Beslissingsondersteunende modellen ten behoeve van financiële planning en beleggingsmanagement. Interactie en ontwerp
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SUMMARY

This dissertation is the product of a process of inquiry and research that started many years ago, and has not been finished yet. It can be considered as a report of our scientific exploration. However many lateral movements are not included in this account.

Our central problem is: How can a scientist help in solving problems which are experienced in practice, and how can he give support in filling the gap between theory and practice which is perceived by many people?

Within this context we limited ourself to the problem of constructing decision support models for financial management, and the evaluation of the usefulness of these models.

This book, being a report of a journey, consists mainly of formerly published articles and research-papers. Almost all of them are products of teamwork. They were prepared in different periods, sometimes independent of each other and they were finished at different moments. The function of additional texts, which introduce, connect and evaluate, is to interrelate the individual parts. In this way we hope to put the report in a clear perspective, and to fill gaps in the whole.

The first chapter of the book deals with the nature of the gap between theory and practice, and with the question (or better: the problem) of how it can be filled. Section 1.1 concentrates on methodological aspects of the Theory of Corporate Finance, and subsequently on the implications which can be derived for the choice of the objectives/goals for financial management.

Considered from the viewpoint of financial management it turns out that a 'behavioral-theoretical' approach fits better and is more useful for problem solving than is the micro-economic approach. It places a greater emphasis on the validity of the picture as a representation of actual decision making processes in the complex reality. Our conclusion is that a synthesis of both approaches has value in light of the further development of theories and models. Then the question (or better: the problem) arises how to give shape to such a synthesis, and how to fill the gap between theory and practice.

In section 1.2 we summarize some of the ideas of Russell Ackoff which are relevant for our central problem specification. His criticism on Operational Research and his proposals for redesign and reconstruction can be generalized towards other disciplines which are concerned about the solution of management problems. We concentrate especially on Ackoff's 'interactive planning paradigm' and the 'design approach'. Summarizing Ackoff's criticism: generally there is a big gap between real life decision problems 'in practice' and the way they are assumed to be and treated 'in theory' (or by academic 'specialists').

In practice problems are always part of 'a mess': big, complex and dynamic systems of interdependent problems. Exclusive reliance on analysis of subproblems often means that the 'systemic properties' of the problems are lost. Instead of the optimization paradigm, the concept of rationality and of objectivity which are common (in OR; but the same applies to other disciplines) Ackoff proposes an alternative paradigm, in which problem solving is imbedded in mess management. The art and science of mess management consists of interactive planning. This is the 'design' approach (formerly called the adaptivizing approach) as a synthesis of the 'clinical' and the 'research' approach.
the resolving and solving approach on the level of problem solving. He suggests fundamental changes in the relationship between 'servers and served', returning to interdisciplinarity, and involvement in the research of all those affected by it. He proposes a redesign of the role of professional societies and a radical transformation of the way in which to teach and learn.

We share Ackoff's criticism and his proposals. We have tried to practice these proposals experimentally, and based on our experience we evaluate them as relevant and useful.

Chapters 2, 3 and 4 of this dissertation can be considered as a report of our experience with the process of model building based on Ackoff's design (or: interactive planning) approach in three research projects. Each of these chapters focuses on one of these projects. They relate to the areas of financial management, risk management and investment management respectively. We describe some of the consequences we took in our research in these projects since 1980. Also in the way we reported on this research we tried to take into account the ideas which were summarized before.

In chapter 2 we describe our experiences in the field of interactive model building for financial management. The main part of this chapter is devoted to a research project in which we closely cooperated with staff members of Schiphol International Airport Amsterdam. Chapter 3 accounts for a research project on the subject of risk management in relation to financial management and insurance problems. Part of this research was accomplished in close cooperation with staff from Bekouw Mendes Holding, Insurance Brokers. In chapter 4 we report on a research project on the evaluation and (if possible) improvement of the usefulness of Modern Portfolio Theory (MPT) and MPT based models and approaches for investment management in practical complex decision making situations. The main part of this research took place in cooperation with staff members of the Department of Investment Research of the Amro-bank.

The following conclusions can be summarized.

1. Ackoff's criticism on OR and his proposals for an interactive planning and design approach are also relevant for other disciplines which are concerned with management problems. The micro-economic approach shows, broadly speaking, the same negative points as OR does in Ackoff's review. This is not surprising, if we consider the point of view (the intended purpose) which is market-oriented and not oriented towards management (planning and control) problems in organisations. The behavioural theoretical approach 'performs' better: it is organisation- and management-oriented, aims for valid representations, in order to be able to interact with the process of planning and control.

The combination and integration (synthesis) of the two approaches that we argued for, seems to have the characteristics of an idealised (re-) design.

2. Model building that is in compliance with the interactive planning and design approach offers a possible 'solution' (better: dissolution) for the problem of bringing together knowledge and understanding. It also offers a possibility for the development of a method to arrive at that goal (or ideal). The model can be viewed as an outstanding vehicle for exchange, the model building process as an outstanding mean toward the end of bringing it together.
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10. For disciplines which are concerned with decision making, 'the improvement of decision making' can be taken as a performance measure. Although it is very difficult to make this criterium operational, some characteristics can be posed for a (imaginative) system that satisfies this criterium, e.g.:
- the presence of an interested decision maker, who can evaluate the results of the research(er);
- comparison of the situation at the beginning and at the end must be possible by means of acceptable description in which the decision maker participates;
- the improvement of decision making must continue after finishing the research by the researcher.

That means: the improvement must be recognized by the decision maker; it can be shown that the intervention of the researcher contributed to the improvement; but it does not depend on his remaining attendance.