

Part of the problem in Government is size, coupled with the check and balance system under which we operate. As a former manager of industrial R&D, I was given certain financial and technical objectives to achieve each year, a budget within which I had to operate, and a great deal of authority to carry out technical operations. If I did not meet the objectives, the penalty was spelled out, or at least understood—fired or shelved. The incentives for achieving or exceeding them were also well understood.

I was part of a larger organization and therefore had to interact with force and situations outside my own domain. We had a check-and-balance system like the Government's, but I believe we had more emphasis on the "balances" and less on the "checks". I had ready access to the policy level, which is more possible in a smaller organization, and I could always have my day in court. This doesn't mean that I didn't lose a few appeals, but the opportunity to appeal was there. Probably one of my greatest management flexibilities was that I could make the hire and fire decisions and had the authority to deploy my technical resources rapidly to meet new situations.

I believe that with the application of many of these same principles to the creative RDT&E functions within Government, we would soon see evidence of increased efficiency and effectiveness. The advantages could be in terms of more rapid decision-making and lower costs of operations through reduction in supervisory levels, unnecessary reporting, and administrative overhead. A major disadvantage could be the weakening of the organizational ties between a laboratory and its parent agency. Shifting the balance too far toward complete self-determination could tend to isolate a laboratory from the mainstream activities of its parent. However, I am positive that a proper and balanced relationship could be achieved.

Question No. 11. Some people believe that manpower ceilings for laboratories actually promote waste and inefficiency, and they cite industrial practices as an example where such a technique is seldom used. Do you believe that manpower ceilings are or are not an effective management tool? Why?

Answer. It is difficult to examine a single control in the context of the question asked. The problem generally is the multiplicity of many overlapping controls which seriously impede the optimum allocation of resources. I believe that too little attention has been paid to the combined impact of many individual resource controls upon the effectiveness of an organization. As an example, we recently made a theoretical study* of the impact on operational effectiveness of three overlapping controls which were in effect at the time:

1. Control of high-grade positions.
2. Control over average salary.
3. Control over manpower ceilings.

In our study, we used indifference curves and maximizing principles of economic analysis to demonstrate how management control over these three factors prevent the line manager from optimizing his organization's effectiveness. For the sake of simplicity and clarity, we restricted the analysis to a two-dimensional framework, although it can easily be extended to as many dimensions as desired, depending upon the number of inputs.

The details of the analysis are given in a tab to this question. As may be seen, particularly in Figures 5 and 8 of the Tab A, the general effects of these simultaneous constraints is to reduce the ability of a local line manager to achieve optimum effectiveness and productivity. Further, an important point to remember is that application of such simultaneous controls cannot increase effectiveness but can only reduce it.

Manpower controls are really an indirect attempt to control dollars. I would prefer to attack the principal problem directly, rather than indirectly.

*Nicolai, F. A., Management Analysis Note MAM 65-2, ODDR & E, October 1, 1965.