Control should be instituted at each project milestone, an obvious opportunity for phase-gate controls. If research results are not as expected or desired, milestones provide a convenient opportunity to assess the state of progress, the value of accomplishment to date, the probability of valuable results in the future, and the desirability of changes in the research design. Again, the object of control is to ensure that the research design is sound and is being carried out as planned or amended. The review process should be participative. Unilateral judgments from the superior are not apt to be accepted or effective. Care must be taken not to overstress method as opposed to result. Method is controllable, and should be controlled, but results are still what count.

Personnel Reassignment This type of control is straightforward—individuals who are productive are kept; those who are not are moved to other jobs or to other organizations. Problems with this technique can arise because it is easy to create an elite group. While the favored few are highly motivated to further achievement, everyone else tends to be demotivated. It is also important not to apply control with too fine an edge. While it is not particularly difficult to identify those who fall in the top and bottom quartiles of productivity, it is usually quite hard to make clear distinctions between people in the middle quartiles.

Control of Input Resources In this case, the focus is on efficiency. The ability to manipulate input resources carries with it considerable control over output. Obviously, efficiency is not synonymous with creativity, but the converse is equally untrue—creativity is not synonymous with the extravagant use of resources.

The results flowing from creative activity tend to arrive in batches. Considerable resource expenditure may occur with no visible results, but then, seemingly all of a sudden, many outcomes may be delivered. The milestones for application of resource control must therefore be chosen with great care. The controller who decides to withhold resources just before the fruition of a research project is apt to become an ex-controller.

Sound judgment argues for some blend of these three approaches when controlling creative projects. The first and third approaches concentrate on process because process is observable and can be affected. But process is not the matter of moment; results are. The second approach requires us to measure (or at least to recognize) output when it occurs. This is often quite difficult. Thus, the wise PM will use all three approaches: checking process and method, manipulating resources, and culling those who cannot or do not produce.

In the next chapter, we initiate the project closure part of the text, beginning with evaluation and auditing. This topic is closely related to the postcontrol topics in this chapter.

Summary

As the final subject in the project implementation part of the text, this chapter described the project control process in the planning–monitoring–controlling cycle. The need for control was discussed, and the three types available were described. Then the design of control systems was addressed, including management's role, achieving the proper balance, and attaining control of creative activity as well as handling changes.

- Control is directed to scope, cost, and time.
- The two fundamental purposes of control are to regulate results through altering activity and to conserve the organization's physical, human, and financial assets.
- The three main types of control processes are cybernetic, go/no-go, and postcontrol.