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# Foreword

*by Tawfik Jelassi*

*Co-ordinator of the EURO Working Group on Decision Support Systems*

The EURO working Group on DSS was launched at the EURO Summer Institute on DSS held in June 1989 in Madeira (Portugal). The participants in that institute felt it was necessary to set up a European forum for continuing exchange and collaboration on DSS-related topics. Since its foundation, the Group has met every year: in 1990 in Fontainebleau, France (host Tawfik Jelassi), in 1994 in Turku, Finland (host: Timo Leino), and in 1995 Nagycerk, Hungary (host: Andras Edelmayer) in 1993 in Sintra, Portugal (host: Antonio Rodriguez), in 1994 in Turku, Finland (host: Timo Leino) and in Samos (host: John Darzentas).

In addition to the above annual meetings, other activities of the Group have consisted of: publishing a newsletter (whose first editor was Albert Angehrn of INSEAD and the current editor is Philip Powell of the Warwick Business School); organising the first IFORS specialised conference on DSS (co-chaired by Jean Pierre Brans of the Free University of Brussels, VUB and Tawfik Jelassi of INSEAD), and editing some special issues of leading academic journals such as the European Journal of Operational Research (vol. 55, no 3, 1991 and vol. 61, nos 1-2, 1992 ), the Journal of Decision Systems (vol. 1, nos 2-3, 1992), and Decision Support Systems (vol. 12, nos 4-5, 1994). Another major activity that the Group is organising is the 7th EURO Mini-Conference on "Decision-Support Systems, Groupware, Multimedia and Electronic Commerce" to take place in Bruges, Belgium, from March 25-27th, 1997.

The diversity of the aforementioned activities has been, as often mentioned by the group members, truly enriching and rewarding. In my opinion, this is mainly due to the educational and cultural background of the members who come from as far afield as Scandinavia, Southern Europe, UK/Ireland, as well as Eastern and Western Europe. Furthermore, their strong motivation and involvement in the above activities have made the Group a friendly forum, cohesive and yet open to different schools of thought in the DSS field.

On behalf of my colleagues in the Working Group, I would like to warmly thank our Samos Hosts, John and Jenny Darzentas as well as Thomas Spyrou and the University of the Aegean for its hospitality and for having edited the proceedings of the meeting. They undoubtedly added another brick to the further construction of our DSS network.

While we humbly take pride in our achievements to date, we look forward to having successful meetings in Ispra (Italy) in June 1996 and in Bruges (Belgium)

in March 1997. We also strive for more value-added activities in the future and to increased collaboration among Group members as to further contribute to the existing body of knowledge in the DSS field.

*Fontainebleau, 6 May 1996*

## Preface

This collection of papers represents some of the work presented at the Sixth Meeting of the EURO Working Group on DSS, which took place on the island of Samos, Greece, in May of 1995.

As has been stated before, the field of DSS is rich and diverse, a claim borne out by this collection. Since the objective of the meeting was to gather together researchers who have been meeting regularly over the past five years to present their current work; to follow up on previous research; and to exchange ideas, no specific theme for the workshop was given. Hence, the resulting collection of papers do not readily form a coherent set. Rather, they are to be seen as representing various aspects of some current preoccupations in the field.

With this in mind, it is interesting to see certain trends. For instance, the domains dealt with are predominantly those with an industrial or corporate setting, although defence, spatial DSS, health units, HCI and security in networks are also present. Lacking from this year's workshop were papers on environmental DSS or group DSS. Further, the distinctions of *active* and *intelligent* DSS which in the literature of only a few years ago were 'hot topics' are not singled out for attention, but in the research presented here, it appears that such attributes are becoming standard in DSSs, and this is certainly borne out by the applications, and some papers dealing with approaches and methods.

The collection has been divided into sections. We cannot deny that these divisions are somewhat arbitrary, as for instance the emphasis of a particular application was often not just that it worked, but that it could work in other situations, whereas sometimes the analysis method was under the microscope, in other cases it was the data capture method, or the organisation of the knowledge base. Other papers straddle the theoretical /applicable boundary. Nevertheless, we make distinctions, in order for the reader to orient himself, and we believe that they will be of some use.

### *I. Approaches and Models*

In the first part are grouped those papers which can be said to describe approaches and models. The order of papers is purely alphabetical, there is no attempt to further subgroup the papers. Brännback's paper gives a detailed and comprehensive review of Strategic Management and proposes that in spite of some opinions to the contrary, DSSs can, in fact, be very helpful here. Darzentas et al. discuss a means of evaluating option related text using a number of fuzzy operators. Some of this work has actually been implemented in a DSS described in a paper in the

Applications section. In a more technical discussion, Keenan promotes the use of

GIS as DSS generators and argues the case for Spatial DSSs. In their paper, Lang and Whinston attempt to deal with the very real problem that decision making incurs: namely that decision makers alternate between different perspectives and levels of details when assembling the information needed to make decisions. The authors' approach is to improve model building and make it possible to extract only the relevant parts of models needed for specific analyses, proposing a query driven system. Papadopoulos and Darzentas present a support system for maintenance services of organisations who typically have to reconcile two conflicting objectives: high level of customer service and low spares inventory. They detail the model that was used to provide the support and suggest where, with modifications, the model can be used in other areas of the service industry. Powell describes the problem and the type of analysis used to yield the results needed by a clinical unit officials needing to make decisions about allocation of resources. He concentrates on data capture, a novel use of bar-codes outside their normal stocktaking/inventory image. The success of this method has been such that the data collection will be used for other analysis leading to other types of support. As can be seen from the brief summary given above, the six papers in this section deal with approaches and models of DSS both from a theoretical but also from a very practical point of view citing actual applications.

## *II. Applications*

In this section three papers report upon actual implemented systems, and describe their construction and reception, as well as commenting upon their special features and use. Darzentas et al. describe work on building a DSS to support users to choose which tools and techniques from a set are the most appropriate for the users' particular situation of concern. The domain here is that of Human Computer Interaction, but the methodology used to build the system is generalisable to other domains. A key feature of the system is its reliance of fuzzy logic to provide the inference machine whereby the decision aid judgements are computed. Spyrou and Telesko describe a DSS component of a wider system for intrusion detection in networks. This component's task is to provide decision support for the system's security officer who is monitoring the system and has to determine when it is appropriate to initiate countermeasures. Finally, in their paper, Walden and Carlsson describe a system that was developed for and is now in use by the forestry industry. This system supports strategic management decisions. It uses knowledge modules which are linked in a hyperknowledge fashion which makes the information more intuitively acceptable to the users.

## *III. Research Notes: Using DSSs*

In this last section, two research notes look at users of DSS and using DSSs. Leino proposes the use of Management games which simulate real life concerns of managers in order to train them in decision making and using DSSs, while Mossberg describes empirical work comparing user driven and research driven projects and reasons about which were more acceptable to and accepted by users.

In conclusion, as is to be expected with such a meeting whose aim is to present work in progress; to exchange ideas and notes with fellow colleagues and to learn from their experience, much work went on which is not captured in these papers. However, we feel it is valid and valuable to present these as an indication of the concerns and progress of workers in the field.

As organisers of the meeting we take this opportunity to publicly thank all those who participated in and made the Samos workshop the event it was, as well as the authors for their help in contributing to this volume.

*John Darzentas*

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