THE EMERGING PROMINENCE OF THE LATERAL ORGANIZATION

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The Emerging Prominence of The Lateral Organization

All signs are pointing to the importance of lateral integration in the organization of the future. For example, Galbraith's description (in press) of the emerging forms of business units is laced with references to the importance of processes to link people and units across the organization. The traditional business organization model of functional units that are integrated by the general manager is increasingly being replaced by organization models with mechanisms to integrate multiple functions with common focuses on customers, products, projects, or processes.

The increasing salience of lateral processes results from a combination of the performance pressures in today's organizational environments and new information technologies that serve as integrating media. These forces are briefly described below:

1. The evolution of the global economy and the attendant increased competitive pressures have put a premium on *organizational learning.* In a world where products are easily copied and processes can be transported almost anywhere, competitive advantage can only be sustained through being first, executing better, and staying ahead. Organizational learning processes inherently involve linkages across an organization. Learning requires the establishment of lateral linkages so that individuals with different functional paradigms and a broad systemic exposure to the organization can generate solutions to complex problems and novel approaches to doing work.

2. Pressures for *speed,* such as the need for reduction in time-to- market and cycle time require up-front cross functional planning and optimization of simultaneous processes such as are found in concurrent engineering. Organizations can not afford delays due to bureaucratic approvals or the slow process of escalating decisions through layers of hierarchy.

3. Total quality management approaches, that focus on the improvement of *organizational processes*, make evident that key organizational processes do not respect organizational boundaries and that their optimization requires multiple stakeholder input and change.

4. *Customer* power requires organizations to have the capability to focus all functions on the customer, and to align organizational processes from start to finish with customer expectations.

5. Market demand for *systems solutions* requires the organization to integrate all of its own components to focus on the system that is being developed.

6. *Computer and communications technology* advances enable the real- time linkage of diverse parts of the organization with common data sets and computer tools. These new tools know no organizational boundaries. Their optimal use requires norms of shared data ownership and mutual accommodation of work that is being done in various parts of the organization.

7. Rapid product generation and entry into new markets requires the growth, nurturing and leverage of *core competencies* of the corporation. These scarce resources must be managed across multiple business units and organizational boundaries (Prahalad and Hamel, 1990).

This combination of forces has led to a large variety of organizational change and redesign efforts. The difficulty of establishing effective lateral integration in these change efforts has yielded a recognition that there is a powerful inertia built into our traditional organizations. The logic of differentiation, specialization, hierarchy, and functionalization is pervasive in almost all aspects of organizational design. Furthermore, careers, attitudes, beliefs and self-concepts are heavily enmeshed with the status quo. Redesigning organizations to promote lateral teamwork will involve a major shift in orientation of employees and changes in many of the organizational systems that shape behavior.

This paper provides a brief overview of some key concepts that underpin the design of organizations, and that are relevant to the question of how to achieve lateral integration. It then provides some structural alternatives and process requirements for achieving such integration.

Integration And Differentiation Revisited

The underpinnings of our traditional organizational models are in large part a legacy of the scientific management tradition, the bureaucratic form, and administrative rationality. Organizations are differentiated into jobs and units that are specialized, and into hierarchical layers with the middle layers

providing direction and coordination between specialized subunits and individuals. Standard operating processes are formalized, and specify the way in which work is to be done and the sequence by which it proceeds through the system. The key transformation processes of the organization are done by the technical core consisting mostly of individual contributors who are managed and controlled by a middle management group that receives strategic direction from the executives of the organization.

This model of organization has been supported by human resource management practices that include job descriptions and job evaluation systems to clearly specify who does what, and status differentiations such as exempt/non-exempt, labor/management, and bonus eligible/ineligible. Individual performance appraisals and merit pay practices establish the individual as the performing unit. Jobs are defined to minimize the cost of training, and to maximize the number of productive hours from scarce technical resources. Organizational units are constructed of people performing similar tasks using similar expertise in order to create a critical mass and to make units easily supervised and evaluated. Job evaluation systems that heavily value size of budgetary and headcount control reinforce an image of the organization in which the tasks of hierarchical control are more valued than the creation of products and delivery of services. Careers are oriented toward moving up in the hierarchical control structure rather than toward increasing contribution to the transformation of inputs into products and services.

In an organization that is designed according to these principles, integration is accomplished largely by hierarchically driven processes such as direction from supervision, rules and procedures, and goals and objectives. Galbraith (1973) has pointed out that in a very simple and static world, these integrative devices are sufficient glue to keep the parts of the organization heading in the same direction, and fast enough to respond to the environment.

Complexity and speed are foes of this simple machine-like organization. Rapid change undermines the stability of its infrastructure -- goals, processes, jobs, and rules have to change to meet the changing environmental demands. High interdependence that requires on-line coordination of work makes it difficult to segment the work so that individuals and units can be managed independently. The work of a sales organization, for example, is highly interdependent with the administrative support tasks that have typically been housed in a business administration function. Toyota's one- week delivery of cars is made possible by extremely tight coordination between these two functions and with the manufacturing line.

Extreme performance pressures put a premium on speed and efficiency and preclude the handling of complexity through organizational buffers and other forms of organizational slack (Galbraith, 1973). Just-in-Time Delivery (JIT) to customers, for example, is considerably more cost effective than stockpiling large inventories, but can only be achieved by creating a close working relationship between the customer and supplier. Even the external boundary between organizations and their environments is beginning to blur, as new forms of lateral integration emerge between organizations.

The environment faced by organizations today is characterized by complexity and extreme performance pressures. The challenge facing the organizations of the next decade is to design to simultaneously do the following:

1. Achieve multiple focuses (e.g., on product, market, customer and geography) without dysfunctionally segmenting the organization.

2. Align individuals and groups that are task interdependent in a manner that fosters teamwork in pursuit of shared overall objectives.

3. Enable quick, low-cost, high quality performance at the same time responding to a highly dynamic environment that calls for ongoing change.

4. Respond to ongoing increases in competitive performance standards by learning how to be more effective.

5. Attract, motivate, develop and retain employees who are able to operate effectively in such a demanding organizational environment.

Organizational designs must seek to jointly optimize their business, technical and human performance. The organization must be capable of making conscious trade-offs. To do this, forums must be created where people with diverse organizational perspectives together puzzle through solutions to complex problems and opportunities. For example, an effective new product development process determines an optimal balance between the considerations of market characteristics, cost, time to market and technical product characteristics. The structures and processes of new product development must create the integration of the diverse perspectives required to define this balance for each product. Systemic solutions to complex multi-faceted choices can only be developed through lateral integrative processes.

The processes that integrate the lateral dimension of organizations are achieving equal importance to the hierarchical processes that have dominated much of the traditional organizational structure and design literature. Systemic images of organizational design are beginning to replace the predominantly analytical design principles of the past. Systemic organizational designs retain the imperative to reduce complexity wherever possible by creating differentiated units, but attend much more clearly to the simultaneous need for different functions to work together. They acknowledge the role of hierarchy, but distinguish between integrative tasks appropriately conducted hierarchically, such as overall portfolio

development and business strategy, and those that are best done laterally, such as working out trade-offs between design sophistication and manufacturability.

Self-directed teams are an excellent example of the kinds of structures that are becoming more prevalent. They are a form that facilitates both integration and differentiation and they have implications for both the hierarchical and lateral nature of the organization. Self-directed teams are becoming more common on the factory floor. They combine a group of people responsible for all the tasks involved in doing a whole, identifiable, measurable piece of the work. The hierarchical implications of this form of management are that fewer management layers are needed; the traditional role of the supervisor changes from hands-on coordination and direction of work toward a coaching role and to being the translator of organizational strategic direction and its implications for the teams (Pasmore, 1988; Mans and Simms, 1989). The team members perform self- management tasks that were formerly done by the supervisor.

The lateral work design implications of self-directed teams are also interesting. The skills required to do the work are combined in the same unit, moving tasks that were previously done by external support groups or by managers into the unit, and cross training individuals in the team so they can perform multiple tasks and can schedule and coordinate themselves flexibly. Thus, the team is made self-reliant (differentiated) by giving it control over as many aspects of its performance as possible. Integration occurs within the team, laterally. This model requires a number of key changes in the human resource practices that enable people to advance within the team through the mastering of multiple skills and the achievement of a broader scope of contribution. Often a team of team representatives perform coordinative functions between teams, make organization-wide decisions, and influence decisions made within the management hierarchy.

Self-directed teams embody three key principles: 1) the team and the individuals within it are multi-skilled -- the team contains all the skills to do the whole task; 2) lateral coordination occurs within the team; and 3) some management tasks and decision making are moved down into the team. To the extent possible, the team is bounded (differentiated from the rest of the organization), so that it can function independently. The need for integration is accomplished by building into team composition the multiple perspectives and skills necessary to do the task and solve problems. The traditional boss-subordinate hierarchical coordination role is diminished; coordination occurs laterally to the greatest extent possible. The team is integrated into the larger organization and its hierarchy through representation on teams that address larger systems issues.

Although self-directed teams have been used largely in manufacturing settings, many organizations are now exploring their applicability in white collar work. In responding to the pressures for lateral integration, we anticipate that the principles that are embodied in the self-directed team will become more prevalent, although the organizational forms that embody them will be diverse. Organizations will search for ways to more tightly link the various parts of the organization together to promote coordinated functioning. They will also create smaller, highly motivated self- sufficient units.

There will be an escalation in the use of teams, mini- businesses within businesses, multi-skilling, and further flattening of the organization.

In complex and dynamic situations, the need for integrative devices increases dramatically (Lawrence and Lorsch, 1967). These integrative devices may be structural, such as the creation of self-contained teams and other integrative structures such as task teams and councils. Special integrator roles, such as product or process managers, may be used. Shared information systems, goal setting, and measurement systems can also link units laterally.

The remainder of this chapter examines the various structural and process design features that facilitate lateral integration, and that we expect will increasingly characterize organizations in the future.

Integrating Structures And Roles

Just as lateral integration has many purposes, so it takes many forms. In the future, an important part of the skill set of organizations will be the knowledge and ability to design themselves to optimize their strategy. A working understanding of various integrative approaches and the management challenges that they present will be critical to the designing and redesigning that will be required as organizations try to sustain a competitive advantage in a rapidly changing environment. The remainder of this chapter provides a framework for conceptualizing the design issues that relate to the lateral integration of the organization. It will first present a continuum of integrating mechanisms, and then describe some particular design features: teams, integrating roles, and the use of a hierarchy of teams.

A Continuum of Integrative Design Approaches *

The importance and difficulty of integrating the various parts of an organization increase when the organization is required to make trade-offs, solve problems, and make adjustments to work based on information from knowledge that resides in different parts of the organization. The work of the organization requires simultaneous focuses so that work is not easily broken down into independent departments and units. An example of simultaneous focus is the necessity in a technical firm to focus on functional technical expertise and on the multi-functional process of new product development. Firms may make delicate and dynamic trade-offs between the development of global products and the optimization of geographical markets. Service organizations have to focus simultaneously on the development of functional excellence and on the provision of service to diverse customers with idiosyncratic needs.

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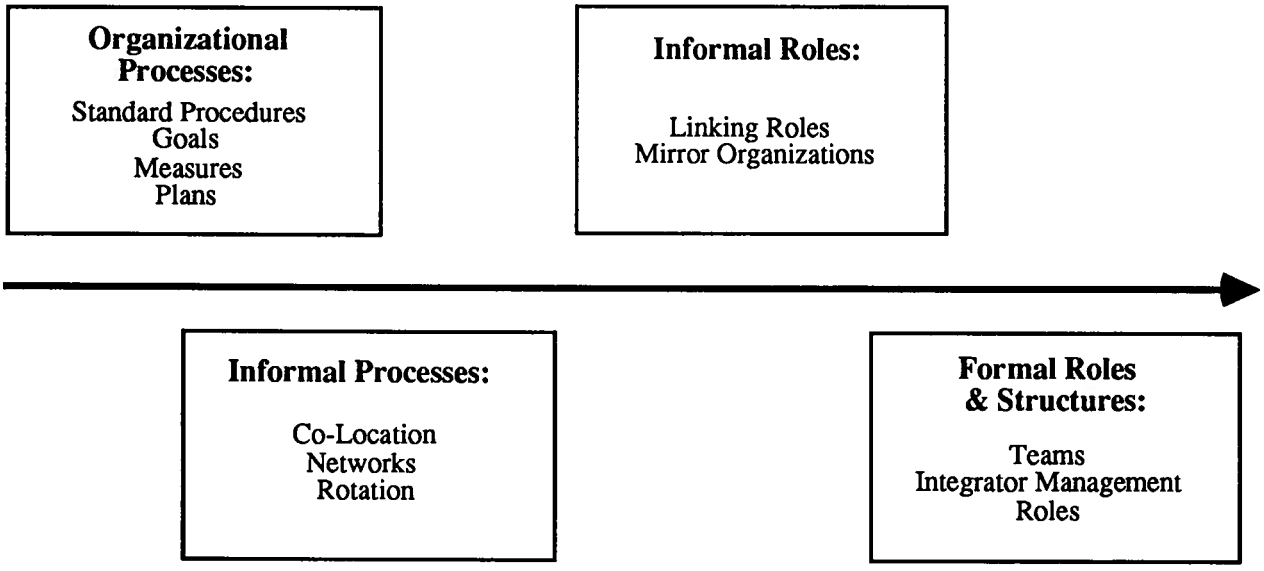
* The ideas in this section stem in large part from the work of Jay Galbraith. The author has based a large part of her thinking not only on his written work on organizational design, but also on insights derived in field projects with him.

Galbraith (1986) has posited a continuum of integrating mechanisms that can be employed to integrate and coordinate work between groups. A modified version appears in Figure 1. Organizational processes such as standard procedures, goals, measures, and plans provide a foundation for coordinated activities. When uncertainty and dynamic conditions make it impossible to pre-plan coordinated activities, ongoing adjustment between individuals and groups is required. The approach that involves the least amount of organizational investment in new roles and structures is to encourage such integration to occur informally through such means as co-location, the purposeful establishment of rich interpersonal networks, and the rotation of individuals through multiple disciplines. These approaches do not require special structures or roles. They create a context in which integration of work is the "natural" response. They can only be successful to the extent that the individuals and groups who must cooperate operate within a context in which goals, plans, and measures are aligned so that people are not pitted against one another.

Figure 1
Integrative Mechanisms



Complex interdependencies call for more formal organizational approaches. The integrative tasks may be assigned as part of the roles of specific individuals. The designation of an official linkage person creates a special role responsible for integrating with other departments, albeit one with informal influence. Mirror-image departments identify people from different departments who are task

interdependent, thereby making it easier to identify the appropriate contacts for working out interdependencies. For example, in an example from aerospace given by Galbraith (in press), every department has someone working on the design of the wing, the fuselage, and so forth. This makes it easier for the integration to occur by clearly specifying and shrinking the size of the set of people who must interact with each other about a particular component.

The strongest integrative design formalizes responsibility for integration in management roles and/or team structures. These approaches increase the organizational investment of resources to support the integrative processes. For example, designating a team of individuals from the different departments who have responsibility for the wing or the fuselage represents further formalization beyond the mirror organization. It also entails the additional organizational "cost" of the time to build the team and for it to meet and resolve issues. Another approach is to create a formal managerial role, such as a product, market, or process manager, responsible for integrating the work of the various contributors.

Organizations can use these integrative roles and structures to shift influence toward the focus that represents their most strategic concern. For example, product managers and product development teams that integrate various functions can be designed to yield more or less influence vis-a-vis the functions. At one end of the continuum, the function has most of the power and the integration of functions is largely informal. The integrative structures do not have resource control or decision making authority. Product managers, for instance, would have integrative responsibility but not control over the human resources that work on the project. The product development team might be a loosely defined group of members from different functional units and with diverse reporting relationships. This would be appropriate if functional technical excellence is the key strategic variable for the organization. At the other end of the continuum, the product wields primary power (i.e., has resource control and decision making authority) and functional integration is more informal. For example, technical resources would report to product teams or mini-businesses. Issues of development and coordination of technical specialties across business units may occur through technical councils. This approach would be appropriate if new product development is the key strategic variable, and does not heavily rely on rapid advance of highly specialized fields, or careful organization-wide management of scarce technical resources.

Between these two extremes is shared influence, in which both function and product share resource control and authority. This may take the form of a matrix organization, characterized by dual reporting and authority. Creating the matrix entails another organizational cost--the additional time required to arrive at joint decisions and make explicit and often difficult trade-offs. These costs may be justified, however, if the functional excellence and new product development are equally vital strategically, and if the organization is required to continually weigh both these concerns and make trade-offs.

This section has enumerated a continuum of integrative devices that can be used by an organization to integrate the efforts of individuals and groups. It starts with the utilization of formal and informal processes that create the context for integrative behavior, and moves to the use of informal and formal organizational roles and structures. Research has demonstrated that in highly complex, dynamic situations, all of these integrative approaches are likely to be in place (Galbraith, 1986; Lawrence and Lorsch, 1967). Organizations that utilize integrative roles and structures are also likely to use formal and informal organizational processes to foster integration.

The design of appropriate integrative approaches is extremely important in today's environment. Not only must these mechanisms enable adequate integration, but they must also result in a balance of the influence between the various viewpoints that are required for effective task accomplishment. Managing the influence balance is a key organizational imperative in an environment where organizational success is determined by the ability of the organization to simultaneously excel in several arenas that are interdependent with each other, and when the strategic importance of these focuses changes through time.

A Team Typology

Although diverse integrative approaches are possible and required, the use of teams is becoming increasingly prevalent. In part this is because many functional organizations find that reliance on less formal integration techniques is inadequate when functional power is deeply engrained in the culture and design of the organization. Functional criteria drive behavior, often despite the cost of sub-optimization. In addition, if speed is a key competitive variable, the push toward parallel processing puts a premium on person-to-person resolution of interdependencies and agreement about overall project goals. A team that has shared objectives and agreements about task performance strategies and roles is one way of addressing these issues. Time can be saved if it is not necessary to go through a hierarchical approval process -- i.e., if authority to make decisions lies within the team.

A different form of team has been advocated in the total quality management literature (Deming, 1986; Juran, 1989; Scholtes, 1988) to resolve problems and improve processes. Quality improvement teams are set up for that special purpose; they are not the primary organizational structural unit.

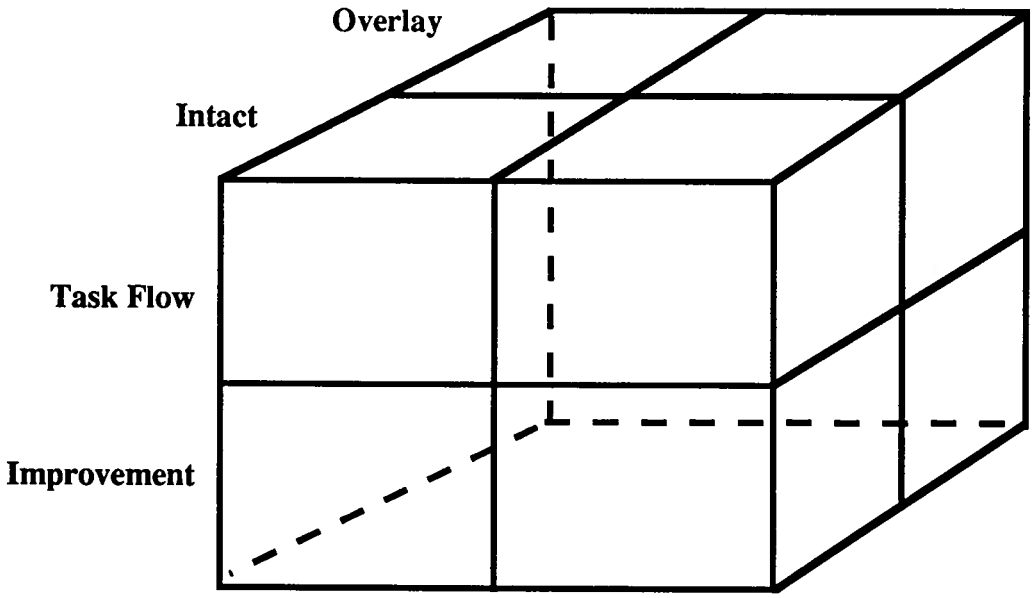
There has been a tendency in the organizational literature to deal with teams as if they are a homogeneous phenomenon, when in reality there are many kinds of teams. Each has its own design and management requirements. Teams that are improperly designed and managed will not achieve their purpose. Organizations in the next ten years will have to become facile at designing and managing different kinds of teams. This section presents a typology that illustrates the design domain in which organizations and their managers will have to develop expertise.

Teams vary along three key dimensions (see Figure 2). First, their purpose or mission can be either to perform the work of the organization (eg., product development, customer service, software support) or to improve the processes of the organization (eg., quality improvement teams, task teams,

quality circles). A work team operates directly to transform organizational inputs into the products or services of the firm, or it performs functions relevant to supporting, controlling, or directing the organizational transformation. These units can be measured and evaluated based on goals for the products or services that they produce. Participation in the work team is generally the primary organizational responsibility of its members.

Improvement-oriented teams, on the other hand, have as their mission to increase the effectiveness of the organizational processes by which work is accomplished. Their effectiveness must be measured in terms of the improved results from the processes they alter--from processes that must be adopted and executed by their co-workers. The work of the improvement team is often not the only or even the major responsibility of the team members. The differences between work teams and improvement teams are managerially significant. Their tasks are defined differently and must be managed and evaluated differently.

Figure 2
Types of Teams



It is possible for the same team to be both a work team and an improvement team. For example, self-managing work teams may be tasked with tracking trends, analyzing their processes, and making changes in their work processes to improve performance. However, this dual mission can best be

achieved if the group has clear "switching" rules for going from one mode to another, and if the team is recognized and supported for performing both functions.

Time defines the second dimension. Teams can be either permanent or temporary organizational structures. Temporary structures are established for a task that has a finite life, such as a project. Quality improvement teams, task teams, project teams and new product development teams are generally temporary. Customer service teams, work teams, and product line teams are examples of permanent teams. They are set up as ongoing organizational units. Dissolving them would be considered to be a restructuring of the organization.

The dynamics and management of these two kinds of teams are quite different. The finite life team has a recognizable beginning, middle, and end, and its life cycle conforms to the work it does. It is best managed according to this life cycle. Its ultimate performance measure is the success of the project that it was set up to accomplish. The permanent team goes through measurement and management cycles that are artificially prescribed. Yearly, quarterly, and monthly reports, reviews and assessments punctuate an ongoing stream of tasks. Goals and objectives reflect targets and trends in performance measures.

The third dimension is whether the team is part of the organization's primary authority structure or whether it is "overlaid" on it, cutting across different units of the main organization. In a functional organization, for example, a functional unit is the major organizational unit. A cross functional quality improvement team or new product development team is an overlay in such an organization. In a product organization, the product team is the major structural unit, and the functional specialty group that cuts across products would be an overlay team. The members of a team that is a primary structure in the organization report through the same hierarchical structure; members of the overlay team report up into the organization through different channels.

The difference between being a primary or overlay team has significant implications for design and management. The overlay team faces issues of ambiguity of authority and priority. Its members may experience conflicting direction from their different reporting structures. Such teams must operate by creating a consensus between many groups that control the resources that it needs. Overlay product development teams, for example, must have resources allocated by a number of functional and service groups. The design of such teams must include mechanisms to effectively influence and develop consensus in the organization. Planning processes must provide a forum for agreeing on direction and making difficult trade-offs.

Organizations are increasingly utilizing teams that fall into multiple segments of the cube illustrated in Figure 2 for different purposes. Most current approaches to managing performance fit best with permanent work teams that are part of the main authority structure of the organization. Less is known about successful approaches to managing improvement teams, teams that are temporary, or those that are overlay structures. Successful functioning of these teams will depend on organizations

developing approaches to managing them, and learning how to house and manage very different kinds of teams.

In addition to these three dimensions, teams vary in the extent to which they can be bounded. The interdependencies in many organizations make it difficult or impossible to design teams that house or control all or even most of the inputs required to get their tasks done. Consequently, a clean boundary can't be drawn around what is in the team and what isn't. In such organizations, "teaming" behavior is critical, but it doesn't occur in easily identifiable teams. All of the types of teams illustrated in figure 2 must have permeable boundaries to the extent that their work is interdependent with others beyond their bounds. Project teams, for example, may rely heavily on support from centers of excellence or other shared resources. Improvement teams may require data and technical assistance from organizational members and units not represented on the team. Such unboundedness increases the criticality of the relationships the team establishes with parts of the organization beyond its bounds. It also puts a premium on the use of organizational processes such as objective setting and rewards to tie people's fates together and point them in the same direction. This reiterates the point made earlier that even when teams exist as formal entities, formal and informal integrative processes are required.

Integrating Roles

Integrating roles, like integrating structures, can be designed to be weak or strong. Informal roles such as designated contact people are the weakest, since they generally carry with them no sources of formal empowerment. Creating formal roles, such as team leaders, systems managers, or project managers, differentiates the role from others, and may convey greater legitimacy to the integrator. Such roles can be further empowered if they have formal decision making authority and budgetary control. In the strongest integration role, the people that are being integrated report to the integrator. The more of these sources of power that are vested in the integrator role, the greater the likelihood that the systemic interests and shared interests of the team will be optimized rather than the functional interests of the members.

It should be noted that the selection of integrating structures, such as teams, and of individual integrating roles are somewhat independent design choices. Formal and informal integrating roles, such as liaisons and project managers, can be used whether or not there is a team structure in place. A team is itself an integrative device that may or may not require the establishment of a special leadership role for purposes of integration. For example, creating a self-contained cross functional team does not automatically call for the creation of a strong individual integrator role. That team might be leaderless. In some companies, such teams report to a higher level cross functional team that exists to integrate functions at a more strategic level. On the other hand, the technical integration task may be so complex that special roles are created. In some new product development teams, for example, a systems integration role may be held by a team member, who may be responsible for integration within the team

or between the team and units outside its boundaries. Even when there is an empowered project manager, a complex project generally includes a number of other informal and formal coordinating roles and structures.

Organizations that exist in highly complex environments and where the work is highly interdependent house a wide variety of integrating mechanisms. It is not uncommon to see numerous overlapping and fluid structures, and to see many different kinds of general and specialized integrating roles. Clarification of roles and avoidance of costly redundancy are key process imperatives in such organizations.

Hierarchy of Teams

Teams can be established at any levels of the organization where integration of effort is required, and composed of the population of contributors whose work needs to be integrated. Work teams, for example, often consist of individual contributors performing the transformation task. They may be functional or cross functional, project focused, customer focused or geography focused. Management teams may exist at the top or middle of the organization if it is necessary to integrate across the units that are conducting the transformation task. Top level management teams, for example, may create a framework to integrate businesses, geographies, or functions, depending on the macro structure of the organization. Mid level management teams may exist to integrate various functions required to conduct a division's business, various products constituting a business line, or various countries that must sell its products.

The more compelling the imperative for lateral integration in the operations of the organization, the greater the need for a hierarchy of teams that deal with increasingly aggregated levels of the organizational system. The knowledge of the bigger picture that is required for lateral resolution of issues can to some extent be built into lower levels of the organization, but complex trade-offs are often strategic in nature. If the business units are relatively independent, the functionally integrated strategy can be forged at the lower levels. For example, if two business units develop and manufacture unrelated products, they may be managed with little integration between them. However, if the units are highly interdependent because they share resources, technology, or customers, it is important that the business direction within which operating teams are functioning be clearly forged so that the operating units that have to cooperate are not put in conflict. If the products of the two units must fit together in a system, technical interaction will be required, and a common technology and product strategy must be forged. Furthermore, it is important that when issues cannot be resolved laterally, there be a readily available decision maker that can align various participants behind the decision. In the absence of higher level teams, such decisions often have to escalate to a general manager for resolution. Cross functional teams that have reached impasse, for example, may have to escalate an issue through several different functional chains before it reaches a level that has authority over all parts of the organization that have to contribute

to the success of that team. A second tier cross functional team can resolve many issues in a single escalation step.

If integrating structures exist at multiple levels, two hierarchies may exist. If this is the case, the determination of roles and authority of each is critical. For example, many aerospace firms have a project/program hierarchy side by side with a functional hierarchy. The role of the program hierarchy is to integrate various functions that have to contribute to program success. This is made difficult if authority is not clearly delineated and planning and resolution processes are not spelled out. Overlapping membership and shared accountability systems can help.

This issue is also faced when there is a hierarchy of parallel structures such as are found in the nested council or steering committee structures of total quality management efforts or union-management cooperative efforts. Higher level teams provide a context for operational level teams, and can also serve as approval and decision-making bodies. The effectiveness of this design depends on clarifying the roles and responsibilities of the two hierarchies vis-a-vis one another. Otherwise the parallel structure is likely to generate decisions, plans and improvements that the main organizational structure has no will to implement.

The lateral integration of an organization involves far more than setting up stand-alone teams or creating integrating roles. It requires that lateral integration occur at multiple levels, and that the various structures and roles fit with one another and with the processes that are established. Ironically, lateral integration requires vertical integration, as is illustrated by the concept of hierarchy of teams.

The Need for Balance

It is evident that an organization can quickly become overwhelmed by the complexity of its own integrative mechanisms, and the costs of integration. Structurally, therefore, it is important to try to identify units that are differentiated from the rest of the organization and allowed to optimize themselves unshackled by unnecessary constraints from the larger organization. For example, some businesses may be truly independent of others, and should not be burdened with the need to be part of lateral integrative devices that cut across businesses. Within a larger business, mini-business units may be effectively decoupled from each other by building in self-sufficiency even if it implies some redundancy of resources. Some units may be coupled through a contracting mechanism that approaches a vendor\customer relationship, whereby an economic market relationship allows relatively independent functioning with specifications and pricing mechanisms as the integrators.

The motivational impact of creating a clearly measurable, accountable unit that has authority over the elements necessary to do its work is great. Striving to create such empowered units is in fact a basic principle of high commitment work systems (Lawler, 1986; Walton, 1985). It can best be achieved if units are constructed to include the different skill bases that impact results so that it can be bounded and somewhat decoupled from its context.

A decoupling strategy only works, however, if the principle can be adhered to rather rigorously. If the unit is dependent on other units of the organization for resources key to its own goal attainment, and if integrative or market mechanisms are not established, the cost of lack of coordination in terms of redundancy, missed deadlines, rework and unnecessary work can be far in excess of the costs of integration. This issue is even evident in relationships with vendors, where we increasingly see a more permeable boundary with overlapping teams and liaison roles to ensure that the technical and business interdependencies are addressed. Thus, the art of management is to walk the tightrope between too much and too little integration.

Integrating Processes

If there are strong pressures for lateral integration, complex interdependencies, and organizational trade-offs, a complex assortment of lateral structures and roles will be present. As is illustrated in figure 1, the most fundamental form of integration is established by the integrating processes. Integrative structures and roles cannot be fully effective if these processes are not in place. Integrating processes include: 1) the setting of mission, strategy, and values to guide overall organizational direction; 2) objective setting and budgeting to guide operations; 3) the connection of various parts of the organization and individuals through the integrative use of information systems; 4) career paths and development approaches that develop the capabilities of employees to perform in laterally integrated organizations; and 5) performance management practices that motivate individual, team and organizational effectiveness. Each of these will be briefly discussed below.

Mission, Strategy, and Values

The establishment of mission, strategy, and values is the overarching integrative task of the organization. These provide the guiding direction, the priorities of the organization, and the decision criteria to guide organizational decision making and to help resolve conflicts. Responsibility for making sure these exist, are current, and serve as the guiding direction for the organization lies with the top management. A wide variety of participative (integrative) mechanisms can be utilized to ensure buy-in and take various stakeholder perspectives into account.

The cascading of the mission, strategy and values of the organization throughout the organization often takes the form of the development of customized but congruent versions for different organizational units and various systems levels. This is intended to prevent organizational units from working at cross purposes, and to make the organizational direction meaningful to organizational participants. The cascading process allows participants to be more specific about unit level mission, strategy, and norms.

Objective Setting and Budgeting

Operational alignment is achieved through the processes of long and short term objective setting and the allocation of resources to support those objectives. Although hierarchically nested objective-setting processes such as Management by Objectives have been common, mechanisms for integration of objectives laterally across the organization are less frequently practiced. In most organizations, for example, process improvement objectives that require the concurrent focus of multiple organizational units often have been perceived as "extra" and have not been officially resourced through the budgetary process. Objectives that cut across have often relied on a cumbersome "tin-cupping" process in which various individuals and organizations ante up to support a common concern, or upon tapping pots of money controlled by top managers.

Formal lateral planning, objective setting, and budgeting processes will become more common in organizations. Companies such as Hewlett Packard, Florida Power and Light, and Procter and Gamble utilize a policy deployment planning process, also called "Hoshin" planning. Such planning is a component of a total quality management system. It is a multi-function, multi-level process to identify objectives that are aligned with a strategic direction, laterally integrated, and supportive of process improvement. An explicit process for sharing objectives laterally and ensuring that interdependent groups have mutually supportive objectives is a key component. Generally a team is responsible for making sure that this happens. At the project level, Quality Functional Deployment (QFD)(Hauser and Clausing, 1988) is a cross-functional planning tool. It is a data based process to plan and commit to each function's required contribution to meeting customer expectations.

Budgeting processes must reflect these laterally determined objectives and fit with the lateral structures that have been established. Relying solely on functional budgeting in an organization where the key processes and structures are cross functional works against the logic of the workflow of the organization. At a minimum, cross functional input to budgeting trade-offs is required, because budget cuts in one part of the organization can prevent execution of plans in other parts of the organization.

Development and Careers

Performing effectively in a laterally integrated organization puts a premium on the capability to work effectively in teams, be part of multi- perspective problem-solving efforts, communicate effectively across disciplines and boundaries, and make judgmental trade-offs. Effective performance requires a more systemic understanding of the organization, based in part on career exposure to more than one part of the organization. This can be achieved by job rotation or by the judicious and planned use of temporary assignments such as membership on cross functional special purpose teams.

One development focus is on preparing individuals for cross functional moves and bringing them rapidly up to speed in new areas. Much development will occur in teams, and will happen concurrently with task performance. A key benefit of cross functional improvement teams, for example, is the cross

training that goes on as functions share their frameworks and perspectives. The goal is to make sure that specialists have a broad understanding of the organization, and to develop generalists with a number of specialist backgrounds.

Laterally integrated organizations continue to have the need for experts--for highly trained specialists. This is especially true in technical organizations. The preservation and development of core competencies (Prahalad and Hamel, 1990) requires the ability to attract, nurture and retain people with skills and knowledge critical to the organization's strategy as well as to deploy them where they will have the largest strategic impact. Core competencies often represent the nexus of several technological skills and of these with product and market attributes. They are integrative in nature. For example, core competencies at 3M include adhesives and coatings; at Honda a core skill is engine manufacturing.

The integration of employees with depth skills and core competencies into cross-functional tasks and projects presents a special challenge. Organizational units will be complex mixtures of generalists and specialists, who may relate to the unit in quite different ways. Highly developed depth skills and core competencies, for example, may reside in an excellence pool and be integrated into projects in a consulting capacity. A similar relationship may exist for members of highly specialized staff support groups that reside in a centralized group but provide customized consulting services to various business units. Careers may involve movement between generalist and specialist roles, thus enabling individuals to keep up with needed skill bases as well as to apply multiple skills in a generalist capacity.

Performance and Reward Systems

Many common approaches to the management of performance in organizations rest on the assumption that the individual is the performing unit. Work is broken down into individual jobs, individual accountability is the ideal, and equity is defined as basing appraisals and rewards on clearly defined individual responsibilities, good measures, and fair comparisons between people. This approach puts a premium on behavior that optimizes "my piece of the work".

In the laterally integrated organization, much more of the focus of performance management is on the connections between performers. Teamwork, communication, multi-skilling, and participating in the problem-solving process are increasingly valued, and become explicit reward and promotional criteria. Teams are increasingly acknowledged as performing units, and performance management practices begin to focus on defining team tasks and responsibilities and on appraising and rewarding teams (Mohrman, Mohrman and Lawler, 1992). Attention is paid to how the team's work fits into the larger organizational context, and to key stakeholders with whom integration is required. The focus on the identification of "internal and external customers", advocated by TQM proponents, is one manifestation of this phenomenon.

Individual performance requirements and roles are increasingly defined within the context of the team and the larger organization, often by team members and stakeholders of the individual's work. For

example, as teams become more self-directed, the breakdown of tasks within is increasingly done by team members themselves, based on the priorities and requirements for meeting team objectives and customer requirements. Multi-stakeholder input into team and individual appraisals is becoming more common.

Rewards will increasingly be based on team and organizational performance, such as gainsharing, target-based bonuses, profit sharing, and stock ownership. These approaches tie the self-interest of interdependent performers together and align them with performance of the organizational system. Fixed pie merit pay systems, which inherently pit team members against each other, will be altered to be less disruptive of cooperation. Practices such as basing merit pools on team performance and co-worker determination of individual merit pay incent cooperation.

A second trend is to person-based (skill and competency based) rather than job-based pay. This approach explicitly rewards lateral movement, cross training, and the resulting increased exposure, broader understanding, and flexibility. In the past, this form of pay has been primarily utilized in production settings, but we are seeing increased application among knowledge workers (see e.g., Lawler, Mohrman and Ledford, 1992). Person-based pay explicitly acknowledges individual value to the organization, but in a manner that is compatible with teamwork. It encourages development and application of multiple competencies, and does not pit individuals against each other in competition for a fixed pot of "merit money".

Connectivity

Shared information systems and data bases, computer networks, distributed information and common languages are important integrative mechanisms. Idiosyncratic languages and systems work against integration and protect the power bases of individuals and specialized groups.

The use of technology offers powerful process integration possibilities. Optimally utilized, for example, CAD/CAM systems entail the development across functions of common standards, decision criteria and notation that enables parallel processing and on-line integration. Such systems can be linked to suppliers to enable just-in-time parts delivery, to billing to enable automatic accounting and bill generation, and to customers to enable quick order entry, product customization and delivery. Effective achievement of these integrative benefits requires and also enables organizational integration. The integrative information system must be based on a consensually developed model of the business enterprise that includes data bases, languages, distributive capabilities and access rules.

Use of Process, Roles, and Structure for Integration

To some extent, processes can substitute for structures. For example, strategic planning processes that provide a framework for aligned objectives among various organizational units and reward systems that acknowledge overall performance may be adequate to guide those units in the same direction without the creation of cross unit teams. The difference between process and structure may be semantic, however,

since it will be necessary to create a mechanism to do the strategic planning that links the different units' perspectives together. That mechanism may be an overlay structure, such as a strategic planning council, that is in essence a team.

In general, it has been our observation that different mixtures of integrating processes, structures and roles can be used. However, as the need for integration increases, all three need to be used more frequently. Processes will have to fit with the structures and roles that are established.

As increasingly sophisticated communication technology and information systems link people together, our images of teams and team structures will become more ethereal. Teams may be composed of individuals spread throughout the world, hooked together by information technology, integrated by a project manager who doesn't reside with the team members. "Virtual teams" (Savage, 1988) will be tied together by distributed information, linked by shared goals and agreed-to protocols, and consist of fluid membership and temporarily "close" (although possibly physically distant) working relationships. Rigid definitions of "how things are done" will give way to customized organizations designed for the task at hand, utilizing structures, roles and processes appropriate for its optimization.

The Changing Role of Management

The laterally focused organization poses a new set of managerial challenges. The effectiveness of lateral structures such as teams and councils rests on their ability to decide on a common course of action and on their authority to make decisions and commit resources. The operation of lateral mechanisms is not cheap--considerable amount of time and energy is tied up in these processes. This redirection of energies is best accomplished if the hierarchical structure has been streamlined. If the lateral merely duplicates the hierarchical responsibilities, costly redundancy, conflict and inertia are built into the organization. For example, if the decisions of a cross functional team have to go up several levels of multiple functional hierarchies for approval, the decision may as well have been made at a higher level by a cross functional team or a general manager.

This implies not only a change in the organization's shape, but also a change in the role of management. As the lower levels of flatter organizations are increasingly populated by individuals with considerable tenure and experience, authority can be moved downward. One key management role is to provide a context for effective functioning at these lower levels, by ensuring that there is common direction coming from its own levels. The development and cascading of a strategy are critical management tasks. The importance of communication of that strategy to provide an umbrella for effective lower level decisions is enhanced. Management must also provide effective escalation channels for issues that cannot be resolved at lower levels.

Another key role of management is to participate in ongoing design and redesign of the organization. Lateral integration occurs through a fluid set of integrative mechanisms. In dynamic environments in particular, and where continuous improvement is a competitive imperative, change will be the order of the days to come. Managing this change requires continual attention to make sure incentives are aligned, development occurs, and that processes meet the needs of the organization. Lateral organizations are oriented to processes and projects, and are tailored to the task at hand. Ensuring that these organizational forms are tailored and modified, established and discontinued, is key to their effective functioning and to ensuring that the integrative tasks do not overwhelm the organization.

A third key role of management will be in the people management processes of the organization. Here the role will change substantially. The one-on-one all-powerful supervisor-subordinate role will change. The management of performance requires active involvement by a larger network of people who are stakeholders and coworkers. The manager's role will be to orchestrate that process, and to provide a guiding and coaching role in helping the employee to respond and develop. In addition, managers will be expected to ensure that teams are effectively developed, and to orchestrate the team appraisal and reward process.

Another key people management role will be to ensure that a human resources strategy is enacted: that core skills and key talent pools are attracted, retained and developed. This will no longer be the exclusive purview of a highly specialized human resource group, but will be a shared responsibility with line managers.

Organizational Tensions

There are a number of tensions and trade-offs inherent in a transition to a more laterally oriented way of organizing. These will be briefly described below.

Function vs. Process

Many traditional organizations have been organized to promote functional excellence, and have adhered to a logic of discipline-based expertise. In fact, these continue to be essential in a laterally oriented organization. There will always be a need for the ongoing revitalization of functional excellence, which may be attended to by functional organizations or by councils or other overlay organizations that provide focus on this issue.

The notion that an organization has to protect its core competencies goes even further. There are certain competencies in which world leadership is strategically desirable. The organization must be designed to protect excellence in these areas as well as promote integration of these skills into the

business units that need them. The balance of specialists and generalists is a key design issue and involves a number of trade-offs.

Individual vs. Team Orientation

The U.S. society is highly individualistic in orientation. Personal equity, advancement and feedback are key attractors and motivators in organizations. Engineering and other technical disciplines rest on an analytic knowledge base that has been reinforced by the individual work breakdown processes that are utilized in organizations. Human resource practices have strived for a clear delineation of individual accountabilities and objective measures. Our studies have indicated that people want to know "where they stand", and that individual reward and recognition are related to job satisfaction and feelings of personal equuity (Mohrman, Mohrman and Worley, 1990). Hierarchical progression, individual performance appraisals and merit increases have been experienced as confirmation of self-worth.

The movement toward a culture of teamwork will be uncomfortable for many individuals, especially during the transition period. Given our cultural orientations, it is likely that it can only be effected if organizations attend to the need for personal acknowledgement and sense of accomplishment. Mechanisms must be developed for building in acknowledgment of personal value, at the same time reinforcing teamwork. This implies emphasizing contribution to the team in the definition of personal performance, rewarding teamwork, and developing ways for team members themselves to recognize clearly superior contribution.

Definition of Productive Work

The staffing patterns in most organizations have assumed a commodity theory of expertise -- i.e., that people should be assigned to tasks in such as way as to maximize the number of hours that they apply their expertise directly to the task. "Process" hours such as team meetings, team development, planning and coordinating, and joint problem-solving have been viewed as non-productive time. This is formalized in industries such as aerospace and defense, where there is no account against which to "charge" those hours. Furthermore, many of these process activities have been placed in the jobs of specialized staff "experts" and managers.

The movement toward lateral integration will require a belief that those process hours are productive, and that they lay the foundation for coordinated effort and for higher quality, quicker speed, and lower cost. On the other hand, the establishment of lateral mechanisms where integration and coordination are not required is a waste of valuable time. When a team is required, it is essential that its members become efficient at team information processing. Effective lateral integration does not imply that all work is now done in groups. The skill of management (or self- management) will be to create the most efficient mix of team and individual performance.

Additionally, every effort must be made to expedite the team processes and lateral integration mechanisms, so that they do not consume unnecessary hours. Technological methods, such as shared computer systems and teleconferencing, will be helpful for integrating dispersed contributors. In addition, broadly held team skills, aligned incentives, and effective conflict resolution mechanisms will be absolutely critical.

A constant challenge will be to optimize the process gains that are achieved by establishing teams and to minimize the process losses that result from inappropriate or ineffective teams and from the establishment of teams that are not empowered to make decisions. Managers will have to be knowledgeable about design and able to make appropriate choices of integrating mechanisms. Organizational members will have to become effective team participants, and team process skills will have to be widely dispersed in the organization.

The Costs of Change

For many organizations, the costs of change to a lateral focus are high. The change process must alter the logic that has been built into every aspect of the hierarchically, individually-oriented organization. Ultimately, it will essentially alter the name of the game of organizational success for its employees, and require new skills, new concepts of career, and new concepts of self-worth.

The barriers to such change are substantial. Existing jobs, departments, career paths, and authority distribution define a status quo in which a large number of people have considerable vested interest and entrenched power. Current performance management practices define a well- understood game for employees. Although they see its dysfunctional aspects, they know their own place within it. Replacing it with the unknown constitutes a considerable threat.

The resources required for the development of teaming skills are considerable, and the current individual development paradigm will have to be significantly altered to focus more on the development of teams and groups. Executive leadership and modeling of lateral integration at the top of the organization will be a keystone of the change process.

Conclusion

This chapter has argued that the lateral aspects of organizational functioning are becoming more important to organizational success in a highly interdependent, competitive world. Speed, quality, and organizational learning and continuous improvement require effective work across an organization.

This lateral emphasis is impacting the design of business units at the macro level and the way work is done at the micro level. Lateral structures and integrating roles must be carefully designed to

ensure the organization achieves balance between its multiple focuses. Basic organizational processes will be redesigned to support a more lateral and less hierarchical view of the organization.

The impact on individuals will be substantial. Most fundamentally, their competence in teamwork skills will be critical to their successful contribution to organizational effectiveness. Careers will look different in organizations that are flatter and more lateral in orientation. Organizations will face a challenge in promoting a teamwork culture while preserving the individual's sense of meaningful contribution and self-worth.

Although these changes are well underway in many organizations, most are at the beginning of a change process that will eventually alter all organizational processes, and will change the assumptions built into organizational functioning. People will envision organizations and their careers in them in a fundamentally different way.

This whole arena is a true organizational frontier. Learning about the lateral organization is at a very early stage. There are no "off-the-shelf" designs and solutions. A great deal of academic and practical learning concerning the lateral organization will occur during the coming years. Meanwhile, organizations will have little choice but to learn by doing.

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