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Substitutes for Hierarchy

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G88-2 (115)

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Abstract

The major functions which hierarchy performs in organizations are reviewed. A wide range of design features such as work teams, gainsharing plans, and information technology are then reviewed. It is argued that if a number of involvement oriented design features are adopted, then organizations can operate with substantially reduced hierarchies.

SUBSTITUTES FOR HIERARCHY

Edward E. Lawler III

The existence of a hierarchy is virtually synonymous with the concept of organization. It is hard for most individuals to imagine what an organization would look like without layers of management and support staff to provide counsel and, at times, direction to that hierarchy. There is no business organization in the United States that lacks hierarchy. However, the idea of extensive and expensive hierarchies is currently under attack as never before. This is particularly true in organizations that face intense cost competition.

Increasingly, organizations are concluding that they simply cannot afford the expense of maintaining an extensive hierarchy. The expense of a hierarchy often goes beyond the salary costs of the people involved, it is escalated by such practices as pay systems which call for higher pay levels at higher levels of management and a tendency for each level to justify its existence by asking for reports and data from lower levels. In addition, managers at each level tend to request their own staff groups so that they can have support for their activities.

If effective substitutes can be found for the hierarchy, the potential for cost-saving is tremendous. All members of any organization who are located above the people performing the work are, in a real sense, producing nothing of value. They are there simply to facilitate the performance of those involved in making the product or delivering the service. They are in a very real sense an overhead expense whether they are in line or staff positions. They are worth having only if they add significant value to what is done by the individuals who are producing the product or service of the organization. In the classic

organization with spans of control ranging from 6 to 15 a large number of individuals hold these overhead positions. The cost associated with hierarchy raises the issue of how much hierarchy is needed, and what substitutes exist for it?

There is a considerable amount of experimentation already underway in some manufacturing organizations to try to answer these questions.¹ It indicates that the potential cost savings are large. Some organizations are finding that they can operate with at least one less level of supervision and with spans of control at the first level of organization which approach 100 to 1. Of course, simply eliminating hierarchy is not a guarantee of improved performance. It must be done in a way that doesn't increase costs in other areas, and that allows critical activities to continue to be done. It is particularly important that the productive behavior of the performers remain the same or increase as a result of the change.

To help answer the question of how the hierarchy can be effectively reduced, we need to look at the functions of hierarchy and ask what substitutes are available for them. Clearly, the more that substitutes can be found for particular features of the hierarchy, the more that the hierarchy can be reduced. Once we have reviewed the substitutes which are available, we can consider what an organization which adopts all or most of them should look like.

Functions of Hierarchy

Supervisors at all levels in a hierarchy are expected to perform a number of activities. The following are the major activities which are mentioned in most discussions of the role of the supervisor:

Motivation. Supervisors are expected to motivate employees to perform effectively. They can accomplish this through interpersonal skills and rewards such as pay and promotion. They are also sometimes able to restructure work so that it is more interesting and challenging. They also can set goals that motivate individuals.

Recordkeeping. Supervisors, and indeed the entire hierarchy of the organization, have as a major task recordkeeping. In fact, supervisors often complain that they spend an inordinate amount of time filling out records concerning personnel, quality, productivity, and financial matters. These records in turn are analyzed by staff groups which seem to request increasing amounts of data.

Coordination. A major responsibility of both supervisors and staff groups is the coordination of the activities of people doing different pieces and kinds of work. Lower level supervisors work on intragroup as well as intergroup issues. At higher levels, coordination involves getting different functions, different product lines, and different staff groups to work together.

Assigning work. Supervisors are expected to monitor workflow and to assign people to particular tasks. In the event of work overload, they are expected to handle this by scheduling overtime, bring in temporary people, or to do whatever it takes to get the work done.

Personnel decisions. Supervisors, often aided by the personnel department, are expected to make many personnel decisions. They hire and fire, discipline, pay, and promote within their area of responsibility.

Expert resource. Most supervisors act as expert resources in their work areas. If they do not have the expertise, they are expected to find it, often through a staff group, and provide it to their work group. Staff groups are expected to provide expertise to the entire organization.

Goal setter. Work units often have productivity goals, quality goals, and other goals set for them by their supervisor. This function, of course, ties into motivation, coordination, and planning. Staff groups also play a role here as well. They often develop measures, suggests goals and measure accomplishments.

Planning. Supervisors and planning specialists are expected to plan the activities of work groups. Their focus includes laying out the sequence in which work should be done, production schedules and a whole host of decisions concerning work methods and procedures. Senior staff groups also do longer range planning involving market changes, new products, financing, and other strategic issues.

Communication link. Supervisors are key communication links in an organization. They are particularly charged with downward communication, relaying orders, performance feedback, and other messages from the higher levels of the hierarchy to the performers.

They also communicate upward so that higher levels in the hierarchy are aware of performance, productivity, and human resource conditions in the work group. Finally, they are expected to provide a horizontal communications link in the organization.

Training/coaching. On the job training is often expected of supervisors. If the supervisors cannot do the training themselves, they are expected to find other people, typically staff people, to provide the training. Supervisors also coach subordinates in new skills.

Leadership. One of the most nebulous, yet most important, functions of a supervisor is leadership. Supervisors are expected to do more than control, plan, and direct. Other, more intangible qualities are required in order to inspire work groups with a sense of vision, empowerment, and common goals and direction.

Control. One rarely mentioned function of a hierarchy involves meeting the control needs of people at higher levels. An extensive control system involving many levels of management and expert staff groups provides a face-valid sense of control. Who can argue with the view that an organization is under control when it has the experts designing all key functions and supervisors intimately controlling the activities of everyone in the organization.

Organizational Policies and Practices

There are a number of specific organizational design features and practices that have been proposed as substitutes for hierarchy. They will be briefly discussed as will the areas in which they can substitute for hierarchy. As will be seen, no one of these features is considered to be a stand-alone solution, but taken together, they often can impact on the need for supervisors and staff groups.

Work Design

Research on work design clearly shows that it is one of the most important elements in determining the amount and kind of hierarchy needed in an organization.² The need for extensive hierarchy has its foundations in the scientific management approach to designing work. When jobs are designed to be simple, standardized, and specialized, there is a great need for coordination, control, and hierarchically

driven motivation. In essence, when jobs are highly specialized, it is difficult for people performing a job to coordinate their work with that of others. They often do not know what others are doing and they lack the links and power to influence it. Motivation becomes a problem because the work itself typically is not intrinsically interesting. It lacks the elements of variety, control, wholeness and meaning which produce motivation. Thus, some other source of motivation such as a supervisor is needed.

Research on individual job enrichment and teams clearly demonstrates that when work is designed around whole products or services, much of the need for a supervisor to coordinate work and motivate individuals disappears.³ The work becomes intrinsically interesting and challenging. Since individuals or small groups produce most of the product or the service, coordination problems are dramatically reduced because the key interdependencies are contained within the work unit. There is little need to relate on a close ongoing basis with other work units or individuals.

As teams mature and become more self-managing, they can take on some of the other functions normally performed by a supervisor. For example, with the help of a personnel staff group, they can make many personnel decisions, do their own work assignments, and do limited training on a peer basis. Finally, individuals in the group can be assigned to take care of recordkeeping and communicating both horizontally and vertically in the organization. In practice, interface communication often is assigned by teams to individuals on a rotating basis as are such duties as production scheduling, planning and training.

In one sense, groups can typically take on more self-management responsibility than individuals performing enriched work, since they can do more in the areas of making personnel decisions, assigning work, and planning. There is one significant disadvantage of teams compared to individual job enrichment however; groups require a considerable amount of skill-building and team-building. This is not required when individual work designs are used and it is a significant expense. In addition, teams require meeting time to make decisions and this usually means lost production.

Information Systems Technology

Personal computers, computer terminals, and computer networks can be powerful substitutes for hierarchy. Of course, they create their own need for staff support, but if they are used in a way that allows individuals to be more self-managing, the saving in hierarchy can more than offset the support personnel they require and the cost of the technology.⁴

In some new computer integrated manufacturing (CIM) environments, recordkeeping is done directly by operators and performers. They put their own data into a terminal or PC and it is centrally stored. This can include productivity data, quality data, and personnel records such as hours of work, overtime, and attitudinal responses. In effect, much of the recordkeeping is done by the individual performers instead of by staff and overhead personnel. In addition, much of the coordination traditionally done by supervisors can be done by the computer network. When individuals have access to operating data, they can plan, schedule and adjust their work to fit what others are doing.

In some cases, the computer can also operate as an excellent training resource. In some CIM factories, directions for certain tasks are contained in the information system and, in the more interactive ones, expert systems indicate errors, set goals and support decision making. For example, in some companies networking allows employees to ask employees in other locations to help them solve technical problems and allows them to compare production rates across different locations.

Networked computer systems can also partly deal with the control needs of senior management because they allow them to access information on production and cost measures throughout the organization. They no longer need to ask their staff groups to gather these data and to report them; they can get them directly from the information system.

Financial Data

The distribution of financial data to work groups can enhance their awareness of the economic priorities and results of the organization. When costs, sales, profitability, and investment data are given to the performers and they are trained in interpreting and using them, it can have a positive impact on motivation, coordination, and goal setting. Individual performers can get a sense of how the organization is measured and can begin to measure themselves in the same way. They can also set priorities and plan based on financial decision making models rather than on simple production optimization models. The motivational impact can be particularly dramatic because it provides people with new feedback. It can be particularly powerful if it includes data on the competitive situation of the organization. When competitive data are available it can help focus attention on external business competitors and away from internal competitions and grievances.

Reward System

There are at least three reward system practices which can directly reduce the need for hierarchy; gainsharing, profitsharing and skill based pay can all do this.⁵ Gainsharing and profitsharing can contribute to motivation, coordination, and communication. They provide a tangible extrinsic reward for effective performance and directly answer the motivational issue. Gainsharing in particular also provides a reason to coordinate the work within a group and between different groups because it pays off on organizational results and thus, encourages teamwork and cooperation. Both gainsharing and profit sharing also can help with the communication of financial results and provide feedback about how well the organization is performing.

Skill-based pay is an increasingly popular approach to determining base pay.⁶ In skill-based pay, individuals are paid for the number of skills that they have; thus, they are strongly motivated to learn how to do a number of different tasks. If it rewards individuals for learning scheduling, financial analysis, and other supervisory and staff support skills, it can be particularly impactful. It can create a workforce that understands the whole operation and can coordinate itself. It also makes it possible for work groups to do more planning because they have the expertise to deal with many parts of the organization. Skill-based pay also encourages peers to train each other so that each one of them can get an increase in pay. It is a key reward system change that is needed in order to make a team or self-managing group operate effectively in a self directing sense.

Customer/Supplier Contact

To be effective in managing itself a work team must control its inputs and outputs. Control of inputs comes through dealing with suppliers and being allowed to influence supplier behavior. This holds true whether the suppliers are inside or outside the organization.

Closely related to supplier contact is customer contact. Customer contact is critical because it provides individuals with feedback on how well they have performed their task. Feedback is a critical element in intrinsic motivation and it contributes to self-regulation, coordination, and goal setting. Getting performance results from individuals who receive the products and services of an organization or group thus is critical in allowing and motivating individuals to take responsibility for controlling their own work activities.

When groups have control over both their inputs and outputs, it is possible for them to do their own scheduling and to handle much of their own planning. It can also serve to reduce the need for staff support personnel who deal with suppliers and customers, thus reducing the overall overhead costs of the organization.

Training

There is no substitute for extensive formal training if the activities typically performed by the hierarchy are to be pushed downward. Needed training ranges from financial education to interpersonal skills, and problem solving skills. The type of training done needs to be dictated by the type of work design that is chosen. If self-managing teams are chosen, the training needs are extensive and clear-cut. Groups need to learn to plan, problem-solve, make group

decisions, gain feedback, and individuals need to develop interpersonal skills. Training is also needed in recordkeeping, dealing with customers and suppliers, quality, performance evaluation, and setting goals. Because of the extensive training demanded by self-managing work groups, one part of the hierarchy cannot be reduced, at least initially; extensive training resources and staff specialists are still needed.

If individual work designs are chosen then less training is needed in interpersonal skills and group decision making. Regardless of which work design approach is chosen, training in the economics of the organization and its business is needed. In order for individuals to behave effectively, they need to know how their actions will impact on the organizations financial results and they need to be able to interpret the financial results the organization achieves, all this take training.

If an organization is to operate with a minimum of hierarchy, peer training is an important addition to the extensive formal training that is required. If all the needed training is done by special staff groups, there is a danger that the elimination of supervisors will only mean the comparable addition of training specialists. The only way to avoid this is to encourage extensive on the job peer training, by providing skill-based pay and by making teams responsible for their own training. In many cases the training can be done on the job and as a result done in a cost effective manner.

Vision/Values

In the absence of an extensive bureaucracy that specifies tasks and develops extensive measures to see those tasks are carried out in an effective and timely manner, something is needed to provide an overall

sense of direction for the organization and to guide individual behavior. In short, if there is no prescribed thing for people to do, then they need a way to know what the right thing to do is. This is where a vision/values statement, or set of cultural core beliefs, must come to the forefront.

When a common set of values can be defined, self-managing units can focus on goals and performance results that are consistent with these values. No one needs to be there to tell them the specifics of how they should act. They can be guided by the larger vision and the focus can be on what needs to be done rather than on what the prescribed thing to do is. A positive set of core values can also have an impact on motivation, attraction and retention by giving meaning to work activities. Thus it can be both a guide to action and a motivator of action.

Emergent Leadership

The need for leadership in an organization is always present even though substitutes for it can be developed.⁷ In reality leaders are constantly appearing in organizations, and they are not always the formally appointed managers. In a traditional hierarchy, this can be disturbing and dysfunctional, because it causes conflicting directions and competing agendas. When the objective is to reduce the hierarchy, however it is desirable to have leaders emerging in work groups. If leaders emerge that are committed to seeing the organization perform well, they can motivate and provide a sense of direction to a work group.⁸ If they are put in charge of communicating with the outside world, working on group process issues, and leading the group in problem-solving, they can fulfill many of the functions performed by a traditional supervisor.

The key to the emergence of the right kind of leader rests in many of the practices which have already been discussed as possible substitutes for leadership. If they are in place, then it is likely that groups will accept and seek leadership that is oriented toward organizational goals and that has a positive impact on performance.

Integrated Impact

The substitutes for hierarchy that have been suggested so far clearly require a substantial alteration in the way most organizations are managed if they are to be installed and if they are to be effective. In essence, they would involve a move from a control type of organization to a commitment type of organization.⁹ However, if they are instituted in combination, they can go a long way toward making organizational hierarchy unnecessary. The key to their being successful in reducing the need for hierarchy is to introduce most or all them. They are not stand alone practices in the sense that installing one of them or a few of them can make a difference. As the many "fit" models of organization design stress when changes are made in one important feature of an organization, changes are needed in a number of others if the organization is to be effective.

As shown in Figure 1, each of the typical functions of hierarchy is handled by several of these approaches. However, no one of them effectively substitutes for all or perhaps even any of the functions of a hierarchy. Indeed installing just one or a few of them may cause more problems than gains. For example, if all that is done is more training, it is likely that the results will be just more costs. Installing skill-based pay without training simply sets up a conflict situation,

and creates the risk that all control will be lost in the resulting chaos.

Even if all the practices which have been suggested are implemented, there are some functions of hierarchy that are unlikely to be made unnecessary; long-range planning, certain type of customer contact, setting a strategic vision and values, investment and financing decisions, and certain types of expertise and training are still not likely to be handled by the individuals performing the work. Thus, the argument here is not that all hierarchy can be made unnecessary rather it is that it can be reduced and the remaining part of it freed from its traditional control activities in order to do more strategic level work, which, after all, is what senior management is supposed to be doing anyway.

Situational Fit

It is also important to point out that work situations vary in the degree to which they can be managed with a reduction in hierarchy. Technology, work interdependence, work complexity, and required knowledge clearly influence the opportunities for adopting an organizational approach that is based on minimal hierarchy and high involvement.

Perhaps the overriding determinant of how an organization should approach hierarchy is the kind of work it does and the technology it uses. Managers' values and attitudes can be changed over time, and older control oriented organizations can evolve their practices from hierarchical to involvement. However, organizations cannot necessarily change the kind of technology they use or the kind of jobs that the technology dictates.

Technology is only partly driven by the products and services the organization offers. As many advocates of the socio-tech approach have pointed out, there is some flexibility in the technology an organization chooses to use. In addition, the technology does not completely dictate the nature of the jobs an organization has. Some technologies can be modified to produce the type of jobs that are congruent with a minimal hierarchy. But in many cases the control of a single organization is limited. There is, for example, little flexibility when it come to refining oil and generating electricity. As a result, there are some situations in which the technology is not amenable to large reductions in the hierarchy.

There are two aspects of technology which are particularly critical in influencing the appropriateness of using involvement to reduce hierarchy: (1) degree of interdependence, and (2) the degree of complexity. Interdependence refers to how much individuals need to coordinate, cooperate, and relate to others in order to produce the product or services the organization offers. Organizations vary on this dimension from very high interdependence to low interdependence. For example, university professors, check encoders and insurance salespersons are typically in a low interdependence situation while chemical plant operators, basketball player and computer design engineers are in high interdependence situations.

With high interdependence the choice is between teams and individual approaches to work design with extensive hierarchy. In most cases, teams are best here because they are more cost efficient in dealing with interdependence. Low interdependence favors maximizing individual performance through job enrichment or well structured

individual tasks with large amounts of incentive pay and an extensive hierarchy. A crucial issue in determining which way to go with low interdependence jobs is the complexity of the work involved.

Technology, to a substantial degree, tends to influence the complexity of the work. Complexity can vary all the way from the highly repetitive jobs associated with assembly lines, to the highly complex knowledge work represented by professional jobs and state of the art manufacturing. Where the work is simple and repetitive by necessity, it is hard to put in place an involvement approach; unless the technology can be changed. These situations are often best run in a traditional hierarchical manner. With complex knowledge work, the clear choice is involvement and minimal hierarchy. Involvement flourishes where complex knowledge work exists because individuals who do this kind of work possess the ability to participate in a wide range of decisions, and to coordinate their own work. They often expect and want to have an approach to management which has a minimal hierarchy.

Values and Beliefs

The values and beliefs of the key participants need to fit the involvement approach for a successful reduction in the hierarchy to occur. The involvement approach requires that managers believe in the capabilities, sense of responsibility, and commitment of people throughout the organization. In short, they need to believe that people not only are a key resource of the organization, but that people can and will behave responsibly if given the opportunity. They need to be willing to develop and live by a management philosophy which states their commitment to pushing decision making and information to the lowest levels of the organization. If they don't have the right values,

then they are unlikely to make the changes needed, and even if they do, they are likely to be reversed in the face of problems which might be solved by creating more hierarchy.

The values of the employees are also important to consider. For any form of self-management to work, most employees have to want to learn, grow, develop, contribute, and take on new responsibilities. Most researchers have argued that the vast majority of the American work force does want to be involved in their work, but no one argues it is universally true. Particularly where there has been a long history of autocratic management, the majority of the workforce may not want to operate without an extensive hierarchy. They may have become conditioned to the control oriented approach that comes with a hierarchy and appreciate the fact that they can just put in their eight hours and not have to take the job home with them. In addition, self selection may have taken place so that those who most value involvement quit long ago, leaving behind those less attracted to it, those who prefer to be told what to do, when and how to do it.

Societal values can also come into play in determining the appropriate approach to involvement. Democratic societies provide much more supportive environments for reducing hierarchy than do traditional autocratic societies. The United States, with its long democratic tradition and commitment to individual rights, appears to provide the ideal setting for involvement oriented management. Historically, the society has exempted the work place from the societal commitment to democracy and individual rights, but there are many signs of this breaking down in the area of individual rights and it seems inevitable that it will also disappear as far as participation and involvement are concerned.¹¹

Conclusion

Overall, this analysis suggests that it is possible to operate organizations with much less hierarchy if a number of important features of the organization are changed. The changes are not minor; they are major and, to an important degree, mutually reinforcing. To substantially reduce hierarchy, most of the changes probably need to be made.

Typically, organizations have reduced layers of management and staff groups to reduce costs only to find that in a few years the levels of management and the staff groups have reappeared. The reason for their reappearance is obvious; nothing was done to substitute other organizational features for the functions traditionally performed by the parts of the organization that were eliminated. Many of these functions can be done by other individuals and made completely unnecessary if changes are made in the way the work is organized and designed. In the absence of a thorough redesign of the organization, however, it is unlikely that a significant part of the hierarchy can be made unnecessary because it performs some very important functions that must be done in some way if coordinated organized behavior is to take place. On the other hand if a organization design is adopted which includes work teams, new reward systems, extensive training, and the other practices considered here, organizations can operate effectively with substantially less hierarchy. In short, hierarchy is not inevitable; it is a manufactured need, and as such, the need for it can be substantially reduced.

Footnotes

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