

A GRADUALIST'S APPROACH TO MANAGEMENT^a

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ABSTRACT: Management philosophies and various approaches to applying these philosophies are described. To achieve organizational continuity, it is important to reduce conflict to a minimum. To do this, the goals of the firm and the goals of the individual should parallel each other; benefits in money and satisfaction should be as equally distributed as possible; and perks should be relatively uniform. Special programs, such as programs that spread ownership to full-time employees and provide for mandatory sale of stock back to the company at age 65 are effective motivators. Efforts should be made to develop the kinds of work people want to do in locations where they want to be. Although many management consultants believe that bonus systems are demotivators, in a professional services firm with an open management style, in which all employees are continually advised of the operating data, a bonus system can be an important motivator. Long-range strategic planning should grow with the company. Both planning successes and planning failures should be expected.

INTRODUCTION

A wide variety of management philosophies and styles have been successful in directing professional organizations. Philosophies on management and management experiences generated by nearly 30 years in a rapidly growing engineering firm are described in hopes that they may aid others in developing their own approaches to management in their particular sphere of activity.

Perhaps there is a certain amount of irony that, as the 1983 recipient of the Parcel-Sverdrup Management Award, I really never wanted to be a manager, having gone to engineering school with a burning desire to be a design engineer. None of the four of us who started what is now CH2M HILL wanted to be the manager, although I think we all agreed that management was important. We decided to share the management duties. Holly Cornell, who had been a bank messenger between his high school and college years, was to look after finances; Burke Hayes, who had worked in consulting offices, was to look after equipment; and although we didn't visualize having many employees, I was to look after employees—getting them hired and paid. We soon concluded that it would be better to have a single person responsible for the management duties, and agreed that each of us would take a 6-month turn. Holly Cornell, the "C" of CH2M, handled the management chores for 6 months; I followed him, and at the end of my 6-month term, the conclusion was that the terms ought to be somewhat longer. My term went nearly 30 years, however; each year I suggested that somebody else take over. You might conclude that if a person works hard for nearly 30 years for

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the same company and never gets a promotion, he surely can't be very bright.

MANAGEMENT APPROACHES

Since CH2M HILL is basically the only engineering organization with which I am familiar, most of its approaches to management are the ones I think are good. These will be presented here, with a few personal thoughts on how an individual manager should practice.

Continuity and Management Style

First, at CH2M, we were fortunate. Right after World War II was a good time to start a fledgling business. The four of us who started the business, plus two very capable people that soon joined us, managed to stay together for over 25 years. This gave us continuity. Engineering usually involves a continuous building and dissolving of teams and a lot of moving about. For people to feel comfortable, this constant change should take place in an organization that is stable overall. Changes should involve easy transitions.

Because of the basic nature of the principals involved, there was stability. An atmosphere developed in which professionals shouldered much personal responsibility; a structure developed that allowed key managers to manage. Our staff of young bright people was willing to ask for help when needed and get it and accept it. The style that developed was open and participative before I ever heard of McGregor's X and Y theory of management. The style may have developed naturally partly because all of us were fairly young and of limited experience. We kept getting involved in things that were new to us; we had to ask many questions and get together often to determine what was best to do. The open management style fostered communication even through the grapevine, which is one of the fastest all-reaching communication systems available.

Reducing Conflict

We seemed to all intuitively believe it important to reduce conflict. It seemed that the way to reduce conflict was to set similar goals for the firm and the people involved, to make benefits in money and satisfaction as equal as possible. As an example, the six early partners were equal partners and received the same pay until, after a good number of years, we went through our first law suit. The general manager was rather roughly handled by the client, contractor, and opposing attorneys. It was then decided that the general manager would get 10% more salary.

In addition to spreading the return in dollars and satisfaction, we tried to maintain relatively uniform perks throughout the firm. I think that extensive perks for managers tend to trap the recipients. If the recipients are conscientious, they feel they have to work overly hard to justify them, and then the rest of the people reason that those receiving the perks might as well carry the load. We tried to avoid position perks such as reserved parking spaces, thick rugs, swivel "thrones" and oversized offices.

Relative Importance of Management

My next statements may be considered heresay in a management group. Nevertheless, my feeling is that while management is an important job, that requires certain skills, it is not always the most important job. There are other jobs in an organization that require special skill that contribute as much and thus should be as highly paid. Managers tend to depict themselves as lonely men at the top under great stress. Managers tend to isolate themselves from their staffs through all kinds of devices, including private secretaries. If they would gather people around to help them, openly discuss the problems and share the returns, they wouldn't be so lonely at the top. Of course there is stress involved in the hard management decisions, but a structural engineer also experiences stress when he sees a structure he designed, particularly a design based on extremely advanced theory, being buffeted by gale-force winds.

"Permissive" Management

At CH2M HILL, we developed a great deal of geographical and technical diversity. In later years, this was done by planning and design, but in the early years, it was a matter of the open and "permissive" management style. If an employee wanted to work in a different form of engineering or to practice engineering in a different climate or location, management's response was often: "Well, fine, why don't we get you into this kind of work-as part of the firm framework?" Or management might expand company operation in the location where the person wanted to go.

MATRIX ORGANIZATION

At CH2M HILL, we developed a matrix management system to assure high-quality, uniform work throughout the firm. After we had established several offices, something different in the way of organization seemed necessary to reach these goals. I think most technical organizations, whether they be engineering firms, accounting firms, etc., have some kind of a matrix, even though it may be informal. In 1971, we formalized the organization we already had by making the regional managers, who are office managers, responsible for geographic areas. A line was drawn around their region on a map, and the regional managers became responsible for marketing in their areas and for satisfying their clients' needs.

The Discipline Organization

Overlaying the office network is a technical discipline organization. Each discipline director has responsibility for technical excellence in his discipline throughout the firm—responsibility to see that every office doesn't reinvent the wheel, but to ensure that *some office invents the wheel*. At CH2M HILL, disciplines include civil engineering, water and waste engineering, industrial and energy engineering (which are really mechanical and electrical engineering), and so on, for a total of nine disciplines. I think that the matrix is a good organizational structure for both private and public technical organizations.

On the surface, the matrix is probably the most inefficient form of organization possible. In comparison, a dictatorship could be considered the most efficient, but it's most efficient without considering the human equation. Creative people do not like to, and generally will not, create well in a dictatorial environment.

Basically, the project people in a matrix organization have two bosses, which can be confusing. The discipline directors, in fulfilling their responsibility for technical excellence, are not able to get the job done by looking over the workers' shoulders day by day. Better is the use of standards and, more importantly, the selection and assignment of people. Thus, the discipline directors and office managers both have responsibility and veto power in regard to who is hired and who is assigned to projects.

Through the discipline system, the skills of people throughout the firm are available in any region, as a cloud of talent scattered about the world that the discipline director can call upon to rain down whenever needed.

OWNERSHIP

CH2M HILL is employee-owned, a very important factor in keeping the goals of the firm parallel to the goals of the people. I think our primary reason for spreading ownership was to hold and motivate strong people. A factor, of course, was that it would facilitate an easy transition from old to new ownership, but at the time the program was formulated, most of us were young and not much concerned about ownership transfer. We first added six investing partners to the original six equal partners, who became divesting partners. A portion of each investors' annual bonus was to go toward the acquisition of ownership, at a gradual rate.

When CH2M HILL became a corporation, the program became more formalized. A provision was included requiring stockholders to give up ownership at the end of the year in which they became 65 years old. To be an owner, one has to be a full-time worker. These policies were made to prevent a group of older people from controlling the firm. It was feared that these people might not want to work hard any more, or might want to spend their winters in Palm Springs.

In the late '60s and early '70s, it seemed that every week somebody came in to talk about making us a public corporation or acquiring our firm. In no case did it appear that such changes would be good for the rank and file of the people; thus, the offers were not seriously considered.

Benefits of the Ownership Program

The ownership program has, of course, developed over the years; at present the 400 employee stockholders, termed "key employees," receive a bonus in stock, unless they already have a set maximum. The maximum is about 1% of the shares outstanding. Also, part of the bonus is in cash to reimburse the employee for tax on the stock received. I believe strongly that the ownership program has been, along with a policy against hiring the children of the principals, a major factor in attracting and holding strong people.

BONUS SYSTEM

This outline of the ownership program, which is basically a bonus and retirement program, leads us to philosophize a bit about bonus systems. In our early years, we paid each employee an annual bonus just before Christmas. Individual bonuses were paid on a rather arbitrary basis. We soon realized that employees who had made major efforts and done great things the previous January sometimes got overlooked or forgotten at Christmas. At the same time, noteworthy efforts in November were more likely to favorably affect a person's bonus. We spend a great deal of effort in year-long evaluation and rating activities for salary and advancement purposes. At present, our general bonus, as well as the "key employee" or major ownership bonus, is tied to this evaluation and rating system.

Firm-Wide Basis for Distribution

When we established the first branch office in Boise, Idaho, we decided to distribute a bonus to the manager of each branch or regional office based on the financial results from that office. After about two years, we decided against it, since we couldn't really tell where the profits were made from any particular work. If a job made money, was it because the regional manager negotiated a good contract and saw that the job went smoothly, or was it because the designers in another office did a marvelous job? Thus evolved the belief that profits and bonuses should be distributed firm-wide, based on evaluations of individuals, and not on profits earned by a particular office or particular project. We believe distribution by office or project results is divisive. Everyone in a firm should be anxious to "pick up the ball and run with it" to make things go; it is much easier to foster that spirit if profit distributions are based on firm-wide results.

Keeping the Staff Informed

Quite a number of years ago, I had the opportunity to sit on a panel with a management consultant who came to town for a seminar at the university. He theorized that bonuses are demotivators rather than motivators, and indicated in the forum that the CH2M HILL bonus policy would get us into trouble and that his fees for services to get us out of the difficulty would be fairly high. But we still think the bonus system works, and we haven't been to see the consultant. All net income, except that needed as retained earnings to operate and expand the business, are distributed in some form of bonus. I strongly believe that a bonus system works best if each staff member is continually informed on how the firm is doing, both in good times and bad times, and if the bonus is varied in accordance with the net income.

STRATEGIC PLANNING

Strategic planning is important. At CH2M HILL, we did not do much formal planning in the early years. Nevertheless, I think a small firm can benefit from planning, and I strongly believe that those responsible

for carrying out the plan should be an integral part of preparing the plan.

The Five-Year Plan

Until about 10 years ago, planning at CH2M HILL was done by the general manager and some helpers. We widened the planning base, and arranged for about a dozen people, representing the various facets of the organization, to meet for a day and a half each month with a facilitator. We did this for a year. Having a facilitator who knew something about the firm but who was not an engineer or employee proved to be worthwhile. He kept the conversation focused and moving, and recorded it on large sheets of newsprint that were posted about the meeting room. He also summarized our progress. We developed a five-year strategic plan that helped keep the various facets of the organization heading in similar directions. A series of goals were set and then the strategies to be followed in reaching these goals were developed. Some of the strategies applied to more than one goal. The goal to which each strategy primarily applied was indicated in the document. Now we build the five-year plan annually. We build first by offices and disciplines, and the Board of Directors acts as a planning committee for the final analysis.

The 20-Year Plan

After the initial five-year plan was developed, we began working toward a 20-year plan, using the Delphi process. This process was developed by the think tanks after World War II. The name of the process derives from the city of Delphi, which was the center of the universe, according to the ancient Greeks, where there were oracles. As applied in modern times, the process involves a group of experts replying to a series of successive questions in an effort to focus on the matter of concern. We decided that our experts would be people from various geographic areas and various disciplines in the firm. We ended up with a group of 50, and hired a specialist to help formulate the questions. We went through four iterations and concluded that we were diverging rather than focusing on the questions. We subsequently decided that it would further the 20-year effort most to hire strong people, provide a stable framework for them, stress good coaching, and turn them loose.