisions. In my mind, the nature of decision is directive when - and only when - it defines the aim, form or order of doer's behaviour, and there are definite possibilities of enforcement of this aim and these way of action. Differentia specifica of management decisions is just inherent in possibilities of execution of realization of the manner of the resolve or the resolve itself towards to decision maker or tho the decision's performer.

PLENARY DISCUSSION SESSION III

Keynote Speech

OPERATIONS RESEARCH AND ARTIFICIAL INTELLIGENCE APPLICATIONS TO U.S. MISSIONS AND MARKETS: LESSONS FOR POST-COMMUNIST SOCIETIES

George K. Chacko

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Today in the United States, OR succeeds when relevant to corporate survival (markets), as it was to national survival (missions) in August, 1940, in war-torn England. Unless someone high enough hurts enough in the corporation or country, the best OR solutions will languish. Post-communist societies need to have their top leadership accept OR as critical to their national survival. Several real-life instances of OR to applications to markets and missions are developed. AI applications succeed where the problems are highly structured and the alternative choices, while numerous, are clear-cut. Post-communist societies can combine both OR and AI methods to solve significant problems of survival.



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