



Management Science

Publication details, including instructions for authors and subscription information:
<http://pubsonline.informs.org>

Free For All

To cite this article:

(1969) Free For All. Management Science 15(6):B-237-B-241. <https://doi.org/10.1287/mnsc.15.6.B237>

Full terms and conditions of use: <https://pubsonline.informs.org/Publications/Librarians-Portal/PubsOnLine-Terms-and-Conditions>

This article may be used only for the purposes of research, teaching, and/or private study. Commercial use or systematic downloading (by robots or other automatic processes) is prohibited without explicit Publisher approval, unless otherwise noted. For more information, contact permissions@informs.org.

The Publisher does not warrant or guarantee the article's accuracy, completeness, merchantability, fitness for a particular purpose, or non-infringement. Descriptions of, or references to, products or publications, or inclusion of an advertisement in this article, neither constitutes nor implies a guarantee, endorsement, or support of claims made of that product, publication, or service.

© 1969 INFORMS

Please scroll down for article—it is on subsequent pages



With 12,500 members from nearly 90 countries, INFORMS is the largest international association of operations research (O.R.) and analytics professionals and students. INFORMS provides unique networking and learning opportunities for individual professionals, and organizations of all types and sizes, to better understand and use O.R. and analytics tools and methods to transform strategic visions and achieve better outcomes. For more information on INFORMS, its publications, membership, or meetings visit <http://www.informs.org>



Guest Editorial

Chi-Yuen Wu*

United Nations

Modern Management Techniques for Public Administration of Developing Countries

In the last two decades an expanding fund of management techniques—many of which have come to be labelled as “modern”—has accumulated. These modern techniques may open up new possibilities for the improvement of public administration in developing countries by their application to pertinent administrative problems. There is no doubt that modern management techniques are applicable both to the public and the private sectors. However, the question has been raised as to whether developing countries are ready for utilizing such techniques.

There is the view that modern management techniques are too sophisticated for the developing countries, which need only simple techniques. Such a view does not seem to conform to the actual situation.

In terms of the complexities of the development problems of such countries, the need is for effective problem-solving techniques which may be no less complex than the problems themselves. The variety of problems concerning best allocation of scarce resources, the problem of how to make the most rational use of the limited number of trained personnel (especially scientists and technologists), the problem of designing better systems of inventories and supplies, the problems of effective sequencing and controlling multiple construction activities, of co-ordinating transport and communications, of moving mail, of traffic congestion in the ports and cities, of large-scale food distribution, of predicting and overcoming ever-present bottlenecks—these are some of the typical examples of recurrent problems that are readily amenable to effective solution through the use of modern management techniques. Some of the administrative units in the public sector, especially public enterprises—even in relatively small developing countries—are large and complex organizations. Quite a few of them are

* The author is the Director of the United Nations Public Administration Division. The views expressed are those of the author and do not necessarily represent those of the United Nations.

comparable in size and in complexity to some of the large corporations of the developed countries where modern management methods have been used successfully.

It should be readily conceded, however, that rather limited use has so far been made of modern management techniques in developing countries. Attempts at their utilization for practical problem-solving are scattered and scanty. There are a number of reasons for this apparent lack of demand on the part of most public administrators in the developing countries. An important one is that only a few of these administrators have the opportunity of keeping abreast of modern management techniques. Some are confused by the "fads," "gadgetry" and "jargon" associated with modern management techniques and are sceptical about them. Others are so impressed by the degree of sophistication of automatic data processing machines and other devices used in modern management technology that they may feel that these devices furnish the remedy for all their problems. Should this be due to "over-selling," they may eventually become disillusioned and turn against the technology itself.

The need is therefore for the senior administrator to understand those basic characteristics of modern management techniques which are particularly significant for developing countries. If senior administrators are apprised of some common characteristics, such as follows, they may better appreciate the potential of modern management techniques in public administration—as well as their limitations in particular situations.

First of all, modern management techniques are largely the creatures of science and technology. A common characteristic of all such techniques is the emphasis on the scientific method as the basis for decision-making rather than intuition, pragmatic approach, or rule-of-thumb prescriptions. Scientific method is closely related to quantitative analysis and experimentation. In the case of management techniques, this has meant an emphasis on measurement and building of models and their manipulation through the process of simulation to take the place of scientific laboratory tests. Mathematics has provided methodology for building sophisticated models and computers have made it easy to solve problems involving a multiplicity of variables.

Another common characteristic of modern management techniques is the systems approach to problems, with its emphasis on the organization as an integrated whole, and on the interaction, interdependency, and integration of its parts and elements. This approach views a problem in its totality. It provides a framework for recognizing internal and external environmental factors and recognizing the nature of the complex problems. It enables the manager or the administrator to make decisions with full knowledge of their total impact.

Modern management techniques also are characterized by their interdisciplinary approach to problems. Each discipline of science represents one way of looking at the problems. The interdisciplinary approach would have a problem examined from different angles by different disciplines. The interdisciplinary approach is another way of viewing a problem in its totality from different perspectives.

To emphasize these three common characteristics is not to underestimate the importance either of the technical, mathematical, and computational details of the modern management techniques or of the complementary hardwares such as the automatic data processing machines. These three characteristics do constitute an effective approach to the solution of development problems.

The first step in applying modern management technology to the developing countries is to convert the administrators to this new way of thinking and to this rational approach to problem-solving. It is not a requirement that they be acquainted with the

technical and computational details of these techniques. In fact, it would be risky and often counter-productive to overwhelm them with these technical details. What they need is an awareness of the broad logic of these techniques: an appreciation of their potential for solving prototypes of problems which are recurrent in the experience of the practicing administrator. With such an appreciation, the administrator will be able to approach complex problems in terms of a systems concept, in terms of an interdisciplinary viewpoint, and in terms of the procedures of scientific method.

Another essential step is to identify the administrative problems of the developing countries that are particularly suitable for application of modern management techniques. In order to do so, it would be necessary to analyse different management techniques with a view to determining their applicability to different situations. As is generally recognized, modern techniques known under such labels as management science, operations research, systems engineering, managerial economics, or data processing and information systems have thus far been much more effective in dealing with problems relating to materials than problems relating to men, with problems which can be quantified than those which cannot easily be quantified, with tactical problems than with strategic problems, with repetitive problems than with non-repetitive ones, and with mechanical than with human relations. Such techniques may be applicable to a large number of public enterprises and economic development projects administered by the governments of the developing countries, especially on problems relating to machine-to-machine systems. When we come to man-to-man systems or man-to-machine systems, we have to resort to still another group of management techniques, which are based on the behavioural sciences, to deal with human behaviour and relations such as attitudes, motivations, incentives, group dynamics, participation, mass communication and persuasion. This group of techniques is particularly applicable to problems relating to personnel administration and training.

There are other techniques which, although successfully used in specific cases, are still in experimental or tentative phases so far as their general applicability is concerned, even in the developed countries. The new "Systems Budgeting" or "Planning-Programming and Budgeting System" (PPBS) may be cited as an example. While theoretically PPBS represents a major advance on earlier budgeting techniques, in joining budgeting with programme planning, there are problems which have to be sorted out in its actual use across the board in public administration, especially for developing countries.

The third step is to adapt the techniques proven to be successful in developed countries for use in the environment of developing countries. In fact there exist great differences among developing countries, due to differences in stages of development, in political and administrative systems, in economic and cultural background, and in the degree of sophistication on the part of the public administrators. Techniques suitable for one developing country may not be applicable to another. Certain "hardware," "software," or "models" used in developed countries may be relevant to the developing countries even without modifications. In other cases new models of direct pertinence to the problems of specific developing countries will be needed to enable the use of modern management techniques with better results. Since most of the techniques involve the use of machines and computers, there may be a false impression about their easy transference from one country to another. The important things are not the machines, but the models and the problems to be dealt with by these machines and these must be developed in the light of the local conditions.

If one assumes that the problems in the developing countries which can be better

solved by modern management technology can be identified and also that the relevant technique or techniques to be used for each specific problem can be identified or developed, one still faces a number of difficulties, including the paucity of information, the lack of well-defined systems and sub-systems, the shortage of trained personnel and the high costs of the machines and hardware frequently required for application of the techniques. Many of the modern techniques may well be beyond the existing financial and personnel capacity of some developing countries. In order to help in solving these problems it would be very useful for the management technologists to work out techniques which can economize the use of machines and technical personnel. In any case, one of the urgent tasks is training. Modern management techniques require a large number of highly-trained people in a variety of subjects. Most of the developing countries do not have enough trained personnel. The required number of personnel may have to be trained either abroad, locally or through a combination of arrangements. The important thing is that the training of management scientists and technicians should build the technical competence and attitudes conducive to their working in the developing countries.

There is also the problem of disseminating information locally on the use of modern management techniques. In every country, there may be individuals who are highly qualified to advise and assist in the use of such techniques. There may be organizations which are leaders in the field of management. The problem in such cases is generally the need for encouraging the best use of locally available know-how and experience.

Even assuming that all these problems are taken care of, certain broader questions arise, such as whether modern management techniques have the ability to deal with heterogeneous organizations and with problems of strategies of development in the environment of developing countries involving rapid and, at times, turbulent change. While we feel that use of modern management techniques has great potential for public administration in developing countries, we want to caution against over-selling these techniques as the panacea for all ills. What we are advocating is a positive but critical look at the whole question.

To explore these potentialities and limitations and to grapple with these issues, the United Nations will convene an Inter-regional Seminar on the Use of Modern Management Techniques in the Public Administration of Developing Countries, possibly in the U.S.A. in 1970. The seminar will review the major trends in modern management techniques and their applicability to the public administration of developing countries. The seminar will be attended by senior administrators from the developing countries and we hope that it will contribute to development of an understanding of the conditions (including organizational and administrative) for the successful introduction and utilization of modern management techniques, as well as of the environmental factors affecting the use of such techniques generally and in specific activities. The purpose of the seminar is not to promote or discourage particular techniques, but to approach the problem in an open way with the basic objective of analyzing the possibilities and limitations of modern management techniques as an instrument for the administration of economic and social development.

At present, we are engaged in collecting and systemizing information on the use of modern management techniques in different countries and situations. We believe that the readers of this Journal can make a significant contribution to the search for answers to this important question. The developed countries have made extensive use of some of the techniques and their experience in the use of specific techniques to solve problems which are comparable to those faced by the developing countries will be very useful to the latter.

Some of the developing countries have also experimented with the use of modern management techniques. Actual cases of application are, however, not often recorded. A considerable segment of this experience is still unpublished. It would be helpful if the examples of developing countries which have used such techniques could be written up as case studies to provide lessons of experience for the benefit of others.

There is also the question of promoting exchange of information on use of modern management techniques, both locally and internationally. Also related to this is the question of training of highly specialized skills required for the use of modern management techniques. What are the best ways and means of tackling these problems?

We would welcome comments on such questions from the readers of this Journal. Based on their experience of use of modern management techniques in different countries, they can, we believe, contribute case studies and analytical essays on the subject which will contribute greatly to the progress of the disciplines as well as to the progress of developing countries.

Chi-Yuen Wu
Public Administration Division
United Nations
New York City

**The "Free for All" column is dedicated to the uninhibited exchange
of relevant opinion.**

Copyright 1969, by INFORMS, all rights reserved. Copyright of Management Science is the property of INFORMS: Institute for Operations Research and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.