

NEWSLETTER

Operational Research Society of New Zealand (Inc.)

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*The Lord's Prayer contains 56 words.
The Ten Commandments 297 words, the
American Declaration of Independence 300
words, the E.E.C. directive on the export of
duck eggs 26,911 words!*

from the President

On Bad Decisions

As decision analysts, most of us probably have our own concept of what makes a really lousy decision. I myself would rate the agreement the government signed with Comalco in the early sixties as such a decision. In retrospect, only Comalco has gained major benefit, and the agreement stands as a salutary example that one can make an extremely bad bargain even with the best of intentions. It is not my intention to pick on Comalco, which, in most people's estimation must come out of it all as a very astute player. What worries me is the spate of similarly bad decisions that appear to be being made in this country.

In Export Year it would be uncharitable to point out that goods in which we have a competitive advantage, such as agricultural and forest products, are being threatened by protectionist policies in the EEC, Japan and Australia. We are a high risk marginal supplier, in many other export products. The risks of establishing this type of trade are often large, as clothing exporters to Australia will tell you. Perhaps the risks are less with selective import substitution?

Regardless of what the people of Cromwell and Otago may think, the Clutha Hydro scheme looks set to optimise production of cheap electricity, to the exclusion of other values, such as productive farmland, or scenic beauty. The Minister of Works has promised that the Wellington Foothills Motorway will continue on across town to the Mt Victoria Tunnel, even though there is little traffic that need to use this link at peak hours, and there are many more pressing needs for roading finance in the region. Up until 1976, nuclear power had been seriously suggested for New Zealand in the 1990's, even though there appears to be adequate cheaper indigenous sources of energy. The unconcerned attitude of successive governments (but not oppositions!) to a \$1000 million annual balance of payments deficit continues to amaze. We continue to plow the major part of our health care expenditure into the most expensive, but prestigious area, namely hospitals, when it is far from clear that this is the most effective place to put it. There are other examples, I am sure. (Maybe too you can think of cases where good decisions have been made).

Of major interest to operational researchers is the process by which some of these decisions were made, as an analysis may alert us to avoid similar blunders in future. Unfortunately one can only conjecture as to the causes of bad decision making. Domination of the decision-making process by a self-interested technical or political pressure group appears one reason. Inability to generate or consider seriously a meaningful range of alternatives is a usual consequence of this situation. Buck passing to overseas experts who attempt to graft overseas practices to a little understood New Zealand environment is another cause, which probably stems from our own lack of confidence. Our own desire to have the latest and best from overseas is a symptom of this, typified by the nuclear power debate. The instant expert is very much in vogue these days, and there is consequently little interest in carrying out research, developing expertise, and formulating or following long term strategies. Leaving decisions to the interminable wrangling of interdepartmental officials committees may also play its part in producing bad decisions. Greater dissemination of relevant information is also needed.

What seems to be needed is a willingness to adopt a broader systematic approach to decision-making problems. There is a need for an interdisciplinary viewpoint, to allow consideration of more than one objective (c.f. Clutha). A greater range of alternatives courses of action are, as well, likely to be developed by an interdisciplinary group. There is a need for greater quantification, and recourse to data in determining characteristics and likely performance. There is a need to identify risk and uncertainty e.g. in Export prospects, and guard against undesirable outcomes e.g. quotas.

Operational research practice is supposed to embody most of these attributes. Well applied, our approach should have led to better decisions than those described above. There is certainly a need for O.R. analysts today, and the payoffs are large if we are prepared to come out into the real world where the decisions are being made. Perhaps we can learn from the above mistakes.

*Hugh Barr
President.*

NEWS OF MEMBERS

DR. R.R. ALLAN.

Ron has been seconded to the Prime Minister's Department from Beca Carter Hollings & Ferner Ltd. for up to 2 years (or this November maybe?)

He is a member of the seven-member Advisory Group with responsibility for energy, transport and communications.

VACANCY O.R. OFFICER

Alex Harvey Industries are seeking a graduate for their O.R. Department in Auckland. Alex Harvey Industries is a manufacturing company so most of the work is on the area of Budgeting, Inventory Control and Production Planning.

Projects can involve design or running of Computer Systems on the Groups I.B.M. 370.

Applicants should be self starters and preferably have had some experience in the application of O.R. techniques to practical problems.

Apply to: O.R. Manager,
Alex Harvey Industries,
Private Bag,
AUCKLAND.

SMEI Convention

SMEI 4th National Convention in Association with
N.Z. Export Seminar October 11 - 14 in Dunedin.

If you are an exporter wanting to know more of marketing or a marketer seeking knowledge of exporting this is a must.

Further information - P.O. Box 438, Dunedin.

THE PACIFIC CONFERENCE
ON
OPERATIONS RESEARCH
APRIL 23 - 28 1979
Seoul Korea.

for more information write to

A.G. Smith,
C/- MSRU, Department of Health,
P.O. Box 5013,
Wellington.
Phone: (Bus.) 726-600 Wellington.

1977 STUDENT PAPER PRIZE RESULTS

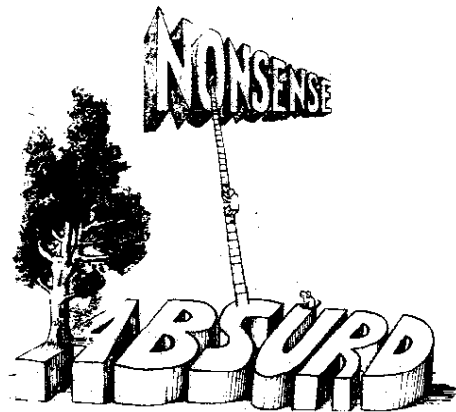
1st Prize: Murray E. Trott, Massey.
(\$100) Optimal Lay-Depth in Suit Cutting - the problem of deciding which suit patterns should be paired together, to minimize cloth wastage at the cutting-out stage while meeting demand for each style of suit, is handled with a network algorithm.

2nd Prize equal: Sue H. Nicklin, Massey.
(\$20) The use of Linear Programming in Food Product Formulations - the implications of including a newly developed raw material into a food product is looked at with respect to its effect on costs and protein levels

2nd Prize equal: Seager J. Mason, Auckland.
Bus Rostering by Computer - the bus rostering problem for the Auckland Regional Authority seen as an integer linear programming model.

The human brain is a marvel of computer technology:-

- storage capacity of 1 million bits
- operates on less than 1 watt
- weighs less than 3 lb
- only complicated piece of machinery capable of being produced with relatively unskilled labour.



Simulation Seminar August 24

Approximately 15 Wellington Branch members and other interested guests attended a 3 hour address on the Topic of Simulation conducted by Dr. Steven Mathewson of Imperial College London. The simulation approach to problem solving was discussed, followed by a more detailed look at the use of program-writer packages to produce simulation models. We were not badgered to accept Dr. Mathewson's own program-writer package, DRAFT, but a 15 minute stint at 5 p.m. during which a complete simulation model of a doctor's surgery was written must have made a major impact on those who were able to stay. Tony Vignaux at V.U.W. would be the obvious first contact for anyone wishing to pursue the matter of program-writer package and further.