MANAGEMENT CONTROL SYSTEMS

Performance Measurement, Evaluation and Incentives

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Fourth Edition

MANAGEMENT
CONTROL SYSTEMS

Exhibit 2 Financial highlights of the two divisions of Atlantis Agricultural Company ($ millions)

	Crop Chemicals	Animal Sciences
Sales		
2010	1,067	86
2009	1,073	79
2008	1,256	82
Operating Income (Loss)		
2010	318	(35)
2009	177	(92)
2008	438	(49)
R&D Expenses		
2010	94	41
2009	110	32
2008	107	22

Exhibit 3 Corporate R&D costs by major category (%)

	2010	2009	2009	2007	2006
Class I	26%	27%	29%	32%	32%
Class II	30	23	22	23	24
Class III	40	42	40	35	30
Other*	4	8	9	10	14
Total	100%	100%	100%	100%	100%

*Includes corporate unclassified administrative costs, (e.g., maintenance of the central research laboratory).

Exhibit 4 Distribution of R&D costs between corporate and operating units

	2010 (%)	2009 (%)
Directly controlled and administered by the operating units	80%	80%
Controlled and administered by corporate R&D:		
- Charged to operating units:		
- on a fee-for-service basis	9	4
- allocated as a "corporate charge" based on net investment	1	6
- Reported as part of corporate R&D	10	10
Total R&D Cost	100%	100%

Exhibit 5 Corporate R&D costs, budget vs. actual ($ millions)

	2010 Budget	2009 Actual	2010 Budget minus 2009 Actual Costs
Biotech Product Discovery[1]	$42.9	$40.6	$2.3
Technology Management[2]	2.4	2.4	0
Distributed Research and Development[3]	45.2	49.9	(4.7)
Total corporate R&D	$90.5	$92.9	$(2.4)

[1]Retained by the corporate R&D function and reported as an operating segment.
[2]Allocated to the operating units as an element of corporate overhead.
[3]Charged directly to the operating units based upon measured services rendered and/or negotiated amounts.

Exhibit 6 Animal Sciences Division ($ millions)

	2010 Budget	2009 Budget
Sales	$127	$86
R&D	61	41
Other operating costs	109	80
Operating income (loss)	$(43)	$(35)

This case was prepared by Professor Kenneth A. Merchant.

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CHAPTER 6
Designing and Evaluating Management Control Systems

The preceding chapters described the range of management controls that can be used and how they affect behaviors. This chapter discusses a general framework that can be used to design management control systems (MCSs) or to improve those already in use.

The process of designing and improving MCSs requires addressing two basic questions: *What is desired?* and *What is likely to happen?* If what is likely is different from what is desired, then managers must subsequently address the following two MCS-design questions: *What controls should be used?* and *How tightly should each be applied?* The following sections in this chapter describe how to address each of these questions. The chapter concludes with some observations about common management control issues faced when designing or improving MCSs.

What is desired and *what is likely*

MCSs cannot be designed or evaluated without an understanding of what the organization wants the employees to do. *Objectives* and, more importantly, *strategies* that are derived from a good understanding of the organization's objectives often provide important guides to the actions that are expected. A better understanding of objectives and strategies yields a larger set of feasible control alternatives, provides a better chance that each control alternative is appropriately tightly applied, and reduces the chance of producing behavioral displacement problems.

Organizations must determine what is desired, but they also need to try to assess what is likely to happen. This essentially amounts to assessing the likelihood that each of the control problems are present or will occur: lack of direction, motivational problems, or personal limitations. In other words, organizations should ask whether their employees understand what they are expected to do (key actions) or to accomplish (key results), whether they are properly motivated, and whether they are able to fulfill their required roles.

If the likely actions or results differ from the desired actions or results, more or different MCSs might be called for, depending on the severity of the problems and the costs of the MCSs that could be used to solve the problems. In this situation, managers should then address the questions about what MCSs to use and how tightly to apply them.

Choice of controls

The different types of management controls are not equally effective at addressing each of the management control problems. Table 6.1 provides a summary of the control problems each of the types of management controls addresses. It shows, for example, that behavioral constraints do not help solve lack-of-direction problems; hence, if direction is a significant problem in the area of concern, managers will have to consider other forms of control.

The specific set of management controls to be selected from the feasible alternatives should be those that will provide the greatest *net* benefits (i.e. benefits less costs). The benefits of a MCS are derived from the increased probability of success or obtaining the desired outcomes. Since management controls are not costless to implement and operate, these costs must be put against the expected benefits of improved control.

Table 6.1 Control types and control problems

Control types	Control problems		
	Lack of direction	Motivational problems	Personal limitations
Results controls			
Results accountability	x	x	
Action controls			
Behavioral constraints		x	
Preaction reviews	x	x	x
Action accountability	x	x	x
Redundancy			x
Personnel/cultural controls			
Selection and placement	x	x	x
Training	x		x
Provision of necessary resources			x
Creation of a strong organizational culture	x	x	
Group-based rewards	x	x	

Source: K. A. Merchant, *Modern Management Control Systems: Text and Cases* (Upper Saddle River, NJ: Prentice Hall, 1998), p. 253.

Personnel/cultural controls as an initial consideration

In deciding among the many management control alternatives, managers should start by considering how adequate personnel or cultural controls will be, or can be made to be. Personnel/cultural controls are worthy of first consideration because they have relatively few harmful side effects and relatively low out-of-pocket costs. In some cases, such as in small organizations, personnel/cultural controls may provide effective management control by themselves even though they are unlikely to be sufficient.

For example, when Marc Brownstein, president of the Brownstein Group, a small family-run advertising and public relations firm in Philadelphia, decided to take advice from his managers to tackle high turnover (30% per year among a 20-plus-person agency) and low employee

morale, he was perplexed when he learned what his employees were asking for. They were not greatly concerned with the levels of salaries or bonuses (although there were some requests for better employee benefits and some "perks" such as office decorations and technology updates). Instead, they wanted to get more involved with the business, such as by having a say about which new accounts the firm should solicit. They also wanted better communication from top management. They felt that Mr. Brownstein did not listen very well and offered little performance feedback. In other words, the important requests were more about communication and decision-making involvement (personnel and cultural controls) than about money (results control). Mr. Brownstein heeded his personnel's advice. Soon after changes were made, the company's billings were at record levels; turnover dropped by half; and, for the first time in its history, the agency won the "Oscar" of the ad world.[1] Many of these changes were not expensive, or cumbersome to implement, yet seemed to produce some good effects.

Even in settings where personnel/cultural controls are not sufficiently reliable by themselves, it is useful to focus on them first because they will have to be relied upon to some extent no matter what other forms of management control are used. Considering personnel/cultural controls first allows organizations to assess how reliable these forms of management control are and, then, determine the extent to which they should consider supplementing them with other forms of control.

Turning to some harder evidence about organizational culture as an important aspect of cultural control, as we discussed in Chapter 3, a recent survey of more than 1,800 CEOs and CFOs around the world provided some striking findings:[2]

> **More than 90 percent of executives said culture is important at their firms, and 78 percent said culture is among the top five things that make their company valuable. But only 15 percent said their own corporate culture is exactly where it needed to be, and 92 percent said they believe improving their firm's corporate culture would improve the value of the company. More than 50 percent of executives said corporate culture influences productivity, creativity, profitability, the value of a firm and growth rates.**

One of the authors of the study, Professor Shiva Rajgopal at Columbia University, added: "Our research provides systematic evidence that effective cultures are less likely to be associated with short-termism, unethical behavior or earnings management to pad quarterly earnings."[3] These are quite significant desirable outcomes for a control system to be able to attain, but equally, let us not ignore that only 15% said that their company culture was where it needed to be, thus underlining both the *potency* as well as the *insufficiency* of culture. Surely, culture is important, but how it can be made more effective to attain good control is poorly understood, where culture is often acclaimed when an organization succeeds, but blamed when it fails.

Because putting one's finger on it is hard, culture is often the "residual" explanation for sustained success or dramatic failure after all the other, more direct reasons or "causes" have been exhausted, such as internal control weaknesses (an action control) or misfiring incentive systems (a results control) in the case of failures. Culture was in that sense an oft-cited reason for the calamity in the financial services sector following the 2009 financial crisis;[4] that said, many organizations have been credited for their strong cultures as well.[5]

Culture was also evoked in the recent Volkswagen "defeat devices" cheating scandal. Interestingly–for reasons related to our inclusive term *personnel/cultural* controls–Andrew Hill, a columnist in The Financial Times, wrote the following in light of the Volkswagen case:[6]

> **The English version of [VW's] statement said it had detected "a mindset in some areas of the company that tolerated breaches of rules." The group was implementing structural reforms, it went on, but it had also initiated a "new mindset."**

> "We can have the best people, and a great organization, but we can do nothing without the right attitude and mentality," explained Matthias Müller, the chief executive.
>
> VW's choice of words is instructive. We would have bet that corporate culture–that battered old scapegoat for many scandals–would come in for a further beating.
>
> "Mindset" is in any case a more useful term. It is easy for people to blame bad culture, without themselves feeling any responsibility for the toxic atmosphere. At the same time, each bank, drug company, or defence contractor that promises to clean up its culture, only to mess up again, reinforces the impression that it is hard to change. Mindset is more personal, and plenty of studies show individuals are quite capable of reforming their attitudes and mentality.

All told, then, personnel/cultural controls will be, by themselves, inevitably insufficient. This resonates with the saying that if nobody stole cars, no car would have to be locked. But if no car were locked, somebody would start stealing them. While most employees are probably honest most of the time, there will always be some who are less than totally honest. Organizations therefore cannot fully rely on the absolute righteousness or trustworthiness of their employees. Equally, organizations can hardly count on employees who are so "fascinated by their assignments; jumping out of their skins with excitement about what's next; eagerly pursuing better solutions and new initiatives" that they can rule out using any other types of controls.[7] Therefore, it will be necessary to supplement personnel/cultural controls with controls over actions, results, or both.

Knowing the limitations of personnel/cultural controls, choices among the various forms of action and results controls should depend on the particular advantages and disadvantages each has in the specific setting in question.

Advantages and disadvantages of action controls

Perhaps the most significant advantage of action controls is that they are the most direct form of control. If it is absolutely essential that an action be performed properly the first time (e.g. a significant investment decision), perhaps because the decision is not easily reversible, action controls usually provide the best control because the control-action link is direct. Further, if controls over the actions themselves are judged to be adequate, there is no need to monitor results.

Action controls also provide several other advantages. Action controls tend to lead to documentation of the accumulation of knowledge as to what works best. The documents that are produced (e.g. policies and procedures) are an efficient way to transfer knowledge to the employees who are performing the actions. They also act as a form of organizational memory, so that the knowledge is not lost if, for example, key employees leave the organization.

Action controls, particularly in the form of policies and procedures, also are an efficient way to aid organizational coordination. They increase the predictability of actions and reduce the amount of inter-organizational information flows required to achieve a coordinated effort. As such, they are a key element in bureaucratic forms of organization in a positive sense; that is, in settings where standardization and routinization are desirable organizational attributes.

But action controls have a number of disadvantages. First, there is a severe *feasibility limitation*. As we discussed earlier, excellent knowledge of what actions are desirable exists only for highly routinized jobs. Moreover, there is a tendency, with action-accountability controls in particular, to focus on known or established actions of lesser importance that are easy to monitor, thereby potentially causing *behavioral displacement*, such as the means-ends inversion we discussed in Chapter 5.

A good example is a program that a commercial-industrial laundry company implemented to reduce tardiness and absence, which had hurt its productivity because if one tardy worker falls