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INTRODUCTION

Organization design, as opposed to organization theory, is a prescriptive body of knowledge. It is intended to inform the choices of how to organize and manage institutions and serve the leaders who have been entrusted with the stewardship of these institutions. These organizations are purposeful: they have been created to accomplish specific goals and objectives. Organization design is therefore focused on creating organizations through which these goals and objectives can be accomplished.

The knowledge base underlying the choice of organization designs has its roots in scientific management and classical management principles. The practitioners and scholars who developed the knowledge in these areas were searching for the one best way to organize. Those early thinkers created many of the principles, like span of control, and much of the useful language, like centralization, that we still use today. However, it was not difficult to find effective organizations that violated many of the principles of classical management. As a result, modern organization design grew out of efforts to explain these exceptional observations.

Modern organization design came out of a variety of work in the 1950s and 1960s. One stream, developed in the United States, is best illustrated by the work of Alfred Chandler in *Strategy and Structure* (1962). He found that the different organizational structures we had observed could be explained by differences in companies' strategies. Therefore, different strategies lead to different organizations. This stream, referred to as strategic organization design, is a top-down design process that begins with the entity's strategy and

can be applied at the enterprise, business unit, geographical, and functional levels.

A second stream of thought developed in Europe around the work of Eric Trist and his followers (Trist and Murray, 1993). It was referred to as the sociotechnical systems approach. It was bottom up. It focused on the alignment of the technology involved in doing the work and the social system that could be created to perform that work. Sociotechnical systems' thinking and tools are best at designing organizations at the bottom levels of the structure. The strategic design thinking and tools are best used for designing organizations' top levels. The strategic organization design approach is the one that I follow in this book.

Today's Organization Design

The interest in organization design has been increasing over the past couple of decades. One of the reasons is that our organizations have been increasing in complexity over that time. "Doing what comes naturally" is not a sufficient guide to organizing today's institutions. Most leaders today rose up through a far simpler structure. Nor are the old dismissives relevant: "All you need are good people. They'll make any organization work." And people do make a misaligned organization work, but at a price. The people in an organization that is misaligned with its strategy and stakeholder environment cannot serve its customers and work around the system at the same time. They can perform much more effectively when the system supports them in doing their work. Besides, high-performing companies do not want organizations that just work; they want organizations that excel. The discipline of organization design has evolved along with the increasing organizational complexity and the desire to create high-performing organizations.

In the following chapters, I trace the organizational stages through which companies have progressed from the simple, single-business strategy to the complex multibusiness,

multicountry, multicustomer segment strategy. The first organizational stage is the single-business strategy, sometimes called the U form, or unitary form of organizations. Almost all companies start as a single business that is organized around functions, like sales, marketing, operations, product development, finance, and human resources. It is a unitary or one-dimensional form because it is structured only around functions. All people reporting to the CEO are functional leaders. Chapter 3 is devoted to the design of the single business or business unit, I introduce the concept of the lateral or horizontal organization. In order to get anything done, companies have to work across functions to deliver customer orders, new products, and projects. These processes are executed through lateral forms of cross-functional coordination. The functional structure or hierarchy is the vertical form, and the processes are the lateral forms, which vary from informal and self-organizing processes, to formal teams, to the matrix form. Lateral forms are present in all types of organizations, but I present them in a discussion about business units in chapter 3 since they are the principal design challenge facing business unit leaders.

The second stage arrives when a single business diversifies into new business areas. The company then creates a business unit and a profit and loss center for each new business area. Each business unit is another functional organization. The organization design challenge is thus to create a corporate center to govern the various business units. This center typically contains functional staffs to coordinate the functions across business units. The role and size of the center vary with the diversity of the businesses in the corporate portfolio. Since the CEO of the enterprise has both functions and businesses reporting to the center, the company has a two-dimensional organization structure.

The third stage develops when a company expands out of its home market into new host countries. This strategy adds a third dimension—a geographical dimension—to the organization. Initially companies simply add a geographical division to their

multiple business unit divisions. But when international sales reach around 30 to 40 percent of total sales, the international division disappears. In consumer goods companies, the division is replaced by regional profit centers, one of which is the home country. In the business-to-business (B2B) world, the international division is split and the parts are added to their respective business units, creating global business unit profit and loss centers. However, in the global business unit structure, there is still an international or regional overlay on the global business units. And in the regional structure, there are global business units that are overlaid across the regions. So reporting into the corporate center are functions, business units, and geographies. The organization design challenge is balancing power and authority across the three-dimensional structure. The resulting power distributions will be driven by the global portfolio strategy (Galbraith, 2000).

The fourth strategy stage begins with a focus on the customer (Galbraith, 2005). Driven partly by demands from global customers like Walmart, companies such as Procter & Gamble, IBM, and investment banks are adding global customer or customer segments to their structures. Another contributing factor is the conversion of products and services into digital offerings. In the digital world, everything talks to everything else. Vendors, like IBM and Accenture, can combine digital hardware, software, and services into smart solutions for their customers. They can easily customize and codevelop applications with customers for customer segments, like financial services and utilities. This solutions strategy is best executed by organizing around the customer or customer segments called verticals. So in these solutions-oriented companies, we find customer segments reporting into the corporate center along with business units, countries, and functions. The challenge for organization designers is to integrate four dimensions into a one-company strategy and organization. Integration becomes the task of the company's processes. As we will see, the more complex the structure is, the more important are the processes.

Inevitably, the question that comes up is, "Is there a fifth stage?" In the concluding chapter, I speculate about a fifth stage. It appears that the forces around big data, meaning the increased volume, complexity, variety, and velocity of available data, may very well manifest themselves in a fifth strategy and organizational dimension.

Drivers of New Strategies

It is natural to ask why companies are continually changing their strategies. What is driving this movement through the stages? Usually managers prefer to keep things simple, so why are they moving to ever more complicated strategies? There are at least two reasons. One is the pursuit of growth. Many companies are driven by a growth imperative. And the other is the continuing fragmentation of the stakeholder environment.

Growth

Every publicly traded company wants to grow and drive its stock to trade at a premium price. If there is no growth, the company's stock is flat and trades like a bond. A high stock price makes it easier to attract capital and reward employees. The elevated stock also can serve as a currency to make acquisitions. More important, talented people want to join a growth company that has a bright future. But while growth is desirable, it also faces limits. A firm can grow only so much in its core business and its home country. So when growth in the core business slows, firms diversify into adjacent businesses and become multibusiness companies. When growth slows in the home country, firms expand across borders and become multinationals. This pursuit of new growth opportunities causes firms to change strategies and move through the stages.

Fragmentation of the Stakeholder Environment

The other driver of strategic change is the movement from mass markets to ever smaller market segments. In the twentieth century,

businesses used mass production to supply mass merchants to serve the mass market. Now, with ever-increasing data, firms can focus on ever smaller customer segments. Consulting firms can now identify 650 microsegments in the food market. Some of these microsegments are declining, some are flat, and others are growing. So food companies are focusing on these growth microsegments, like Hispanic moms and senior foodies. Both the growth imperative and market fragmentation lead to customer-focused strategies.

So it is largely the growth imperative and market segmentation that drive firms to continually evolve their strategies. But not all companies progress through all of the stages. Some companies, like utilities and defense firms, remain domestic enterprises, and some family-owned companies remain in a single business. Andersen, Marvin, and Pella focus largely on residential windows and doors. Most companies, however, become three-dimensional, multinational enterprises like General Mills, Pfizer, Siemens, Canon, and Johnson & Johnson, while others, like Experian and Nike, progress or are progressing through four or even five stages. My point is that different strategies drive different organization designs. It is not size or industry that is the primary shaper of different organizational forms. Size, industry, and nationality all have their effects, but in this book, I start with strategy to begin the design process.

The other point about strategy stages that is important for organization design is that the strategies are cumulative. Chandler called this feature concatenation. That is, a multibusiness enterprise also has stage 1, single-business strategies that guide its business units. And when the stage 2 enterprise expands across borders, it adds third-stage international strategies to its stage 2 multifunction, multibusiness strategies. This cumulative stage-wise progression is what increases the complexity of organization designs and gives organization design its challenge and its priority to create high-performing enterprises.

Drivers of Organization Designs

There are three major shapers of organization designs. The first is the one that we have been discussing: the diversity and variety of units that must be coordinated for the company to execute its mission. The second is the degree of interdependence between these diverse units. Usually the units in a company are not independent but require coordination, and the amount depends on the degree of interdependence. This interdependence results from the initial division of labor into functional specialties that are needed to execute the business's activities. The third factor is the dynamics of change associated with a business. The dynamics consist of the rate or pace of change combined with its predictability. The predictability of change is the key. Even if a business is subject to constant change, if that change is predictable, a company can use plans and schedules to coordinate interdependence among units. If each unit can meet its planned goals and delivery schedules, the organization greatly reduces the amount of ongoing communication that it needs to coordinate its work. It is when change is constant and unpredictable that plans and schedules need constant revision and renegotiation. These organizations require designs that permit high levels of communication, flexibility, and adaptation.

Variety and Diversity

It is actually the interaction of the three shapers—variety, interdependence, and change dynamics—that drives organization designs. To illustrate, let us start with a single business that conducts its affairs through seven functions: development (of products and services), operations, marketing, procurement, sales, finance, and human resources. These seven functions must coordinate their efforts to conduct normal business for the existing product already in the market. They must also

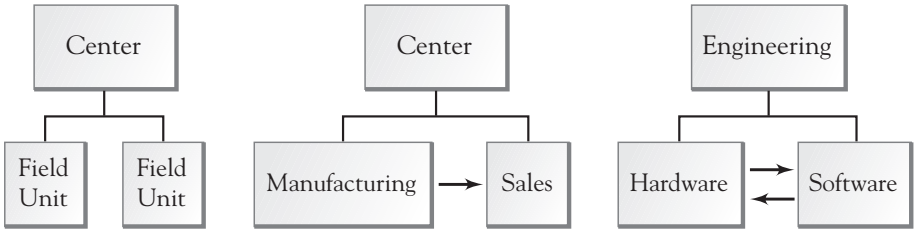
synchronize their activities to launch a new product, and they probably need to agree on the priority and features of the next product in development. The communication and decision making to arrive at the plans and schedules for the existing product in a seven-function organization must take place across twenty-one interfaces. (Links = $\frac{1}{2}\ n\ [n - 1]$. Thus, $21 = \frac{1}{2} \times 7\ [6]$.) Communication and collaboration must also take place across these same seven functions and twenty-one interfaces for the launch of the next product and yet again for the initiation of the new product. The process repeats itself for each product that is added to the single-business, functional organization. So variety, as measured by the number of products in this case, increases the volume of information processing and decision making that a single functional organization must execute. And every functional organization has a limited capacity for communicating and deciding. Then when the growth imperative causes the single business to follow a diversification strategy, it will add one or two new businesses. At this point, the coordination task exceeds the company's capacity to coordinate. As a result, it will move to a stage 2, multibusiness company and multibusiness structure. The functional organization does not have the information-processing and decision-making capacity to manage multiple businesses within a single functional structure.

Dell is a good example. Dell started with a single product line of desktop personal computers. In order to maintain its growth, it added desk-side computers and laptops. Then it added new businesses of personal desktop printer, personal desk-side storage, and low-end servers. It also migrated from a single personal computer business into a multibusiness unit, multiprofit center company. It changed its name from Dell Computers to Dell. Each profit center was a functional organization capable of managing a single business, like personal computers, printers, storage, and servers.

Interdependence

Interdependence is the degree to which activities in one organizational unit affect the activities and goal accomplishments of other units. Interdependence has been a driver of coordination since the work of Thompson (1967), who identified three types of interdependence, which increased in magnitude. These types are shown in figure 1.1. The simplest interdependence is pooled interdependence whereby field units, shown in figure 1.1a, share the same pool of funds and talent resources. Other than sharing resources, these field units, like sales units, perform their work completely separately. There is a minimal need to coordinate and communicate between one another. The next type, sequential, shown in figure 1.1b, indicates a higher level and greater amount of interdependence. In sequential interdependence, the output of manufacturing is a necessary input for the performance of the sales function. In order to achieve successful performance, company management must coordinate the flow of work across sequentially interdependent units. The sequentially interdependent units, however, also possess pooled interdependence. The greatest amount of interdependence exists when units are reciprocally interdependent, as in figure 1.1c. The output of both is the input of the other. Engineering design groups are a good example. The reciprocally interdependent units possess the greatest amount of

Figure 1.1 Types of Interdependence



interdependence because they possess all three types. They require the greatest need for coordination as a result.

Interdependence is a variable that can be changed and can lead to different amounts of coordination. For example, the new product initiative referred to above may have greater interdependence among development, marketing, operations, and procurement than it has with the other three functions. Therefore, the interdependent four functions can form a core new product team, which has more limited communication with the other three functions. But when you add the other functions to the core team, it becomes the extended product team. One of the reasons that interdependence drives organization designs is that a principle of design is to create structural units based on the degree of interdependence. A designer should maximize the amount of interdependence and coordination that takes place within an organizational unit and minimize interdependence and coordination across units.

Today the most competitive management practices—lean processes, speed to market, and real-time decision making enabled by big data—increase the interdependence among functions. Previously companies reduced interdependence by using sequential work flows across functions. Between each stop in the flow of work were buffers like in-process inventories and order backlogs. These sequential work flows, called "loosely coupled systems," uncoupled the functions so that they could solve their issues independent of other functions. The loosely coupled systems reduced the amount of information processing and decision making so that the complexity of coordination fit within the business unit's capacity. However, loose coupling led to the barriers between functions that we refer to today as silos.

The competitive practices referred to above are creating tightly coupled systems that remove the buffers that uncoupled sequential flow across functions. And in their place, we need to

create communication links across the interfaces between functions. We need to break down the silos. One of these practices began as lean manufacturing, such as in the Toyota production system. In lean manufacturing, all the buffers were seen as waste to be eliminated: they consumed resources and created no value for customers. From manufacturing, "lean" has progressed into services and now to the lean start-up (Ries, 2011).

The new product development process has been redesigned to reduce time to market. Previously the process was sequential. Engineers designed the product. They then gave the design to procurement, which contracted for the components and to operations, which designed the manufacturing process. Almost all manufacturers today use parallel processes called simultaneous engineering or concurrent design. The engineers still design the product, but they are joined by manufacturing engineers, quality engineers, and service engineers to jointly design a better, and more complete product, faster.

A third practice for speeding up decisions is the need to decide and act in real time as events unfold in social media. Nestlé has a digital acceleration team to constantly monitor social media conversations about its brands and categories, and then engage consumers in conversations. The team is not composed just of social media experts. It includes many functions like brand managers, consumer insights, legal, customer account managers, agency personnel, and food scientists if needed. The purpose is to act quickly on bad news before an incident goes viral. The digital acceleration team is a good example of a reciprocally interdependent group of functions.

All of these practices increase the speed of decision making and the amount of interdependence across functions. Usually to implement these practices, cross-functional teams are needed to short-circuit the hierarchy. The organizations take on a strong lateral or horizontal orientation. Many refer to these designs as networks. I address these in chapters 3 and 4.

Dynamics of Change

The predictability of an organization's work has been identified as a shaper of designs for a long time. March and Simon (1958) identified programmed decision making as the appropriate process for predictable tasks and unprogrammed decision making for unpredictable work. Burns and Stalker's (1961) case studies revealed two types of organizations that they called mechanistic and organic, with the appropriate organization depending on the work to be performed. If the work was predictable, a hierarchy or mechanistic form was appropriate. If it was unpredictable, an organic form was appropriate. By organic, the authors meant lots of lateral forms to foster coordination. The work of Lawrence and Lorsch (1967) was the most revealing. (Their results are shown in table 1.1.) They compared companies in the plastics, food, and container businesses and measured the amount of revenue in each company that came from new products introduced in the previous five years. This variable was a proxy for predictability of the work. Revenue due to new products varied from zero for containers (can companies) to 15 percent for food to 35 percent for plastics (packaging).

Table 1.1 Matching Strategy and Organization

	Plastics	*Food*	*Container*
Percent of revenue due to new products	35%	15%	0%
Coordination mechanisms used	Hierarchy Voluntary Formal groups at three levels Integrating departments	Hierarchy Voluntary Formal groups Integrating roles	Hierarchy Voluntary
Percent integrators/ managers	22%	17%	0%

This work was performed by functional organizations. The container companies were able to achieve cross-functional coordination with only voluntary or informal personal contacts across the hierarchy. These companies had the most predictable work to perform. Cans were a commodity, and the focus was on operational excellence. The food companies faced moderate amounts of unpredictability associated with 15 percent of their revenue coming from new products. The impact of more unpredictable work can be seen by the number of additional resources that were invested in cross-functional coordination. In addition to the hierarchy and informal contacts, the food companies employed integrators (product managers) and formal groups (cross-functional product teams). In addition to the managers in the functional hierarchy, the food companies used 17 percent more managers for coordination.

The results are even more striking with the plastics companies. These companies compete with new products and continually face new and unpredictable tasks. These companies employ integrating departments (product management departments) and formal groups at three levels (cross-functional product teams). They employ 22 percent more integrators to coordinate all of this cross-functional, new product coordination. So the effect of unpredictability on interdependent work flows is dramatic. When companies are designing, making, and launching new products, the effect of unanticipated issues causes them to make and remake decisions repeatedly. They must process information from all of the interdependent functional groups, which requires an organization designed specifically to execute a new product strategy.

The effect of unpredictable work is much less dramatic when the work is independent. A law firm may work on uncertain cases for different clients. Each case has a team working it, and each case is independent of the others. There is minimal pooled interdependence and minimal need for continuous decision making and information processing across the case teams. The law firm can function with a much less complex organization. So the

design challenges come from the extreme values of the shapers of organization design. That is, the challenge is to design an organization that is providing a variety of products and services through an interdependent group of functions when change is rapid and unpredictable. But most companies have been following strategies that push us to the extremes of these design-shaping factors. These companies need the accumulating design knowledge to create the high-performing organizations they desire.

Summary

This book will follow a school of thought called strategic organization design. That is, we start with a company's or a unit's strategy and design the organization from the top down. This school of organization design follows from Chandler's work, *Strategy and Structure*. His model states that every twenty or thirty years, companies add a new strategic dimension to their portfolio. Not all companies follow this stage-wise progression, but many publicly traded companies do in order to pursue growth. In so doing, they adopt ever more complex strategies. This complexity is behind the rise of organization design to guide the choice of organizations with which to compete in global markets.

If growth creates complex strategies, it is diversity or variety, interdependence, and change that shape organizations. As a framework for the book, I describe the trajectory of a typical company as it evolves through the stages of increasing diversity and increasing complexity. To the extent possible, I provide examples of actual companies to illustrate the points being discussed. But before beginning the chapter on the single-business strategy and functional organization, I define what I mean by organization and use the Star Model for this purpose. I also identify the design factors that leaders can use to create the organizations that they desire.

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THE STAR MODEL

Strategic organization design began with Alfred Chandler's *Strategy and Structure* (1962). Since that time, the topic has been expanded beyond structure to include several other factors: information and decision processes, reward systems, and people practices that make up the human resources function. Collectively they define what we mean by organization. In this chapter, I place those factors into the Star Model and describe their interactions. In so doing, I define what we mean by organization design.

The Origins of the Star Model

I created the Star Model on the basis of my experiences in trying to apply information and decision processes. My initial training was in the areas of production and inventory control. In 1967 and 1968, my colleagues and I had built a number of models that could make decisions about scheduling and inventory levels in a supply chain. We were quite proud of our models: our simulations showed that they would lead to some significant performance improvements in a number of supply chain applications. However, as we tried to apply the models to client problems, we always had a great deal of difficulty in convincing managers to use these models.

As we tried to uncover the problem, we discovered that the performance of managers in the supply chain was measured on the basis of accounting costs and standard costs. This was a problem because we always used economic costs in our models. We used variable and marginal costs, so the decisions that came from the

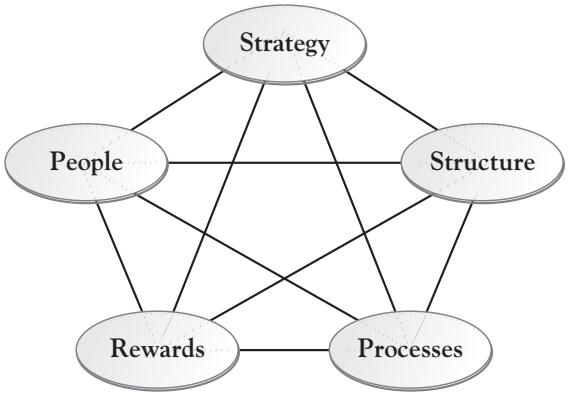
models were different from what the managers would normally have decided to do. And since they were measured on the basis of standard costs and rewarded with bonuses on the basis of their decisions, they were not going to follow our models. In fact, they thought that our models would lead them to make incorrect decisions according to their metrics. In order to implement the kinds of information and decision models that we were creating, we would have to modify performance measurement and the reward systems under which the managers were going to operate.

The second issue we ran into was that we were also going to have to modify the structure of the supply chain. Decisions at the time were made in the factories at the level of the plant or the department. In order to profit from the information decision models that we were creating, the company would need to centralize those decisions so that they applied across its entire supply chain. The managers in the various companies with whom we worked found that they would encounter a lot of resistance from the current occupants of the roles in the structure, and so that became difficult.

The third issue was that if they implemented this model, the company would have to hire some new people—people with quantitative skills who could operate the model and reach the kinds of decisions that would be optimal for running the supply chain.

In the end, what we found was that if we wanted to make a substantial change in the information and decision processes of a company, we also had to modify its performance measurement and reward system, the structure, and the skill sets and mind-sets of the people. As we realized that we needed to change all of these factors in a way that reinforced one another, we learned to take a holistic or systemic view of an organization. We saw that we could not change organizations piecemeal. It is necessary to see the organization as a complex social system. The Star Model was the framework that allowed us to take a systemic view.

Figure 2.1 The Star Model



So this was the origin of the Star Model, which is shown in figure 2.1. It gives a holistic way of thinking about an organization as consisting of a structure, information decision processes, reward systems, and people. And this is the model that leaders and general managers need to refer to when they're considering changing their organization.

Some other models of organization are similar to the Star Model, including the McKinsey 7-S model. Today, in fact, almost every consulting firm has a model that looks something like the Star Model or McKinsey 7-S model. They all have a common set of messages.

First, these models say that different strategies lead to different structures for implementing them. That seems obvious, but in the heat of debate concerning organization structures, organization often follows fashion. For example, in an organization that consisted of four relatively autonomous business units, the conversation started at the corporate level about whether to centralize the supply chain. The debate started when several competitors had centralized their supply chain and another competitor was considering whether to do so. The fact that the competitors had changed their structure and others were going to change theirs seemed to be the compelling argument. The

idea was that this was the trend in the industry: centralization was what everyone else was doing, and the company was going to be falling behind if it didn't get on the bandwagon soon. "This is the trend," they said. "We need to join it." The argument that the company should centralize the supply chain seemed to be carrying the day.

It was then that the conversation shifted: the leaders looked at the company's strategy and asked whether centralizing the supply chain would lead to an advantage or whether the company then would simply be a poor imitation of its competitors. Instead, the leadership team confirmed that the company's key strategy revolved around new product development. It was quite effective at taking new technology and getting it to the market ahead of its competitors and thus achieving a first-mover advantage. As a result, its supply chain was not centralized. However, some aspects of the supply chain were centralized—for example, the choice of some of the trucking companies that it used. Current practice involved over one hundred trucking companies, so some benefits were attained, but the company maintained its autonomous business unit structure. More recently, some of its competitors have been licensing technology from it. So different strategies mean different organizations. The lesson is that you start with the strategy and design the organization to implement the chosen direction.

The second point is that organization is more than just structure, yet frequently, leaders make changes that are structure only. They thus fail to make the compensating reinforcing choices around the kinds of people they need, the kinds of performance measurements that would be introduced, and the types of information and decision processes that would work across the structure. They are making the same mistake as my colleagues and I did some forty-five years ago when we were implementing new analytical models.

If companies use a matrix organization, they frequently spend inordinate amounts of time arguing over solid lines and

dotted lines of authority. I will address this later when I consider matrix organizations, but there's very little value in having a debate about dotted and solid lines of authority. The time is better spent defining roles and responsibilities, investing in the planning and budgeting processes, and finding individuals who work effectively in matrix organizations. Thus, it is better to take a holistic view and design the whole organization than focus solely on the structure piece.

And finally, the third feature of the Star Model is that an effective organization is one that has all of these factors in alignment: they fit together and reinforce one another, and the people in the organization get a consistent message about the appropriate kinds of behavior. When the factors are not aligned, frictions develop, people are confused about the direction, and time and energy are wasted on unnecessary conflicts. So no matter which model is used, these are the three design principles to follow.

We are often asked why we chose this particular set of factors to include in the Star Model. There are basically two reasons. The first is that these factors are directly controllable by leadership teams. Leaders can decide on the structure, the processes they use to make decisions, the people they're going to recruit, and so on. And second, these are the factors that have an impact on people's behavior. If you measure and reward particular kinds of behavior, you're more likely to receive those behaviors. You're more likely to get cooperative kinds of behavior if you hire people who are naturally collaborative, and so forth.

The fact that culture is not one of the elements of the Star Model is frequently questioned, and the reason is that leaders cannot directly control the culture. They can change it, as we will see, but they do so by making changes to the four factors I've described. If the strategy is to become more customer-centric, the leaders choose to organize by customer segments, accentuate the customer relationship management process, reward people on the basis of customer satisfaction and customer retention, and hire people who are relationship oriented as opposed to

transaction oriented. If the leaders make all those decisions, they're most likely to generate the kind of behavior that then leads to a culture of customer-centricity. The balance of this chapter describes each of the factors of the Star Model in more detail.

Strategy

Strategy is the direction in which the company is going to grow. It is set so that people in the organization know how they should be guiding their own behavior. Strategy is also important to determine and make choices. That is, the organization needs to decide what it's going to do and what it's not going to do because it has limited resources. The scarcer the resources, the more clearly defined the strategy needs to be. As a matter of fact, the only reason companies need a strategy is that they have very limited resources. Companies face an enormous amount of opportunity but limited resources. Therefore, each one must decide what it is going to do, and do well, and what it is not going to do. These choices then guide decisions about organization structure, rewards, processes, and people practices.

The Monitor Group has developed a framework for guiding the strategy of a business unit, a region, a function, and even the entire enterprise. Strategy consists of three pieces: what to do, where to play, and how to win. *What to do* refers to goals and objectives. As I said in chapter 1, all publicly traded organizations pursue growth as one of their goals in order to keep the stock price advancing. Other goals could be, for example, market share or, for customer-centric companies, customer share or a specific return on investment. These are some of the choices around goals and objectives for both short-term and long-term decisions. Most organizations are fairly effective at making *what to do* kinds of strategic choices.

The second element, *where to play*, is literally about the question, "Where in the world are we going to be present and do business?" There is a choice of countries in which to be present

and also a choice of products. What will be the portfolio of products that we offer? Which markets are we going to address, and where in that market will we compete? Will we compete at the high end, the low end, or somewhere in between? Where along the value chain will we conduct business? Where will we outsource and buy services and products from other people? So for each type of industry, there are *where to play* kinds of choices in terms of segments and microsegments, products, channels, countries, and so on.

Companies continually add dimensions to their strategy, and therefore their organization. Initially they compete within their home country and then expand into a host country. They start in their core business and then add different products, customer segments, and so forth. The *where to play* decision is made continuously over time as the organization seeks out its growth objectives.

The third strategic element, *how to win*, is all about competitive advantage: What is our recipe for success? What's our formula to compete? This is a harder decision yet an important one, and it has a lot to do with the distribution of power in the organization.

Some companies are product-centric. Pharmaceutical companies, for example, focus on discovering, patenting, and introducing blockbuster drugs. The blockbuster strategy is a product-centric kind of strategy. Pharma companies would achieve a patentable position for some number of years, and that would give them an advantage. Today these companies are finding that that strategy is more difficult and are now becoming more customer-centric—that is, they try to address the health outcome needs of a population. In Australia, the government has given some companies specific populations to target, along with a fixed amount of money. In this case, pharmaceutical companies look at providing not just drugs but health information, hot lines, support groups, and other elements in the effort to become more customer-centric for a particular population.

Procter & Gamble has always been a good example of getting advantage through quite favorable views of its brands like

Tide and Pampers. But it also is able to maintain these brands by having greater insights into why consumers buy and behave the way they do. Citibank has achieved a competitive advantage by being located in more than one hundred countries. By taking deposits and making loans in local currencies, it allows companies that are its clients to avoid currency risks. The closest bank to Citibank is the Hongkong and Shanghai Banking Corporation (HSBC), which is present in fifty-six countries. Citi clearly has an almost unattainable advantage by its presence in so many countries. IBM has pursued the solutions and "Smarter Planet" types of offerings based on its in-depth customer knowledge and an ability to integrate hardware, software, and services around a customer's problems or needs.

It's also important to know how long a competitive advantage will last. All advantages are temporary, but they last for different time periods. It's safe to say that most industries are now seeing increasingly shorter-lived advantages. In fact, experts recommend that companies work continually on their next advantage rather than try to sustain a current one. It's also important to know how long a competitive advantage is likely to last, because that is how long the current organization will last. In fast-moving, high-rate-of-change industries, the organization needs to be capable of moving from one advantage to another and concurrently of moving from one organization to another.

Structure

The structure of an organization is about the distribution of power and authority across a hierarchy. All organizations that we know of have hierarchical forms. In this section, I describe the forms that that hierarchy can take: the functional organization, product or business unit organization, customer business unit, channel organization, geographical organization, hybrid structures, and matrix organization. Then we look at the other dimensions of structure, such as the distribution of power (both

horizontal and vertical), the division of labor, and the shape of the organization. We start with hierarchy and then move to the other forms in which the hierarchy can be configured.

Hierarchy of Authority

Today there are discussions of choices between networks and hierarchies as a form of organization. In fact, a hierarchy is a network—a particular form of network, so it's best to think of hierarchies *and* networks. It's difficult to find an organization of any size that has existed over any length of time that is not a hierarchy. The reason is that for large numbers of people to act in an organized way, it's necessary to create some kind of division of labor. That is, people must simultaneously sell the products or services, while other people are producing and delivering those products and services. And at the same time, other groups of people are designing the next generation of services and products. Still other people are recording the transactions and receiving funding from sales of those products and services. Another group is looking for funds to grow the enterprise. And so on. There is a division of labor of a large number of people whose behavior needs to be integrated.

This large number of people cannot continually communicate among themselves and decide on what they're going to do. Instead, we select a few people and place them in a hierarchy of authority. They decide what directions other groups will take, what the prices should be, what the schedules should be, and so forth. A hierarchy arises because organizations do not have the information-processing and decision-making capabilities to get a consensus among a large group of people. A consensus is particularly difficult when the people are really quite talented and have minds of their own. It's even more complicated when they're facing uncertain futures with limited resources and high stakes.

The function of a hierarchy is thus twofold. First, decisions are made in a hierarchy in order to coordinate the behavior of

a large number of people who cannot otherwise make timely decisions among themselves. Second, it is a path of escalation in order to resolve disputes among people about the direction of the enterprise. And the likelihood of disputes is high when there are strong people, high stakes, high future uncertainty, and limited resources. For these reasons, it is difficult to find a large, ongoing institution that is not a hierarchy.

One example is the US court system. The population of the United States would still be arguing over who won the 2000 election, Bush or Gore, without the Supreme Court, which debated the issue and then voted five to four. The justices chose Bush, and the country went about implementing that decision. Why did half of the US population decide to go along with this, even though they disagreed?

The reason is that the US Supreme Court has legitimate power that we refer to as "authority." It is the consent of the governed. That is, people eventually comply with a decision made by a legitimate hierarchy of authority, even if they disagree with the decision. And it is this dispute resolution power in a hierarchy of authority that allows collective action among a large number of people. Authority therefore enables collective action to take place in an integrated manner. Alternately, there is no hierarchy for fiscal policy in the United States. As a result, there has not been a budget for several years. Instead, we have sequestration and gridlock, which no one wants.

The lesson from the US legal system is that there is a hierarchy of authority: unpopular decisions get made, and everyone moves on. An important feature to note is that that it isn't always an individual who is at the top of the hierarchy. It can be three people, as in an appeals court, or it can be the Supreme Court of nine people. The decision process itself takes place within a hierarchy so that a decision can be made and action can take place within reasonable time frames.

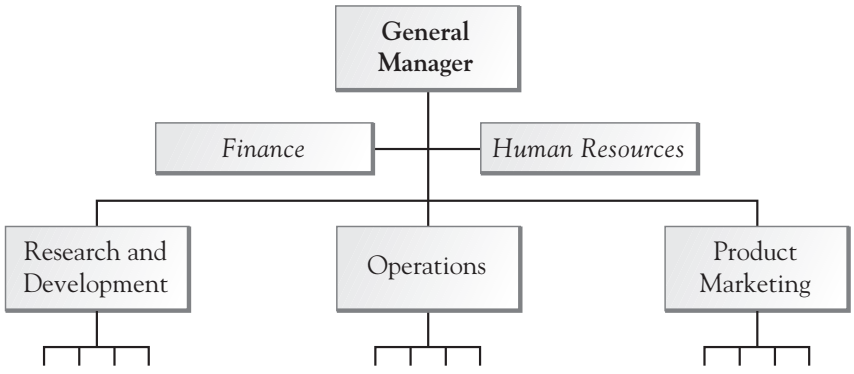
It has been suggested that open source software institutions are an example of large numbers of volunteers who are creating

a software program. While that is true, there is always someone who has the final approval of changes to the software program. At Linux, the software program that's widely used as an operating system today, Linus Torvalds, the founder of Linux, was the final arbiter of any disagreements on major changes to the kernel of the operating system of Linux. He then became a bottleneck to the decision process. There was an open revolt around 2008 among all of the volunteers who participated in the creation of Linux. The result was the addition of a decision-making body—a layer of committees—between all of the volunteers and Linus Torvalds, who still maintains the final word on important decisions. This layer of committees now makes decisions about parts of the overall program. When there are disputes and a time frame of action, hierarchy is the intelligent way to organize in order to get something done.

A hierarchy can be designed around different types of structures. A few of them are listed and described below.

Functional Organization. When firms have a large number of people, they divide the work into subtasks that can be performed simultaneously. Invariably, this initial division of labor is based on functional specialization. It results in a hierarchy of authority that is shown in figure 2.2.

Figure 2.2 Functional Organization



Most organizations have some people who are dedicated to selling the products and services. Others are dedicated to the delivery or the operations of the organization that delivers the product or service to the customer. People in finance track the transactions and fund the growth of the organization. There are people in human resources, information technology, legal, and product development who specialize in these particular tasks.

It is instructive to note that when any organization begins, it usually has a functional organization based around a single-business strategy. For example, when Google started in search, it used a functional organization. Nike, when it started with athletic footwear, began as a functional organization. Analog Devices, a semiconductor manufacturer, was a functional organization when it started with converters.

One of the reasons companies choose the functional organization, and have consistently chosen it, is that society itself is organized around those functional specialties. That is, business schools have departments of finance and accounting, departments of supply chain management, and marketing departments. Engineering schools have departments of electrical engineering and mechanical engineering. Law schools segment themselves into various domains of legal study. Society itself is organized around specialties, and people in society choose them as their career.

It has often been suggested that we should do away with the functional organization. For example, the founders of the reengineering movement suggested that companies eliminate the functional hierarchies and replace it with a hierarchy based on processes—for example, the order-to-cash process, the new product development process, and the customer acquisition process. They claimed that this would eliminate the functional silos that impeded coordination across functions. And while they were correct that a shift to a process organization would eliminate the functional silos, they also found that it would create process

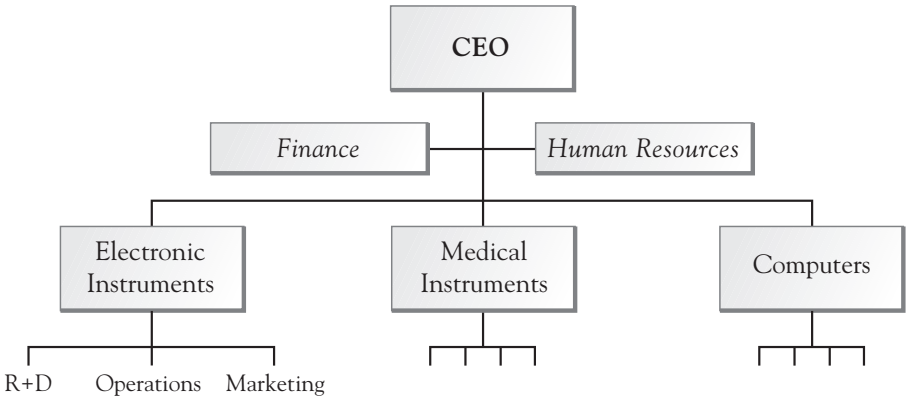
silos, which goes against the way society itself is organized. Today we may have process owners and a lateral organization based around the new product development process, but most organizations are still based on individual functions.

Many functions come and go. For example, we currently are looking at the trend toward big data. There's a suggestion that we should form a new specialty around data scientists and have a data and analytics department, and many organizations are doing this. Procter & Gamble combined procurement, manufacturing engineering, manufacturing, and distribution into a superfunction called product supply. Other companies call it supply chain. There are also many subfunctions. For example, within sales, many organizations develop a subspecialty of export sales. There's thus a continuing evolution of different types of specialties that are created within society and within universities. Organizations respond to this evolution by hiring and then organizing around these particular kinds of specialties.

Product Organization or Business Units. Companies that diversify usually move into adjacent markets or product lines. That is, when growth slows in their core business, they diversify by adding a new business in which they can continue their growth.

Procter & Gamble started out in 1837 by making candles and soap based on animal fats. It dropped the candles as a product line with the advent of the light bulb but was a very large soap manufacturer at the end of World War II. However, its scientists discovered synthetic granules, which became the basis of detergents. The company expanded into Crest and other toothpastes and later into paper products like Charmin and Pampers. In this way, P&G moved into additional industries in which it could grow. Each of these industries, however, is a consumer packaged goods product line. Each is based on a similar business model of selling through a system of brand management to mass merchandisers, where consumers make repeat purchases of fairly

Figure 2.3 Product Structure



low-priced products. In this way, P&G created a product- or a business unit–based organization. Each of those product lines or business units was itself a functional organization. We can see that the negative of a functional organization is that it is difficult to manage variety within a single functional structure. Instead, we create multiple profit center structures, each of which is an individual business unit, as shown in figure 2.3.

Customer Business Unit. The third type of structure is customer-based or a customer business unit. Service businesses, as they expand out of their original core business, typically move into other customer segments. For example, there was a group of financial services organizations called savings and loans in the United States. They took people's savings and lent out these savings as mortgages to other people who were buying homes. That's all they did. Then they were deregulated and expanded into other consumer lending products like auto loans and home equity loans. They also expanded into commercial loans, that is, loans to businesses. Many banks have a set of lending products for consumers, as well as other products for commercial enterprises of various sizes. As a result, there are separate profit centers for small, medium-sized, and large businesses and another for national businesses. Thus customer segmentation is

implemented throughout the entire organization. Each of these customer segments is often a functional organization. Other service businesses, such as telecommunications businesses, are also segmented by type of customer and organized into customer business units.

Channels. A fourth type of business structure is built around channels. Williams-Sonoma, for example, is organized around how people want to purchase their products. It has retail outlets—actual brick-and-mortar buildings where customers can physically go and buy and take away the products—a large catalogue business where it can function on a mail order basis, and an online business where customers can order over the Internet and take delivery through a delivery service. In addition, many retailers also have an outlet channel. Some of its products may have a defect yet are still valuable. These products are sold through an outlet channel at a lower price. So many retailers have a brick-and-mortar business, an online business, a catalogue business, and an outlet business. Each is often a profit-and-loss center and a functional organization.

Geographical Structure. The fifth type of hierarchical structure occurs when companies organize around geography. This is typical of a hospital, which has a radius around which it attracts patients and physicians. A multihospital type of an organization then replicates the full hospital in different areas. A cement company such as a CEMEX, where delivery is based on a radius around a cement plant, is organized on a geographical basis. A cement plant is no longer competitive after a radius of about 150 miles, so each of these units is replicated on a geographical basis. Each geography is a profit center and a functional structure.

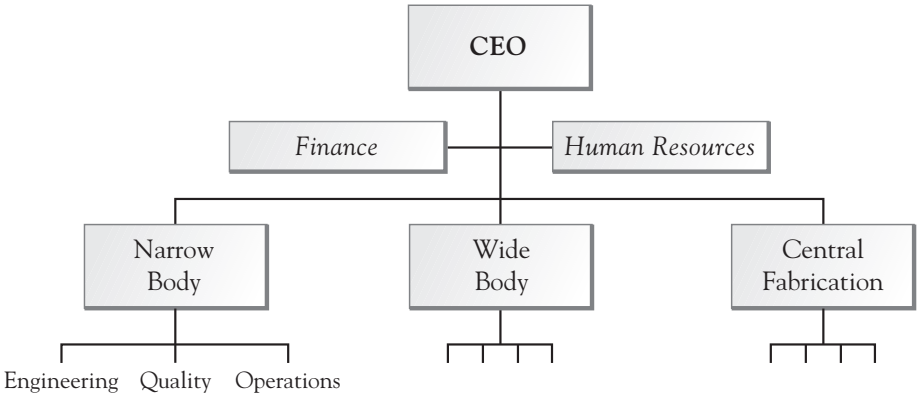
Many services were also based on geographies, where people had to go to the store or clinic based on the proximity of the facility. Today the digital revolution provides things like online education, distance medicine, and online banking, where rather

than going to the branch of a bank, you can now do business with the institution online. Some refer to this digital phenomenon as the death of distance. The digital revolution is reducing the need for many types of structures that were previously used by service providers.

Hybrid Structures. Often organizations combine one or more of the types of structures already identified. For example, Boeing structures its organization around the type of aircraft, as shown in figure 2.4. It creates product organizations for wide-bodied aircraft in one division. That is, the 747s, 767s, and 777s are in a single wide-body division. A narrow-body division designs and assembles the 737 and the 757. The 787 is in a separate organization for its design and assembly since it has new technologies. And there is another division as well: the central fabrication division. This unit makes all of the structural components like wings, spars, and struts. The manufacture of these components requires expensive, numerically controlled machine tools. Since each product division cannot afford to have its own, a separate fabrication unit is created that supplies all of the aircraft divisions.

Telecommunications operators use a similar kind of structure. AT&T and Verizon have their own customer segment

Figure 2.4 Hybrid Product and Function Structure



specialties focusing on consumers, small business, large business, multinationals, and so forth. These are their customer business units. However, all of these businesses share a common network. Originally this was a copper wire network, but it's also a capital-intensive network of communications that spans the entire country. Again, the reason for this special network is the scale of the investment that's necessary to create a network. Each independent customer segment cannot afford its own, so they share the central network. The result is a hybrid structure comprising a network and customer business units. Many organizations use this kind of structure when sharing a common, large-scale infrastructure.

Today many organizations outsource those requirements for economies of scale. Virgin Mobile buys network time from its competitors and then resells it. Many semiconductor design companies do not have their own fabrication facilities. A silicon fabrication unit today costs around $4 billion. So if you're a large manufacturer like Intel and you see an advantage in having your own fabrication units, you do the investing yourself. If you're a relatively new semiconductor company, like Marvell, which was founded in 1995, you do the design work for semiconductor products but go to Taiwan Semiconductor Manufacturing Company to do the fabrication. Taiwan Semiconductor incurs all of the investment for maintaining the state-of-the-art manufacturing facilities and invests up to $4 billion on new cutting-edge equipment. It can afford to do this because it provides semiconductor fabrication services for Marvell, Analog Devices, NVIDIA, and other semiconductor design companies. So sometimes a hybrid is adopted by an organization; other times, an organization outsources this highly specialized economy of scale-driven type of facility.

Matrix Organizations. A final kind of combination of structures is a matrix organization. In this case, the unit or company is simultaneously organized around two dimensions. The matrix

began with American aerospace companies in the 1960s. These companies were organized around functions, primarily different engineering functions, manufacturing functions, quality, and a marketing or sales department (Galbraith, 2009).

When President Kennedy announced the goal of putting a man on the moon by 1970, aerospace companies adopted a second dimension of program management. There was a program manager who would be in charge of the Lunar Orbiter or the Saturn Booster—both different types of space vehicles or components. The program managers of major programs and the leaders of the individual functions simultaneously reported to the head of an aerospace company. The purpose was to pursue both cost and schedule priorities in the program, as well as technical excellence and design in the functions. The two initiatives were equally important and critical to putting a man on the moon and bringing him back.

A matrix is a two-dimensional organization where the company is simultaneously organized around two dimensions—functions and profit centers. This is different from a product or business unit structure, where there may be functions reporting to the CEO, along with the business units. In this case, the functions are usually coordinating units and are not placed in a matrix. More recently, these functional units have been strengthened as activities like the information technology group or human resources organization increase in their power and authority, and many of these organizations have also moved toward matrix structures.

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In summary, there are different types of hierarchical structures that companies adopt. Typically a company starts with a functional structure. Then as it diversifies, it moves into product lines and business units. If the company is a service business, it will move into customer segment profit centers. Or it may move into

geographic profit centers or individual channels if it's a retailer. In each case, the company moves to a multiprofit center structure, and each of the profit centers is itself a functional organization. We also see different hybrids, where one of the functions of an organization requires significant scale or specialization or heavy investment. And finally, there are matrix structures or simultaneous structures.

Distribution of Power Across the Hierarchy

The distribution of power across the hierarchy has two dimensions to it: vertical and horizontal. The vertical dimension is the one with which we're the more familiar. The design issues are questions of centralization and decentralization. For example, the functional structure centralizes decision making in the chief executive, because this person is the first role that supervises all of the activities that are interdependent. All of the functional activities are sequentially interdependent as work flows across them from raw material to customer delivery. Operating decisions such as schedules and pricing are made by the chief executive and the leadership team.

If we move to a product organization or a regional organization, the functions report into the product managers or the regional managers at the second level of the structure. In these types of organizations, the power and authority to make these same operating decisions are decentralized to the product managers or geographic managers. The CEO does not make those operating decisions. Instead, he or she makes larger financial decisions such as capital expenditures above $1 million. The chief executive, along with the chief financial officer, makes those decisions, which are then centralized in the office of the chief executive.

Horizontal distributions of power receive less attention but are nonetheless equally important. Some companies are known as being marketing-dominated organizations, such as consumer goods companies. The chief executive of these companies comes

up through the marketing function. In high-technology companies, the dominant function tends to be engineering. The CEO often comes up through the product development function.

These distributions of power change over time. In the consumer goods industries, the rise of retailers such as Walmart, Tesco, and Target has also created the rise of the sales department inside the consumer goods organizations. When an element in the stakeholder environment increases in power, the corresponding internal department that deals with that stakeholder should increase in power inside the company as well.

Similarly, for some consumer goods food companies, periodic droughts caused shortages of particular commodities. With shortages came higher prices; thus, procurement departments saw an increase in their power in the organization. The increased authority can be dramatic, as procurement can often influence the recipes of the product development department. The power distribution inside the organization should reflect the power distribution in the stakeholder environment. Changes to the power base of customers, vendors, and regulators should be met with corresponding increases in the power of the sales, procurement, and legal departments.

Division of Labor

The division of labor is the degree of specialization of the roles that are executing the work. Most work is divided into functional specialties and subspecialties, as mentioned before. These are the kinds of careers found in society as a whole. The greater the degree of specialization, the more effectively a company can execute particular subtasks. For example, technology companies that can bring greater expertise and knowledge to bear on designs of products and processes achieve better performance. But the greater the degree of specialization, the greater the degree of interdependence required between particular units. Specialization is thus a two-edged sword.

As a result, the choice of the degree of specialization is a key organization design decision. Some organizations choose

generalists to be permanent members of the structure and then outsource specialties they need at particular times. If a specialty is key to the competitive advantage of an organization, those specialties will be incorporated into the organization and owned by the organization itself.

Another factor that permits specialization is the size of the company. Greater scale permits much greater specialization. It's usually an advantage to be more specialized in many situations. Larger consulting firms and larger financial services firms can begin specializing around customer segments. They will, for instance, specialize in verticals like retail, distribution, government, high technology, and pharmaceuticals. In this way, they can speak the language of the customer and bring greater expertise to bear on that particular customer's problems.

Shape of the Organization

The shape of the organization is determined by the number of levels and the spans of supervision that are used in the company's levels and departments. A span refers to the number of people a manager has reporting to her or him. The number of levels and spans is certainly influenced by the number of people in the organization, but there is also some discretion in how wide a span the organization designer chooses.

The trend today is toward much wider spans and flatter structures (fewer levels). As we move away from command-and-control styles of leadership, managers can lead larger numbers of people. Thus, the hierarchy becomes flatter because fewer people are needed to supervise others. The flatter hierarchies lead to faster decisions, leaders who are in touch with organizational members, and lower overhead costs. But what is the optimal number of subordinates for leaders to be able to provide help and training to while still making accurate judgments about their work?

The Conference Board, a group that conducts research on organizational structures, recently surveyed spans of supervision among its members. With thousands of observations from work

groups, the distribution ranged from 0 to 127 people. The distribution was trimodal, with modes at 7, 17, and 75. (The *mode*, as distinguished from *mean* and *median* as descriptors of central tendency, is the value that occurs most frequently.) In this case, three numbers frequently occurred; hence, there was a trimodal distribution. How could this happen?

The traditional organization model typically used spans of about seven people, plus or minus a couple. To communicate with subordinates, coordinate their work, and evaluate them, managers had time for only about seven people. But this span can be increased depending on the nature of the people and the task. For example, a leader can have a much wider span of control if the leader and the group members are all highly experienced people. They need to have less communication and training involved while conducting the work. Second, you can have wider spans when all of the employees do the same work. In this case, you can use group coaching and group communications, and the leader needs less scope of expertise. A leader can also have a wider span of control when each employee's task is independent of the others because it is less likely to have disputes or overlaps in authority. And finally, the leader can have a wider span of control when the task is easily measured and easily observed. The leader can set goals and let the goals do the managing. A group of fifteen to twenty salespeople, all doing the same sales work but each with an independent sales area that is measured by quotas, can be supervised by a single leader. In contrast, a tightly coupled software design group, which has a rapidly changing type of task, will probably consist of only around five people. Thus, the span of control will vary with the nature of the people and the task that they are performing.

Delegation of work by the leader to the group also results in wider spans. Indeed, some organizations actually widen spans to encourage more delegation. Some organizations monitor the spans in their organizational units and set goals to widen them progressively. As people join and leave, leaders widen the spans

at these opportune moments. Organizations train their managers to adopt more of a coaching style and less of a controlling style, which means that spans of about seventeen are quite possible.

A different kind of organization is needed for spans of seventy-five people. An example is a factory with a plant manager and seventy-five blue-collar workers. The workers are organized into three teams of twenty-five people each, with a team for each of the three shifts. Each team is self-managing. It selects, trains, disciplines, and rewards all of its own members. These teams schedule the work and propose capital investments. The plant manager advises the teams and spends most of the workday communicating with people outside the plant. Thus, the more that managerial work is delegated to work teams, the less need there is for direct supervision. These kinds of teams lead to the elimination of levels of supervision and the complete elimination of command-and-control styles.

So in summary, it is quite possible to observe companies following the traditional management model choosing spans of about seven. More delegation and more goal setting can lead to spans of around seventeen. In companies with policies of self-managing teams, spans of around seventy-five are possible.

It is important to follow the Star Model, however. In order to create these kinds of teams successfully, the organization needs different kinds of individuals, different types of reward systems, and measurable outcomes. It requires a complete organization design to create these self-managing teams.

Information and Decision Processes

Information and decision processes are the ways in which work gets done in organizations. It's often useful to think of the structure of the organization as the anatomy and the processes as the physiology. There are three kinds of information and decision processes that I will highlight. The first are the informal, or voluntary, kinds of processes—the old grapevine or water-cooler talk

that we used to refer to and now takes place over social networks. The second are business processes—the generic business processes that almost all companies have. And the third are management processes for allocating the scarce resources that are applied to the various opportunities facing the company.

Informal Processes

Let's start with the informal. The informal organization is one that's been around for a long time. These are voluntary behaviors that individuals enact to perform their work and carry on social conversation. Today these informal processes are often referred to as self-organizing processes. They are often bottom-up processes, where people work together naturally and spontaneously around a set of issues. These processes can be influenced primarily by changes in physical location. That is, project organizations would often physically locate people together when their work interacted or was dedicated to a specific project. This proximity increased the likelihood of face-to-face conversations and information transfer.

Today the informal processes have changed dramatically with the advent of e-mail, social media, and software programs. Collectively these processes are referred to today as Enterprise 2.0. There is a whole group of different software packages called enterprise social software, which is very much like Facebook and Twitter in the social world. There are equivalents of Facebook now available for the enterprise world called Chatter and Yammer. There are wikis and various Microsoft software products like SharePoint. There are many ways of working together that encourage different kinds of spontaneous behaviors, community formation, and linking together communities of interest. Software providers predict a great future in being able to exploit these opportunities for the communication, coordination, and decentralization of work.

Currently these social software processes are not anywhere near as developed inside the company as they are outside, for

a number of reasons: normal habits, the inability of the top people to trust their employees, and the usual organizational silos. But in the future, there's a great deal of opportunity to use self-organizing processes for managing the increasing complexity of organizations.

Business Processes

The second type of information and decision process is business processes. These processes are often programmed and therefore automated because they are predictable, understandable, and replicable and take place quite frequently. These generic processes are the new product development process, the order-to-cash process, the customer relationship management process, and so forth. Some of these processes are enterprise-wide, and some are within a function. Some of them link together a couple of functions like the sales and operations planning process. For the most part, these are cross-functional processes. They are the means of coordinating the interdependent functions within a business. They are increasingly sophisticated, expressed in software and automated.

The example that's often given is the Cisco Configurator process, which takes place with a Cisco salesperson and a field applications engineer working with a customer design team. The design team can create its own configuration of a network of Cisco routers and switches and all of the digital networking that underlies the customer's digital systems. Once this team has determined the configuration and size of the order that they wish to place with Cisco, they simply press a button, and the configuration is entered into the Cisco system. It then passes through the Cisco system to Cisco's contract manufacturers, which produce the required items. These items are sent directly to the customer, as is an automatically generated invoice, which the customer pays by electronic transfer to Cisco's bank. Cisco's entire order-to-cash process takes place with very few people participating directly. It's completely automated.

And of course, this replaces the old manual or partly automated systems. When an order was placed in the old system, it went into the order entry system, where order entry clerks manually posted the order into the system, and it would be checked. Then it would go to a credit department to see if the customer was credit-worthy for the size of this order. Following that, it would go to the production scheduling group, which would then try to schedule this with the contract manufacturing team. The logistics people would plan for the transportation from emerging market countries and do the necessary paperwork for export or import. Finally the finance people would send an invoice. All of this required a lot of human interaction. In today's system, after the salesperson and field application engineer work with the customer, the order takes place without any human intervention. The only people who actually touch the order and participate in its transmission are workers at the contract manufacturers.

Today we're looking at more and more of this kind of automation. Machine-to-machine communication and information processing is increasing by quantum leaps. These business processes are an important means by which companies can now manage increasing complexity. Much of the interdependence that comes with work flows can be anticipated and programmed and then placed into software. The work that remains is professional work like projects and initiatives. The organizations that are the most effective in managing complexity are those that have been able to create robust business processes for handling much of the routine, predictable kind of work.

Management Processes

The third type of information and decision process is the management process. Management processes are for allocating the scarce resources to the opportunities that the organization faces. These processes are the means by which it executes strategy.

The strategies that we articulate tend to be the intended strategies that the company would like to accomplish. However, it is the de facto strategy, the resulting strategy, that occurs from the actual allocation of resources. A few years back, Hewlett-Packard articulated an impressive e-commerce strategy for Europe, but it could be implemented only partially. The reason was that there were only ten people in all of Europe who could program secure transactions over the Internet. And while every bank in Europe wanted to do an e-commerce project, none of them would sign a contract with Hewlett-Packard until they saw which of those ten experts was going to be working on their project. The resource availability was the limiting factor in how effectively Hewlett-Packard could implement its intended strategy.

The importance of these management processes arose with the creation of the multiple profit center model of organization. When companies were a single business, the key challenge was coordination across functions, and so the effort was on business processes like scheduling, pricing, and forecasting. Once those were mastered, then organizations moved to allocating financial resources. After World War II, General Electric, Westinghouse, ITT, and others moved away from single-business strategies to diversification and multibusiness strategies. A number of the processes for allocating resources, capital, and expenses arose at this time. These were processes for allocating resources across a portfolio of opportunities.

One of the best known was the Boston Consulting Group's (BCG) strategy of identifying businesses that were cash cows, stars, and dogs, which were to be eliminated. BCG's model was really a way of allocating resources by identifying businesses that were growing (thus cash users), and funding them from other businesses in the portfolio that were cash cows (cash generators). The criteria for allocating the resources were determined using the growth share matrix. That is, on one axis you had the growth of the business and on the other the market share of

the business. High-growth, high-share businesses were the ideal. The allocation from cash generators to cash users is a permanent feature in the management processes of multibusiness companies.

As we move into more complex organizations of multiple businesses, multiple countries, and multiple customer segments, the importance of this resource allocation process also increases. The more complex the structure is, the more important are the management processes. These processes accomplish a couple of things. First, they achieve an alignment of goals within the company and across its different dimensions. That is, companies have one set of goals arising from the businesses and another set of plans and goals coming from the countries. Managers eventually want these plans and goals to be aligned so that there is a single, consistent, aligned plan for the company. If these plans and goals are not aligned, the people representing the different dimensions are going to be arguing about the conflicting goals throughout the year. Today many companies have an event whereby regional leaders, business leaders, and functional leaders interact with one another to arrive at a single, consistent company plan. This master plan is aligned across the three dimensions.

The second important reason that these management processes have been implemented is to achieve alignment on the setting of priorities. If there's a single issue where the corporate leadership has experienced difficulty, it is in determining a set of priorities for the company. It is the same as choosing a strategy for the corporation. While companies are becoming more and more effective at generating business strategies and country strategies, an overall corporate portfolio strategy is usually much less well developed. A solid corporate portfolio strategy is necessary to choose among opportunities for applying resources across the company.

Priorities are important precisely because of the resource scarcity. If we had plenty of money, we wouldn't need priorities, but when times are tight and the economy is in a difficult position, it is increasingly important to make priority decisions.

Regions, business units, and functions all have different ideas on how to spend the limited funds. The management process for allocating money and talent is the arena within which these conflicts are managed and discussed. It is the process by which decisions regarding how to allocate the scarce resources are made. The purpose of a strategy is to allow the company to say no to a good idea. Weaker leaders tend to say yes to many ideas and then underfund them. They spread the funds like peanut butter across all the ideas.

A challenge in this process is to identify the scarce resource. Historically we've assumed that money is the scarce resource. Thus, we spent time on the capital budget, the advertising budget, the R&D budget, and so forth. Today the limiting factor that prevents companies from implementing their intended strategy is talent, or various types of talent. Most software companies in Silicon Valley are experiencing a shortage of people who can create software applications for mobile devices. You do not just shrink an application software package running on a desktop computer to make it work on a smart phone. The talented software developers are in short supply and limit how quickly companies can implement mobile strategies.

The economically rational course of action is to maximize the returns on the scarcest resource. It used to be that there were never enough SAP programmers. The scarce resource often changes, so the important decision process that underlies the management process is the one for allocating the scarcest resource, that is, the strategy-limiting resource. Therefore, some consultants have suggested using return on skills as a criterion for allocating resources or choosing which opportunities to pursue. McKinsey has pursued return on employees as a criterion. There are currently a number of efforts to develop logical criteria for allocating the scarcest resource. The point is that more and more, the scarcest resource is talent, and particular kinds of talent.

In summary, informal processes, business processes, and management processes are the types of information and decision

processes we need to complement our choices of organization structures. The next major factor in the Star Model is reward systems.

Reward Systems

The purpose of the organization's reward system is motivation. Organizations consist of a number of individuals, each with his or her own private and personal goals. The reward system is designed to align the goals of these individuals with the goals of the organization. Recall that the organizations that interest us are formal ones, which are purposeful entities. In order to accomplish the organization's goals, leaders must motivate individuals in the organization to behave in ways that will lead to successful execution of the strategy.

Organizations have created several tools to motivate its members. In this section, we examine the use of compensation, promotions, recognition systems, and job challenge.

Compensation Practices

The motivational value of compensation varies with the form that the compensation policy takes. Most organizations offer a fixed salary. However, a fixed salary is not something that motivates performance. It motivates people to join and stay in the organization, but not to perform at a higher level. Typically people receive the same amount of salary regardless of their performance.

The next level of motivation occurs when companies offer a fixed salary plus a merit increase. This merit increase too has a limited amount of motivation value. It has a recognition value—people are motivated because they get an increase. However, by the time a merit increase of 3 to 4 percent is divided by 12 and the taxes are taken out, the person can hardly see how much additional salary he or she is receiving.

The third level of motivational value is a fixed salary, plus a merit increase, plus a bonus. The bonus has the highest leverage in motivating behavior, depending on the size of the bonus and the value that the person places on monetary compensation. Some jobs, like sales jobs, are 100 percent commission: all of the person's take-home pay is variable compensation. Others, such as investment banks, have somewhere between 70 and 90 percent of take-home pay consist of a year-end bonus. For many companies, the bonus of the top managers will be somewhere around 20 to 50 percent. Usually the higher you go in the organization, the greater the amount of variable compensation. These large year-end bonuses have the most leverage in influencing the decision-making behavior of the organization's leaders. The particular behavior being motivated depends on the design of the bonus system.

First, bonuses are a flexible and adaptable form of payment. They can be adapted to the issues of the day to motivate particular kinds of behavior. For example, in order to motivate more of a customer-focused policy, the leadership team at Microsoft received bonuses based on customer satisfaction, measured by a Gallup survey taken with its top customers. Another example of a customer-focused incentive is the bonus for Sun Microsystems' leadership team. Sun Microsystems sold computers to eBay along with a maintenance contract. After eBay's website went down for more than twenty-four hours, Sun Microsystems changed the bonus metric for its managers. The new leadership team bonus was based on the up-time of eBay's website. So bonuses are quite flexible and can be used to reinforce temporary initiatives and goals.

Second, the bonus usually varies with the strategy of the organization. For example, a single-business functional organization probably has a management bonus based on the company's profit for that year. Managers of a multibusiness company have some different types of bonus practices. Typically the bonus pool is based on the company's overall profit for that year. Thus, if you are a

corporate leader, your bonus is based on the company profit. If you are in a business unit, often your bonus is based half on the profitability of your business and half on the profitability of the company as a whole. The proportion of business-corporate profit will vary depending on whether the company's strategy is a conglomerate or a related business portfolio. We explore the portfolio strategy concept in chapter 8 on multiple businesses.

Usually the more complex the business becomes, the more the bonus is based on total company profit. The reason is that it becomes more and more difficult to isolate and independently measure the profit contribution of a business, a country, or a customer segment. If leaders are rewarded only on their own profit-and-loss in these complex forms, dysfunctional behaviors can result.

There are other factors to consider as well when designing a bonus system. One of them is whether the bonus is based on short- or long-term performance. Typically the short-term performance is profitability within a particular fiscal year. Some other organizations that work on longer cycles have a longer performance measurement that underlies their bonus. At one point, IBM's account managers for its very large clients were measured on a five-year moving average of the revenue obtained from that particular client. Typically there was a bonus based on this year's performance and then a form of compensation for long-term performance, usually in the form of a stock grant. In this way, the manager participated in the performance of the company over time.

Another dimension is the degree to which the performance measurement is objective or subjective. Is the measure a single, narrow dimension of performance or a complete or total assessment of performance? Many organizations believe in the power of a single, measurable goal, such as this year's earnings before interest and tax (EBIT) number. Normally a clear, objective single goal will produce a great deal of motivation. People can understand it and can see how to connect their behavior to

their own performance and bonus. However, the clearer, the more objective, and the narrower the goal becomes, the more that dysfunctions are likely to creep in. For example, if all of the people working in a retail store are salespeople on 100 percent commission, the store will have trouble getting those people to stock the shelves, clear the aisles, and wait on a dissatisfied customer who is returning merchandise. So you get the specific behavior that you're measuring, but not the total behavior needed for effective performance.

One of the ways companies have tried to adjust is by using multiple goals, subjective goals, and contextual assessments made by the leader. Subjective goals and assessments are seen to reduce the amount of dysfunctional behavior that a person would engage in, but it tends to reduce the motivation because the goals are not quite as clear. They are subjective, and the managers do not always see a direct link between an employee's behavior and the desired performance outcome. A number of organizations make the trade-off and choose to have a strong, clear, objective goal based on an EBIT number, along with some subjective personal goals. Other companies reduce the amount of variable compensation, perhaps to 20 percent of total compensation.

Professional services organizations are particularly interesting in their practices around compensation. Some have a direct bonus tied to the amount of revenue that a partner would bring in within a year. These organizations are often referred to as an "eat what you kill" company. They attract people who are individual performers and can produce at a high level. These people are often called rainmakers. The danger very often is that these types of people can also go to another organization and take their clients with them. This practice is usually known as a star system, and a number of professional services organizations operate under this kind of a compensation system.

Other professional services organizations are known as "one company" types of firms. They have a strong identity between the professionals and the company itself. Normally a client doesn't hire

an individual; rather, he or she hires the company. Clients would hire McKinsey to do a particular engagement with them. Companies like McKinsey, Bain, Boston Consulting Group, and Goldman Sachs in investment banking and Latham & Watkins among large law firms are all organizations that embrace full and fair assessments of performance that determine the bonus and promotions.

By "full," I mean that the performance assessment examines multiple dimensions of performance. One of the dimensions is the amount of revenue that the consultant generates and the kind of customer service that the professional delivers. These are typically measured by revenue and customer satisfaction. These firms also measure the amount of contribution to the intellectual property of the firm. There are various projects like the McKinsey Global Institute, which builds the firm's intellectual property. Another dimension is how well a consultant attracts and develops talent. Many professionals return to their alma mater to recruit new talent to join the company.

Some companies use a measure called "partner-like behavior." This is assessed largely through subjective interviews. They ask other partners about a consultant's responsiveness. That is, they interview people in the London office and ask, "Is Jay Galbraith responsive to requests for help that you send to him?" These are measured largely through interview questions that are very structured. They're usually called "rigorously subjective questions." They ask for identifiable behavior that the interviewee has perceived. Responsiveness is one. Reaching out is another. That is, "Does Jay Galbraith bring leads to you from clients whom he's encountered somewhere else? Does he reach out without being requested to do so?" And, "To what degree does Jay Galbraith balance individual interest versus firm interest? Does he always try to get the most credit for himself, or does he see that credit is apportioned according to what actually happened with the client?"

All of these factors make up a full assessment of a professional's performance, and this assessment is done by a fellow partner,

usually someone a little senior, who takes as much as a week of his or her time to interview customers, peers, and people who work with the professional under scrutiny. The assessing partner will read the exit interviews of people who have left the company and try to get a complete 360-degree view of the performance of the professional in question. All of the questions asked are tested over time, and they're very specific. The goal of the questions is to seek observed behaviors on the part of other people.

All of these professional organizations take the performance review process seriously. They commit a lot of time to doing a serious and complete assessment of people's performance, so they dedicate people to collect the data. The people charged with these assignments take the assessment seriously and make the time available to participate. These are all very busy people, so the values and norms of the company support this rigorous approach to subjective assessment.

Following the data-gathering phase, the individual assessments are combined and discussed within the compensation committee. Each of these large firms has compensation committees for various parts of their global organizations. The attempt is to have not just a full assessment but also a fair assessment. It's very easy for partners in Asia to see if the partners in London and New York are getting the lion's share of the bonus pie, and when they do, their perceptions generate trust problems. The purpose of the compensation committees is to have comparable fair and equal bonus shares to professionals across the organization. These bonus allocation decisions are then posted. There is transparency at a macro kind of level. They don't identify bonuses to individuals, but post the overall bonus picture with highs and lows. They show the total amount for Asia, for the Middle East, and so forth. This is a performance management system that creates a full, fair, and transparent assessment. It does require an enormous amount of time from busy people in order to do it right. Thus, subjective assessments without dedicating the time required are not very effective.

In summary, compensation systems vary from those that give a fixed salary, a fixed salary with a merit increase, and a fixed salary with merit increase and a bonus (usually for top executives). These practices are used to motivate the kind of strategic behavior that is desired. The design of the bonus system is key. It varies considerably on the kinds of behaviors it motivates, the timing of long or short, whether the performance measures are objective or subjective, and whether single or multiple goals are used. Collectively these make up the design of the compensation system.

Promotions

The second element of the reward system is promotion practices, which encompass the selection and development of individuals who should advance to higher levels. Again, professional services organizations are key on this particular dimension of promotion. Most people join professional organizations with the goal of advancing to become a partner. In academic institutions, professors want to be promoted to a position of a full, tenured professor. Often it's easier to make an assessment of a person's performance over a longer time frame. In this way, a partner's behavior can be assessed over three or five years. Professional services firms apply the same kind of rigorous and subjective assessments to determine who gets promoted. Some organizations have a combination of a very specific, narrow goal of an EBIT performance measurement for this year's bonus, but then use a thorough examination every three years for a longer-term assessment. They use a full and fair assessment of a person's performance prior to recommending him or her for promotion.

Recognition Systems

A third type of reward organizations use is a recognition system. We have all seen photos in hotels and retail establishments of the "employee of the month" and "employee of the year."

All of these are recognition systems that identify and reward outstanding performance. These systems can be quite extensive. For example, on the basis of extraordinary performance, an employee might be given a dinner for two at a nice restaurant, a day off, or a gift card. Many of these types of recognition rewards do not cost a lot of money. They do take a lot of effort, but can be quite meaningful.

For some sales organizations, the recognition systems are quite extraordinary. Companies like Amway and Mary Kay are sales organizations that are known for elaborate and motivational corporate meetings. People are singled out and publicly praised for having met high-level goals. Almost everybody gets recognition for something. The truly high performers are anointed to the 100 Percent Club, win a trip to Hawaii, and more. The specific recognition practices vary substantially.

But for the most part, recognition systems are probably underused and should be used much more frequently than is the actual practice.

Job Challenge

The fourth type of motivation boils down to the challenge of the job. The three prior motivational tools of compensation, promotion, and recognition are known as extrinsic rewards: they're externally applied to the behavior and are not a natural result of it. In contrast, an intrinsic reward is satisfaction that is internally generated from a job well done. There are a couple of dimensions to this. One is that some organizations are fortunate in serving an attractive purpose. Hospitals have this attribute, as do some pharmaceutical companies. Other organizations have attractive missions. An automotive company can attract car enthusiasts. Anita Roddick, founder of the Body Shop, attracted talented employees with her mission of using natural products and helping people (mostly women) in Africa to grow and harvest ingredients. A number of companies have

the ability to provide rewarding work because of their industry. Other dimensions come from the attraction some people have to continuous learning and developing their own skills. Many people find personal satisfaction in being perceived as an expert in their field. Thus, organizations that recognize and enable employees to develop additional skills will attract and retain more people than those that don't.

Many people are attracted to professional organizations because they find that the work itself is challenging. These professionals want to work on the next challenge, the next state-of-the-art advance in technology, or the current hot topic. Companies can use this to motivate people. By doing a good job, professionals have an opportunity to work on the next challenge. Thus, through the challenge of the job or the attractive mission of the company, organizations can motivate people to perform.

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In practice, companies use a mixture of all of these practices: compensation, promotion, recognition, and job challenge. Certain items, such as job challenge, are probably best suited for professionals who are tackling interesting work. For salespeople, compensation and bonuses are particularly attractive. Naturally, the design of these reward systems is also driven by the strategy of the organization. We discuss this in later chapters when considering the multibusiness enterprise.

People

The people dimension of organization design focuses on choosing the skill sets and mind-sets that align with the company's strategy. For example, companies today are looking for data scientists who can extract insights from the vast amount of data that companies are collecting. When these companies expand internationally, they look for people who have international experience and global

mind-sets. There is a continual search for the skill sets and mind-sets that match the strategy the company is trying to execute.

The tools that companies use for changing skill sets and mind-sets are recruiting, selection, development, rotations, and promotions. These are HR practices, but they're also the responsibility of the business leaders.

Three key practices characterize today's search for and development of talent. The first is "hire hard, manage easy." The expression is pretty straightforward: if you work hard on recruiting and selecting and get the right people in the door, then you're going to have more success with these people in performing their work.

First, you need to know who the right people are. Many organizations have studied the success of leaders in their company and traced the origins of where these people came from. They use that as a blueprint to seek out people with similar characteristics. For example, 3M is famous for hiring good engineers from solid schools in the Midwest. It searches for the number three, four, or five graduates of engineering schools from Iowa, Illinois, or Minnesota. The company has found that people who are number one in their class at, say, MIT or CalTech tend to have big egos and are often difficult to work with. But the third- or fourth-ranked engineer in the graduating class from, say, Purdue, is a good engineer who wants to do good product development. Cirque du Soleil is another example. It searches for gymnastic talent around the world and looks for the number four or five finisher in gymnastic events like the Olympics. If it chooses the number one or two person, it tends to get the big egos of people who have achieved a lot of fame. By choosing number four or five, Cirque du Soleil gets someone who is almost as good as number one but is a lot easier to work with and is still hungry.

So if you know the kind of people you're looking for, you work hard to find them and look for different ways of finding and recruiting them. For example, Quicken Loans has a lending program for mortgages. The recruiters go to T.G.I. Friday's

and Houlihan's after work and observe the wait staff who serves them. The employees who are very friendly, outgoing, and attractive people are the ones whom they then recruit. This process of recruiting allows Quicken Loans to see people in action when they're not performing or faking any particular kind of behavior or answers to tests. It's a real situation that allows recruiters to find the kind of people they think are going to be good salespeople in their mortgage business.

Another example is the Mayo Clinic. A nurse who had eighteen years of experience wanted to work at the clinic and assumed she could walk right in the door and be hired. She was hired, but after about twelve interviews. The Mayo Clinic uses team interviews with a physician, a nurse, and an administrator to jointly interview applicants. There are multiple interviews and active communication between the interview teams. The process also includes behavioral interviews. If they're interviewing a physician, for example, and that person has a condescending attitude toward the administrator, that physician is not given an offer. The clinic knows the kind of people that it is looking for and goes to great lengths to find, select, and attract those people.

The second practice is called "hire for fit, train for skills." This means that organizations try to match the personality of the individual being recruited with the culture of the company. The features of a culture change very slowly, while technical skills and jobs change quite often. So rather than selecting for immediate technical skills and jobs, the first priority in selecting and recruiting individuals is the fit with the culture of the company. Certainly one would like employees to have good skills, but the thinking is that you can always train the individual. It is easier to fix a job-skills gap than it is to fix a person-culture mismatch.

Organizations that are most interested in people who fit with their culture are those that require collaborative types of behaviors. More and more companies are moving to matrix types of structures or multidimensional structures that we have touched on. Key to being effective at the interfaces of these

multiple dimensions are people who can collaborate effectively with others. Today most matrix organizations are searching for this kind of individual.

The third practice, using rotational assignments, is probably the most difficult one to implement. Rotational assignments are crucial to developing people who will have a total perspective of an organization that has multiple dimensions. So, for example, the typical new employee at Procter & Gamble joins a function. Very often it's as a marketing specialist. The first job may be at the corporate headquarters, but then the person would be moved to a part of the marketing department in a global business unit, then to a customer team, and then on to a market development or regional organization. The strategic movement of people around the organization gives him or her a total perspective as to how the complex organization at Procter & Gamble actually works. These assignments also build managers' personal networks.

BMW is another company with an interesting type of career system. BMW calls it a "knight's move." Like knights on a chessboard, people move up and then they move over, up and over, up and over, and so on. In this way, managers get a multifunctional career. BMW still has specialists in corrosion and other engineering functions who stay put, but those who are targeted for leadership roles rotate from one function to another.

Rotational assignments today require special effort. It's best to make it known to people when they're hired that the company is seeking people who will take on international assignments. It's also good to have people make international moves early in their careers. Today's two-career couples make it more and more difficult to have these rotational assignments later in life. Some companies find ways to match the assignment with the timing in a person's life, when perhaps a spouse is between jobs or they have an empty nest. Other companies maintain a list of people who are interested in rotational assignments, but just not now. In any case, it's hard to find a successful organization that implements a matrix or a multidimensional structure that does not have an effective rotational assignment practice.

Summary

In this chapter, I've described the Star Model, the basis for thinking about organizations and organization design. I briefly described the strategy, the structure, information and decision processes, reward systems, and people practices that make up the design choices that a designer has. For each of these factors, I identified the tools to use in designing the structures and the information and decision processes and so forth. In the area of structure, we looked at the hierarchy of authority, the type of hierarchy, and the distribution of power. On the process dimension, we identified the informal processes, formal business processes, and management processes that an organization designer has available. Reward systems, another lever, consist of compensation, promotion, recognition, and job challenge. Under the people dimension are recruiting, selection, development, and so forth. These are all of the tools that leaders can use in designing their organization.

In the following chapters, I start with the strategy and then describe the kind of structures and processes used in these organizations and emphasize the structure and process side. I note reward systems and people practices less often because there are books and specialists in each of these areas where a more in-depth treatment can be found.

3

SINGLE-BUSINESS STRATEGY AND FUNCTIONAL ORGANIZATION

The functional organization is the most common of the organizational structures. In fact, all companies begin as functional organizations, whether it is Google in search, Apple in personal computers, or Amazon selling books online. Even when companies diversify or expand internationally, they maintain their functional structures as both a foundation and a key dimension of the organization. Other companies maintain their functional structures even as they grow. BMW is an 80 billion euro company that is managed through a functional organization. The reason is that it is a single business: a passenger car company. The factories, including the one in South Carolina, report to the vice president of manufacturing in Munich. The sales and marketing departments around the world all report to the vice president of sales and marketing in Munich. But they use cross-functional teams extensively for the 300 Series, the new 400 Series, the 500 Series, the 800 Series, and so on. It is the single-business strategy that shapes BMW's organization, not its size.

Other companies return to the functional structure after diversifying and creating divisional structures. Cisco started as a functional organization and then divided itself into three business units. It designed and sold routers and switches of different types to the telecom operators like AT&T, large-scale enterprises like Citibank, and many small and medium-sized enterprises. But in 2001 after the dot-com bust, when it lost $2.3 billion and laid off a large percentage of its workforce, it returned to its initial functional structure. The divisions had created three of everything. The

functional structure permitted Cisco to consolidate and reduce the unnecessary duplication.

In this chapter, we begin the analysis of the functional organization. There are as many variations on the basic structure as there are single-business strategies. We begin with start-ups and small businesses and follow them as they grow into fully functional structures. We continue with three types of single-business strategies: cost-centric, product-centric, and customer-centric. Then we look at the concept of the lateral organization, which is used by many companies including BMW.

The Evolution from Start-Up

Companies do not actually start off as fully functional organizations; rather, they evolve into them. As start-ups, they begin with very little structure and organization and often with a few founders. Nike was founded by Phil Knight, a runner at Oregon, and his track coach, Bill Bowerman. Most running shoes at the time were made in Germany out of leather and metal spikes for traction. The two founders thought they could design better, cheaper running shoes and source them from Asia. Bill designed the shoes and Phil and some salespeople sold them. They opened a store in Santa Monica, California, and discovered that consumers liked the shoes. Good running shoes were also very comfortable. They added some fashion, and the business took off.

Today the model of a start-up is referred to as the lean start-up (Ries, 2011). This model avoids the practice whereby the founders have an idea, perfect that idea into a product, and then launch it. This practice requires a lot of upfront work prior to actually taking the product into the market. Instead, the lean start-up creates a bare-bones product and gets it in front of a customer or customers very quickly. It then gets a reaction to the product and redesigns it. It repeats this process until its leaders discover a viable product and a business model with which they can make money. The lean start-up process is a learning process

that minimizes risk and uncertainty and engages customers in the actual product design. It's an iterative cocreation process.

The start-up, whether lean or traditional, has a minimal structure at this point. As a matter of fact, structures are probably an impediment, even an unnecessary evil, at this point. The organization consists of a small group of generalists who can move quickly. They can respond to new information and adjust their strategies appropriately while consuming a minimal amount of resources.

One of the realities of start-ups is that a new hardware or software product based on a new technology rarely hits the initial target market. As new information comes in, the organization is prepared to transition toward a new direction to follow what appears to be a newer, attractive market niche. The lean start-up people call this the *pivot*.

So the start-up organization is lean, it's fast reacting, it's customer driven, and it results in a viable product with minimal resources. And at this time when its leaders find an attractive product and business model, the revenue begins to arrive and the start-up begins to add people. At this point, they begin building an organization.

Initial Organization

The growth imperative also begins at this point. The company begins to move through its developmental stages. These first couple of stages are driven by size, however. Once a company attains the size of a couple or several hundred people, the future transitions are driven by the strategy.

Attaining this initial structure is often difficult. The reason is that transitions from one type of organization to another are often resisted by the founders. It's as if success at one stage leads to resistance to change to go to the next stage. People often like the initial stage with its small size and lack of formality. The founders like the original garage-like atmosphere that they believe is responsible for their initial success.

Many new companies resist change until a crisis forces it on them. One organization failed to build the necessary infrastructure until a crisis actually occurred. This company was a hardware product company that was successful with its initial product. Then management believed that they could grow faster if they shifted from outright sales of the product to a rental or a leasing model. They knew that this would slow their cash flow, so they arranged for the appropriate levels of financing. What they didn't anticipate was that the transition to a rental model meant that they would have to send an invoice to their customers every month. The result was a twelve-fold increase in the number of transactions going through their accounting system, which lacked the capacity to handle the increased volume. The result was a major slowdown in cash flow and a major crisis.

Many of these transitions are also painful. That is, the initial founders are often young people with no particular experience other than working on the product. Very quickly, they can get in over their heads as the sales volume increases and the number of people in the company grows. As these start-ups ramp up, jobs increase faster than the skills of the people. Sometimes one or more of the founders may need to be replaced. Again, it takes a crisis in order to force the other founders to replace their peers and move on to the next stage (Greiner, 1998).

These initial stages are driven primarily by rapid increase in size. As the number of people in the company increases, two things happen. First, larger numbers of people require an increase in the number of levels in the hierarchy, and so communication becomes a new challenge. The other major change is that greater size leads to a greater division of labor. Instead of generalists doing an activity, it is now possible to add two or three specialists. The discussion usually starts, "We need someone who knows something about …" export sales, taxes and depreciation, or whatever other in-depth specialty the company requires to maintain its effectiveness. What the increased specialization does is increase interdependence. Rather than a single, self-contained task

performed by a generalist, we now have a task that's performed by three or four specialists, all of whom need to coordinate their behavior.

The increase in size also creates a couple of barriers. One arises between levels. Communication becomes more difficult between workers and bosses. The second barrier crops up between departments. That is, engineers have difficulty communicating with marketing or salespeople; each has its own special language. Unless efforts are made to reduce these barriers, poor communication can often become a major impediment to continued growth.

The increase in size from a small start-up to a formal organization structure—a formal functional organization—takes place in two steps. The first is a transition from a system of personal and informal control to a system of more formal, impersonal control. As long as the number of people in an organization is fewer than 100 or 120 people, it is possible for everyone to know everyone else. You can use personal contact and personal control by assigning people to problems. When the size increases above 150 or 200 people, it is impossible to know everyone. At this point, formal processes and activities replace the informal processes. The company begins using tools to forecast demand, uses a budget, and adopts a company-wide salary structure. There are legal requirements too: the company can be sued for wrongful discharge or discrimination, so it starts to bring in people who have knowledge and experience in these formal activities.

The founders and the old-timers often resist the newcomer specialists. The old-timers prefer the small, garage-like atmosphere and the ability to turn quickly on a dime. They see the new formal controls as bureaucracy and impediments to their behavior, thus reducing their ability to respond. They don't typically embrace the controls as a foundation on which a larger enterprise can be built. Therefore, the transition from personal to impersonal is one of the changes that takes place in start-ups that successfully move on.

The second step is the conversion from a centralized hub-and-spoke system of decision making to a more decentralized, cross-functional team approach to making decisions. New products and services need to be managed differently from the existing and now mature products and services. Normally the founders maintain control through a hub-and-spoke kind of system. Under this model, all decisions, new employees hired, and expenditures must go through the founder. Size forces the company to decentralize some decisions because of the increased interdependence among specialists and the increase in the variety of existing and new types of products. Eventually the firm arrives at a more formal, functional organization structure.

The Functional Structure

The successful start-up becomes a small business and organizes itself around the functional structure. An example is Rovio, a Finnish company whose success began with the popular mobile game Angry Birds. In 2003, long before Angry Birds, three students at the Helsinki University of Technology entered a contest sponsored by Nokia and Hewlett-Packard to produce games. They won. Encouraged by this win, they formed a company called Relude, which was a studio to produce games. Meanwhile, their original contest-winning game was sold to another game company. The proceeds from that sale financed their start-up, Relude. Along the way, they received some funding from a business angel in 2005. At this point, they changed their name to Rovio, which is Finnish for "bonfire," and they introduced their famous Angry Birds game in December 2009 for the iPhone. The rest is history. The game has been downloaded over 1 billion times. It is the most-downloaded paid gaming application of all time.

Since then, Rovio has introduced a whole portfolio of Angry Bird games. Angry Bird Star Wars is the latest. Bad Piggies is an offshoot of Angry Birds. They've also expanded the business and are willing to sell other people's games, so Rovio will form

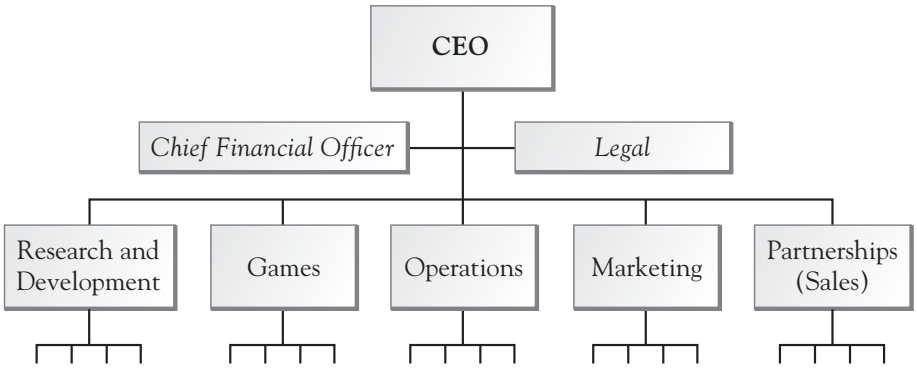
partnerships with developers and distribute their games. Angry Birds has become a popular brand. They now license that brand to producers of merchandise like T-shirts, coffee cups, and key chains. There appears to be no limit to the possibilities.

Rovio has become a highly successful business. In 2011, the company raised another $42 million in venture capital and changed its name to Rovio Entertainment. In addition to video games for mobile devices, the company now also produces full-length cartoons and features for their various characters.

In 2013, Rovio became a company of some $200 million in revenue. It has 650 people, with studios in Helsinki, Stockholm, and Shanghai and has organized into a functional organization. That organization is shown in figure 3.1. The figure shows a chief executive officer, as one would expect, and then functions for R&D, marketing, operations, development, sales and strategic partnerships, as well as the normal support functions of the chief financial officer and chief legal officer.

The head of R&D, one of the three founders who wrote the original game, continues to look for new technologies and platforms, along with other ventures to continue developing Rovio's products. The chief marketing officer is now in charge of the Angry Birds brand and how it's used in various media promotions. Rovio also has a channel on YouTube through which it conducts most of its promotions.

Figure 3.1 Rovio Functional Structure



Rovio continues to grow and is similar to Walt Disney. That is, it bases growth around the intellectual property of its characters, in this case, Angry Birds and perhaps some additional ones in the future. It also takes Angry Birds into various games, cartoons, publications, and publishing; the YouTube channel; and licensing of merchandising. It sells advertising where advertisers can insert an ad into an Angry Bird game of various types.

Rovio thus began from a single product—a game—and turned itself into an entertainment company that profits from the intellectual property of its characters. It has become a single-business functional organization. In June 2013, Rovio hired a chief operating officer who was previously an executive at Nokia. With this addition, Rovio is continuing its developmental journey by acquiring a leader who has the knowledge and experience about how large companies operate.

Now we can see why it is that companies that are single-business start-ups all begin as functional organizations. The reason is that the functional organization provides several advantages. First, gathering together all workers of one type—R&D people, for example—allows them to transfer ideas, knowledge, and contacts among themselves. Second, it allows them to achieve a greater level of specialization. When two hundred or so software engineers are pooled, the company can afford to dedicate a subset of engineers to such specialties as programming for the iPhone and Android. Third, using the example of a single purchasing function in operations, pooling the workers allows the company to present a single face to vendors and exercise buying leverage. Fourth, taking the example of using one manufacturing function to perform all production work, the company can afford to buy an expensive piece of test equipment and share it across product lines. Thus the functional structure permits more scale and specialization than other structural alternatives for companies of a certain size. This is especially true for smaller-sized companies.

Organizations with functional departments also promote standardization and reduce duplication. An activity that is

organized functionally is performed in the same way and (presumably) in the best way throughout the company. The functions adopt one system or one policy for everyone rather than have each department invent its own. The functions adopt a single computer system, inventory control policy, absenteeism policy, and so on. Companies like Cisco often revert to the functional structure to reduce the proliferation and duplication of systems, standards, and policies that result when independent units do not manage to share or cooperate.

Every organization structure has its strengths, but it also has weaknesses. The functional organization has two weaknesses that frequently lead to the adoption of alternative structures. The first becomes apparent if a company has a variety of products, services, channels, and customers. In chapter 1 I described Dell Computer, which used a functional structure in its early days when it designed and sold laptops and desktops. Dell changed its structure after adding product lines for desktop printers, storage, low-end servers, and computer services. This kind of variety overwhelms the decision-making capacity of the general manager and the functional leadership team. Thus, Dell, like other companies in similar situations, abandoned the single functional structure.

The functional organization is best at managing a single product or service line. When strategies involve product or service diversification and market segmentation, the functional organization is either changed by organizing departments around products and markets or enhanced by introducing lateral processes. (The latter are described in chapters 4 and 5.)

The other weakness of the functional structure is the barriers created between different functions, inhibiting cross-functional processes such as new product development. When a company has only one product line (which does not change often) and when long product development cycles are feasible, the functional organization can manage the cross-functional processes and simultaneously deliver scale, expertise, and efficiency. But

product variety, customization, short product life cycles, and rapid product development times overwhelm the functional structure. The strategy of product variety is first handled with lateral processes like cross-functional product teams before a company evolves into fully structured product divisions.

Thus, the functional organization is appropriate for small companies and for those that need proprietary expertise and scale. It is appropriate if product and market variety is small and product life and development cycles are long. It is declining in popularity as a basic structure because in many industries, speed is more important than scale, and responsiveness to variety from any source is a condition for survival. And where scale is important, it is possible to outsource the scale activity. But the functional structure is always present as an overlay or matrix on top of other structures.

Types of Single-Business Strategies

Not all single-business strategies are alike. Different single-business strategies lead to different types of functional organizations. Michael Porter (1985) identified two types of business strategies: low cost and differentiation. Using the differentiated strategy, a company pursues low costs but invests in brands, new products, and other features to differentiate the business from competitors. Later, Treacy and Wiersema (1997) described two ways to differentiate a business: customer intimacy and product leadership. In this section, I describe the organizations that are designed to execute the low cost or operational excellence strategy and the product-centric and customer-centric strategies.

Operational Excellence. A company pursues the operational excellence strategy when it strives to become the low-cost provider in its industry. Southwest Airlines and Jet Blue try to be the lowest-cost airlines, and Walmart and Dollar Stores try to

be the lowest-cost retailers. In so doing, these companies pursue the lowest-cost policies and most efficient practices in everything that they do. They organize around the functional structure and build scale and expertise in all activities. A complete and completely aligned Star Model is shown in table 3.1. It is clear from the table that the organization design is a holistic and low-cost model.

Product-Centric. A product-centric strategy is one where a company tries to find as many customers as possible for its product. The best example is the pharmaceutical companies that search for a blockbuster drug. The ideal is to get a patent monopoly for a number of years (twelve to fifteen). Pfizer had such a position with Lipitor. At its peak, Lipitor was a $12 billion per year product. Most food companies also pursue branded food products that are unique, like FiberOne bars and V8 Fusion drinks. A complete and completely aligned Star Model for a product-centric company is shown in table 3.2.

Nike began as a company designing and manufacturing running shoes, then expanded into a full line of running shoes. Next it diversified into basketball shoes, soccer shoes, tennis shoes, women's fitness shoes, and so on. It became a multiproduct, but single-business athletic shoe company. It was organized as a functional organization with cross-functional product teams for each type of athletic shoe. The management focus at Nike was all about new products. Managers spent a good deal of energy on the new product development process, competitive products, new features, customer insights, and new materials for products. They tried to differentiate themselves from competitors by offering better, newer, and more comfortable shoes.

Customer-Centric. A customer-centric company tries to find as many products and services as possible for its customers. An example is a private bank. A private banker will offer stocks, bonds, options, real estate investment trusts, foreign exchange

Table 3.1 The Cost-Centric Organization

		Cost-Centric Company
STRATEGY	Goal	Lowest total cost
	Main offering	An acceptable product at the lowest price
	Value creation route	No-frills offering for the middle of the market
	Most important customer	The value shopper
	Priority setting basis	Find the most efficient way to do everything
	Pricing	Guaranteed lowest price or everyday low price
STRUCTURE	Organizational concept	Strong centralized functions to standardize, economize, and achieve scale
PROCESSES	Most important process	Order-to-cash All transaction processes are efficiently reengineered
REWARDS	Measures	• Detailed measures of all costs • Total delivered cost • Constant improvement and cost reduction
PEOPLE	Approach to personnel	Power to discoverers of how to use scale and leverage • Highest rewards to the discoverers of cost reduction ideas • Best fit is the frugal person who prefers Motel 6
	Mental process	Lean thinking: *How to eliminate time, waste, cost?*
	Sales bias	Anything that increases constant, level volume
	Culture	Constant search for improvement of costs through eliminating waste and variety and implementing repeatable processes

Table 3.2 The Product-Centric Versus Customer-Centric Organization

		Product-Centric Company	*Customer-Centric Company*
STRATEGY	Goal	Best product for customer	Best solution for customer
	Main offering	New Products	Personalized packages of products, service, support, education, consulting
	Value creation route	Cutting-edge products, useful features, new applications	Customizing for best total solution
	Most important customer	Most advanced customer	Most profitable, loyal customer
	Priority setting basis	Portfolio of products	Portfolio of customers—customer profitability
	Pricing	Price to market	Price for value, risk
STRUCTURE	Organizational concept	Product profit centers, product reviews, product teams	Customer segments, customer teams, customer P&Ls
PROCESSES	Most important process	New product development	Customer relationship management and solutions development
REWARDS	Measures	• Number of new products • Percent of revenue from products less than two years old • Market share	• Customer share of most valuable customers • Customer satisfaction • Lifetime value of a customer • Customer retention

(*continued*)

Table 3.2 (*Continued*)

		Product-Centric Company	*Customer-Centric Company*
PEOPLE	Approach to personnel	Power to people who develop products • Highest reward is working on next most challenging product • Manage creative people through challenges with a deadline	Power to people with in-depth knowledge of customer's business • Highest rewards to relationship managers who save the customer's business
	Mental process	Divergent thinking: *How many possible uses of this product?*	Convergent thinking: *What combination of products is best for this customer?*
	Sales bias	On the side of the seller in a transaction	On the side of the buyer in a transaction
	Culture	New product culture: open to new ideas, experimentation	Relationship management culture: searching for more customer needs to satisfy

trades, private equity opportunities, and many other products to the wealthy customers. The banker will also offer competitors' products if they suit customers' needs better than the bank's own products. Private bankers do not work on commission and do not churn customers' accounts. Instead of a commission, they receive around 1 percent of the assets that the customer has on deposit with them. The banker's incentive—along with the customer's—is to grow the assets, so the bankers' and the customers' interests are aligned.

The private bank is a functional organization. It is segmented by the net worth of their customers. The bankers work on a relationship model rather than a transactional model.

•••

All three of these single-business strategies use a functional organization structure. The cost-centric strategy uses the pure functional structure like the container companies shown in table 1.1. They invest in no other organizational units. The product- and customer-centric strategy companies invest in cross-functional teams for new products and customer segments. They are organized like the food and plastics companies shown in table 1.1. They make extensive use of the lateral organization. We now turn to the types of lateral coordination mechanisms that companies use to coordinate across functions.

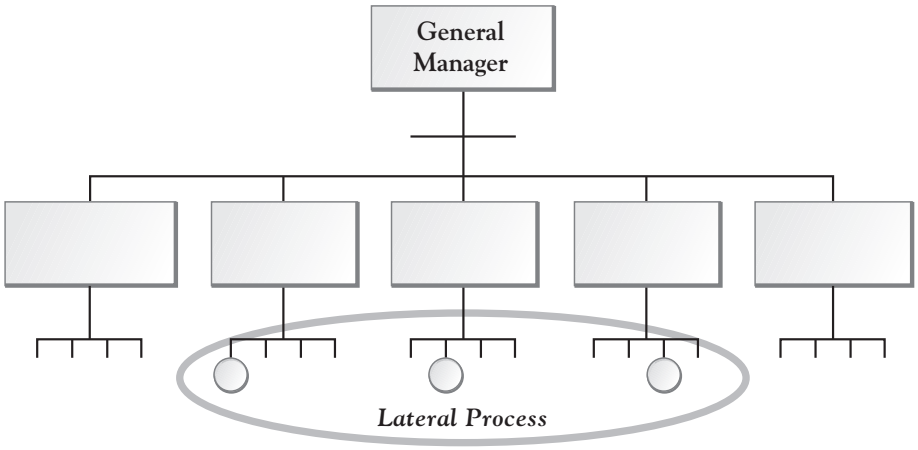
The Lateral Organization

Most of the activity in an organization does not follow the vertical hierarchical structure. As continuous change becomes the natural state in most industries, lateral processes become the principal means of coordinating activities.

Lateral processes are information and decision processes that coordinate activities spread out across different organizational units, providing mechanisms for decentralizing general management decisions. They accomplish the decentralization by recreating the organization in microcosm for the issue at hand. That is, each department with information about—and a stake in—an issue contributes a representative for issue resolution, as shown in figure 3.2.

No matter what type of hierarchical structure is chosen, many activities require coordination across departments. Most organizations deal with a complex world. They do business with multiple customers, multiple partners, and multiple suppliers.

Figure 3.2 Lateral Processes Across Functions



They compete with rivals in many areas of the world. They deal with governments, regulators, distributors, labor unions, and trade associations. They employ different skill specialties and use multiple technologies while producing a variety of products and services. If a company creates an organization to maximize its effectiveness in dealing with one constituency—for example, customers—it fragments its ability to deal with others—for example, vendors. All the dimensions not handled by the structure require coordination through lateral management processes.

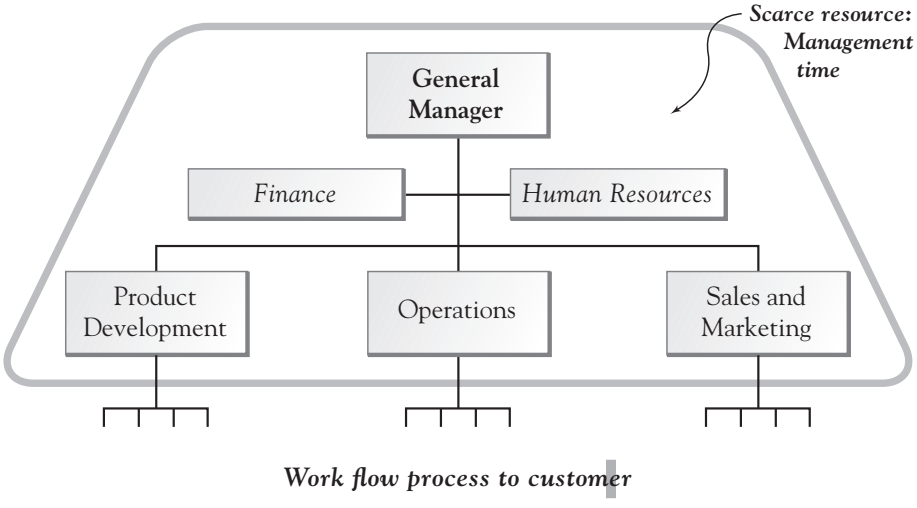
These other dimensions are increasing in number and importance. In addition to focusing on more powerful and knowledgeable customers, a company must leverage its own buying power, concentrate its R&D investments on its leading technologies and core competencies, and become a good citizen in regions where active host governments negotiate relationships. Companies must focus simultaneously on governments, customers, functions, vendors, and products. Lateral processes are designed to provide the company with the networks and capability for addressing all of these concerns. Today a company must create a multidimensional organization built around its basic structure. A company must be flexible in addressing whatever unpredictable issue arises, whether it presents a threat or an opportunity.

Lateral Coordination

The organization designer must match the amount of lateral coordination needed to execute a multidimensional strategy with different types and amounts of lateral processes. To learn how to match coordination needs and lateral processes, let us examine a single-business functional structure and its cross-functional lateral processes. The functional structure is the most common organizational structure. (For a discussion of lateral processes across subsidiaries and business units, see Galbraith, 1994b, 2000.)

The management challenge for a functional organization is to coordinate the cross-functional work flows and common contact points with customers, suppliers, and other shared constituencies as indicated in figure 3.3. Coordination across functions—to create and deliver products or services—is the responsibility of the general manager and the functional management team. As mentioned in chapter 1, this coordination is most easily accomplished when the company produces a single line of products or services

Figure 3.3 Work Flows Across a Functional Structure



for a single customer type and when product life and development cycles are long.

But the need for lateral coordination will exceed the capacity of the team at the top when a company's strategies and tasks involve the following:

- Diversity and variety
- Rapid and unpredictable change
- Interdependence between functional units

To deal with these forces, management may have to change the entire structure of an organization. Another alternative is to enlist lateral processes, which may be thought of as "general manager equivalents." These processes offer a more subtle approach to decentralizing decisions and increasing decision-making capacity. The types and amounts of lateral processes used will vary depending on the relative importance of the three organizational shapers, as discussed in chapter 1. Collectively these three forces determine the need for cross-functional coordination and the correlating amount of cross-functional lateral processes. It is important to recognize that the need varies from low (for companies manufacturing beer or producing classical music titles, for example) to high (for those producing multimedia products and rap music titles).

Benefits and Costs of Lateral Processes

The task of the organization designer is to match the type and amount of lateral processes with the cross-functional coordination required by the firm's business strategy. The designer must avoid choosing too little or too much lateral processing. Up to a point, lateral processes produce benefits; thereafter, they increase costs and difficulty.

The benefits of lateral processes involve permitting the company to make more decisions, different kinds of decisions, and

better and faster decisions. Because these processes decentralize general management decisions, they free up top management for other decisions. Thus they increase the capacity of the organization to make more decisions more often, and the organization is more adaptable to constant change. Different types of decisions are made and can address the multiple dimensions of a business environment. Companies decentralize choice to the points of product and customer contact where decisions can be made and implemented quickly because these groups may have access to current and local information available only to them.

A business may have a functional structure, but by enlisting lateral processes, it becomes capable of forming new product teams, customer teams, and process teams for reengineering. The business is therefore flexible, no matter the issue at hand.

Lateral processes can also create costs. The decentralized decisions may not be better than those of top management, for example, and the people at the front lines may not have the perspective and experience of top management. These costs can be minimized, however, by making the organization's total database available, training people, and providing the correct incentives.

Another cost is the time of the people involved. With today's flat and lean hierarchical structures, employee time is at a premium. Time spent on a reengineering team is time not spent with customers or developing new people. The more time spent on teams, the greater the cost is. Lateral processes can be seen as investments of management time to create shorter cycle times.

The third cost comes in increased level of conflict. Cross-functional teams are made up of representatives who see issues differently. Much of the time involved in cross-functional processes is devoted to communicating, problem solving, and resolving conflicts. The company that is skilled at conflict resolution can lower the costs and time needed to reach decisions.

Thus, the designer needs to find the point of balance between the benefits and costs of lateral processes. This balance can be

struck by matching coordination needs with the different types and amounts of lateral processes.

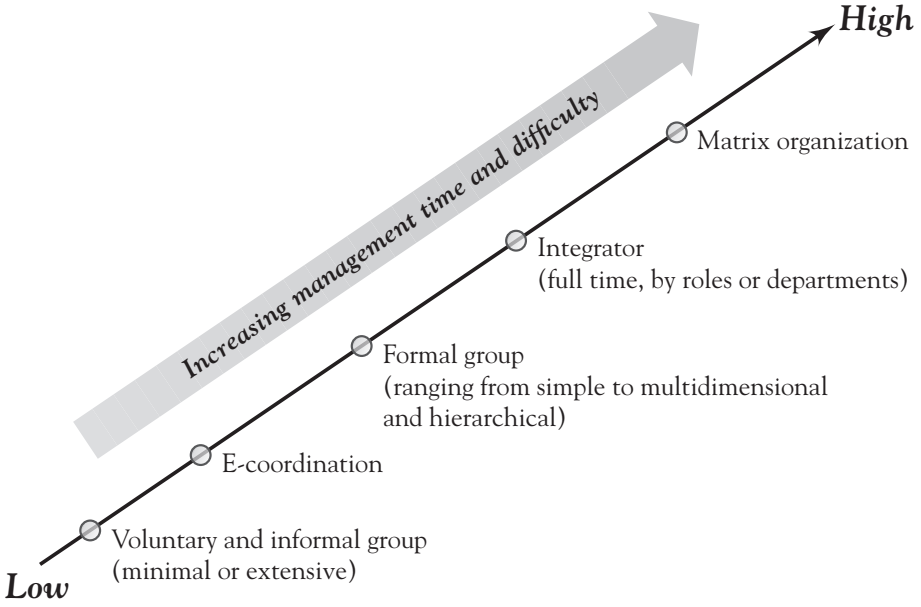
The Five Types of Lateral Processes

There are five basic types of lateral processes, as shown in figure 3.4. They vary in the amount of management time and energy that must be invested in them.

Informal or *voluntary* lateral processes occur spontaneously. They are the least expensive and easiest form to use. Although they occur naturally, organization designers can greatly improve the frequency and effectiveness of these voluntary processes.

E-coordination involves using Internet and social technology to communicate and coordinate across departments. These electronic links may combine the efforts of people working on a new product using three-dimensional computer-aided design, now called product life cycle management, or serving the same customer using customer relationship management processes.

Figure 3.4 Types of Lateral Processes



Today much can be accomplished through social technologies like Yammer.

The next type of lateral process, which requires more time commitment, is the *formal group*. Teams or task forces are formally created, members appointed, charters defined, and goals set for the cross-functional effort. Formal groups are more costly than voluntary groups because they are the creation of management and do not occur naturally. They require some team building and maintenance for proper functioning. Formal groups are also more costly because they are used in addition to the voluntary groups, not instead of them. The organization needs both voluntary efforts and formal groups to supplement the general manager's coordination across functions. The simpler forms are still needed but are insufficient by themselves to achieve the integration the strategy requires.

The fourth level of commitment to lateral processes comes with appointment of *integrators* to lead the formal groups. At some point, full-time leaders may be required. Leaders may be product managers, project managers, process managers, brand managers, and so on. They are all "little general managers," who manage a product or service in place of the general manager. They are enlisted because there are many products, new products, and rapid life cycles.

Using integrators is the most costly lateral process. In addition to the cumulative costs of the voluntary processes and the formal groups that must already be in place, integrators require hiring a group of full-time people whose task is to integrate the efforts of others. The integrator role is also the most difficult to execute. Integrators introduce confusion over roles and responsibilities and add an element of conflict. However, the cost and difficulty may be judged appropriate because the strategy requires functional excellence and rapid generation of new products or services.

The last and most difficult form of lateral process is the *matrix organization*. To create a matrix, the integrator role becomes a line

organizational position. The person in the functions who works on the products or project team acquires a second boss. The company then has two line organizations. The matrix is used only when there is a need for a power balance. The R&D function, for example, is typically organized around projects and functions in a matrix model. (For a complete description of matrix organization designs, see Galbraith, 2009.)

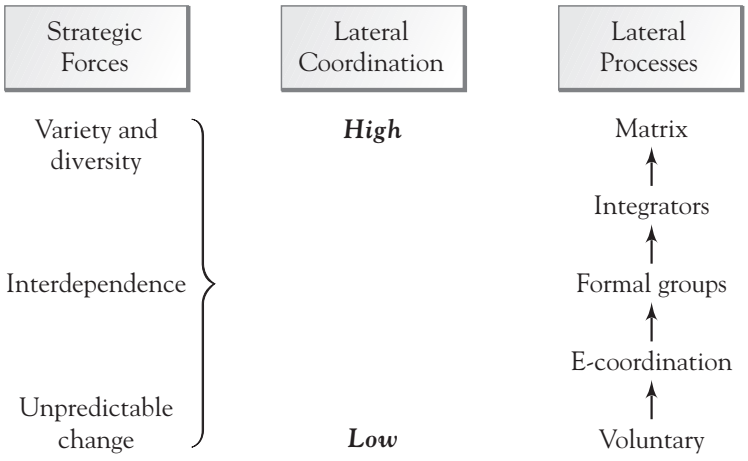
The organization designer must match a company's cross-functional coordination requirements with the appropriate types and amounts of lateral processes. Figure 3.5 illustrates how the three shaping forces create a need for varying levels of lateral processes.

The remainder of this chapter describes how the organization designer can foster voluntary processes and e-coordination. The other types of lateral processes—formal groups, integrators, and matrix organizations—are discussed in depth in chapter 4.

Fostering Voluntary Processes

An organization characterized by voluntary coordination across units is usually referred to as an informal organization because the

Figure 3.5 Matching Coordination Needs with Lateral Processes



process seems to occur naturally and spontaneously. For example, a discussion between a salesperson and a customer leads to an idea for a product change. The salesperson and an engineer make a preliminary design. The design is sent to operations and marketing for their ideas. A new product modification results a few weeks later, all because of the voluntary cooperation of people in different units.

Such acts may occur hundreds of times each day and can be a source of great strength for the company. But great weakness occurs when the voluntary acts do not happen. In many cases, these acts do not occur because of cross-functional barriers.

Today there is great interest in removing barriers and encouraging voluntary cooperation. Leaders can employ a number of actions to elicit voluntary cooperation:

- Interdepartmental rotation
- Interdepartmental events
- Colocation
- Mirror-image departments
- Consistent reward and measurement systems

All of these forms of activity create networks of relationships. People cooperate voluntarily when they have relationships with people in other departments and are comfortable working with them.

Interdepartmental Rotation. The most powerful tool of the organization designer for creating voluntary lateral processes is the interdepartmental assignment of key people. Rotational assignments have two important effects. First, they train and develop people in all facets of the business. People who are successful at rotational assignments learn how to learn; they do not simply gain the specific knowledge of the business. The rotated managers can more effectively participate in cross-functional

teams, can chair the teams, and grow into integrators. Rotations create generalists and the general management capability that is at the heart of lateral processes. Individuals become more flexible, and if we are to create flexible organizations, we need flexible people. These people also develop relationships in the various departments, which then can be used later in lateral coordination attempts.

Thus, rotational assignments create a lateral communication network across the company (see Galbraith, 1994b). Taken together, the trained individuals and the relationships they have cultivated create the organizational capability for lateral coordination. Rotational experiences simultaneously develop the individuals and build their relationships, thereby developing the voluntary organization. The task of the organization designer is to make sure that relationships are created at key work flow interfaces where coordination is required.

However, rotations also create costs. People are less effective when they are learning new roles. When managers are reluctant to give up good people and train newcomers, effort and time from the leader is needed to keep the rotation process in motion. When filling an international position with an expat rather than someone from the local area, the costs are two to three times as much. But the cost of rotations should realistically be considered an investment instead of an expense as it develops individuals, creates a network of relationships, and builds a flexible, lateral capability.

Interdepartmental Events. Voluntary processes also result from events such as training courses and conferences. Indeed, training budgets are as justified by their networking effects as by their developmental effects. The organization designer needs only to decide who should attend. Also, like rotational assignments, events are most effective when they create relationships across the key work flow interfaces.

The importance of training in strategy provides an opportunity for developing people and the organization's networks.

When companies rely on informal, voluntary cooperation and e-coordination, the people need to know and participate in the creation of the company's strategy and priorities. Training in and participation in the strategy is a great way of preparing people with direct customer contact to know how to serve customers appropriately.

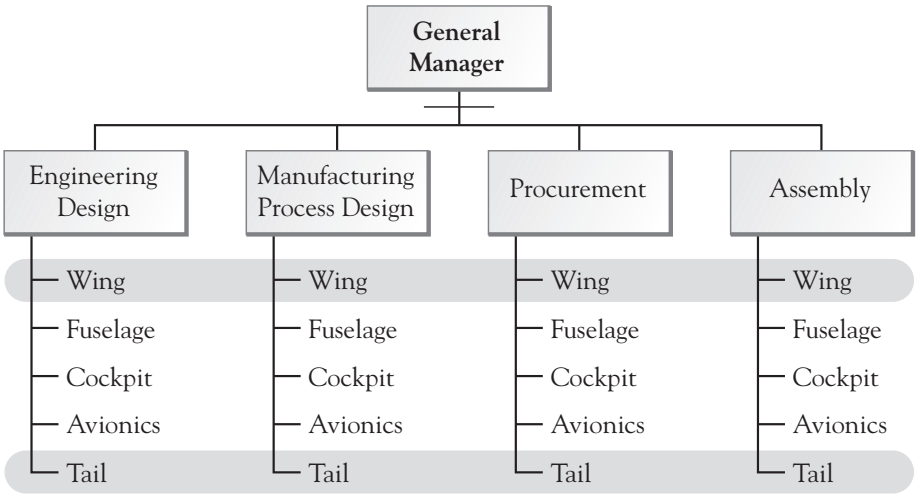
Colocation. Proximity of employees is an important factor in fostering productive relationships. There is good evidence that reducing distance and physical barriers between people increases the amount of communication between them. Engineering firms colocate everyone working on a project. As projects come and go, the firms reconfigure the organization and the office layouts.

The organization designer needs to give careful thought to location patterns. For example, if a marketing group is located close to an operations group, perhaps it is not located close to engineering. Once again, the designer needs to know the key interfaces where communication is most necessary and relationships most likely to be productive.

Mirror-Image Departments. One of the greatest barriers to lateral processes is the sheer number of interfaces across which people must communicate to gain a consensus for action. Usually each function organizes according to its own logic. For example, in one consumer packaged goods company, over twenty interfaces would have to be worked for a salesperson and an engineer to modify a product. The sales function is organized by geography, marketing by brands, manufacturing by site and process, engineering by product, purchasing by commodity, and vendor. It would take an engineer an unrealistic amount of time to communicate with and gain support from each function.

In response, some companies have organized their functions as mirror images of one another. Figure 3.6 shows how an airplane manufacturer has organized each function around major sections of the aircraft. A manager of the wing, for example, has

Figure 3.6 Mirror-Image Functional Structure



an interface in each other function. Each person has to work only five or six interfaces in order to get complete support. These five or six people can form the equivalent of a general manager for the wing, tail, avionics, and so on. Decisions can be decentralized to these groups, with each group assuming end-to-end responsibility for its section of the aircraft. It is an easy next step to formalize the group and have it set group goals for cycle time, quality, and cost improvements.

The mirror-image structure creates a clear line of sight across the entire organization. It can facilitate the establishment of relationships by simplifying the interfaces across which lateral processes take place. The managers get to know one another and spend less communication time getting an end-to-end commitment to a decision. The likelihood of voluntary cooperation is much higher.

However, there is a cost to this structure. It is tantamount to organizing by product or process at the level below the functional manager. It creates the costs that are associated with those structures, such as loss of scale, duplication, and so on. Often the costs are accepted in order to get the coordination and cycle time

reduction. Or the designer can create a hybrid structure within the function.

Consistent Reward and Measurement Systems. One of the keys to creating voluntary processes across units is to align the interests of the parties involved. Often, functional measurements designed independently of each other create incompatible goals, causing another barrier to cross-functional cooperation. A task of the leader is to test for cross-unit consistency of goals and to design supporting reward systems. Performance measurement and reward systems are useful tools for creating aligned goals and objectives. Often a common goal, like cycle time reduction, can apply across all functions, or there may be a customer for the cross-functional work. The group can start with what the customer wants in order to generate measurement criteria. But in any case, clear and consistent measures, goals, and correlated rewards are needed to promote voluntary cooperation across units.

E-Coordination

The potential of Internet technology—and now social technologies—for linking previously independent departments is approaching realization. Although the use of social technologies inside companies lags their use outside the organization, there are some positive examples. There are also some lessons learned.

E-Coordination with Mobile Devices and a Service Contract on the Web. International Service Systems (ISS) is the largest provider of cleaning, security, and catering services in Europe. Recently it has been signing national and regional agreements with customers who outsource these services to it. In one national agreement a UK manufacturer has outsourced its cleaning to ISS at all of its UK sites. It is a customized agreement for cleaning. For example, the offices are to be cleaned every

night with special attention to PCs and keyboards. The back hallways and fire escapes are cleaned once a month, and reception areas and conference rooms are to be cleaned on demand. This contract and its application to various sites is placed on the ISS website. It is accessible to the cleaning crews by wireless mobile devices.

The cleaning crews check their assignments and the cleaning criteria that apply to the areas assigned to them. When an area is complete, a sign-off signal is sent and registered at the website. Any comments can be noted. The site supervisor and national account manager can observe whether all areas at all sites have been serviced. The next day the customer site managers register their satisfaction with ISS's performance and give the crews a score. The site supervisors' and account managers' bonuses are determined by this score.

The on-demand cleaning is also registered on the website. When a request is registered on the site, an alert is sent to the cell phone of the site supervisor, who calls the crews. Some crews are cross-trained to provide cleaning, catering, and security services so that there is a quick response capability. Other requests can be registered as well. For example, say Prince Charles and members of the press will visit a factory in Southampton on Friday afternoon. The highest level of cleaning is needed on all areas of his tour. In this manner, the website coordinates the behavior of various crews at multiple sites throughout the day.

Social Technologies. The McKinsey Global Institute (2012) predicts some substantial increases in productivity that will result from a shift to using social technologies. The gains will result from a shift from one-to-one channels of communication (e-mail and phones) to many-to-many channels (social media). Their study shows that the use of e-mail and short message service declines when people use Facebook and Twitter. In addition, McKinsey suggests that a huge amount of company knowledge is locked up in peoples' e-mail inboxes, which are not searchable.

Making this content and expertise available to everyone would be valuable. Surveys support this optimistic view (McKinsey Global Institute, 2012; Kiron, Palmer, Phillips, and Berkman, 2013). Large percentages of managers see a bright future for technologies, but everyone sees some current barriers.

A number of companies have already seen that installing Yammer and Chatter and then mandating their use does not work. Social technologies are voluntary, bottom-up processes. They are not top-down installations like SAP. One company tried incentives. All managers were to make five posts per week to the company's social network. Naturally the company got their five weekly posts from each manager, but they were of dubious value. Many organizations are repeating the mistakes of the past. Before, they installed software systems and assumed people would use them as intended. UPS has launched a social networking platform that allows drivers, packers, and managers to post comments, questions and ideas about health and safety (Schectman, 2013). The company is encouraging feedback and wants "constructive dissatisfaction." The Teamsters union is not supporting the new platform. They say that a grievance procedure is already in place for these dissatisfactions. The union says there are multiple complaints and ideas in the system. They believe management just does not want to spend the money. Instead, the company replicates online all of the company's dysfunctional behavior offline. If there are silos between functions offline, there will be silos online too. For these reasons, the adoption of social media outside organizations is much faster than its adoption inside the company.

There are some successes. When implementation is part of a change program, social technology can succeed. Consultants advise that success can be achieved by selecting a process like "order to cash" and then set some goals like "ten days cycle time." When people are trained, leaders participate, daily improvements are widely reported, and people join in. Some companies try to make it fun. People vote for the most innovative idea for change

or which posts resulted in the most learning. Prizes and badges can be given to the winners of the vote.

Another example is the experience of a marketing head in a business unit of a global company. The marketing executive wanted to share information and ideas about products and promotions in real time over the company's social platform. Many of his peers were not interested, however. There was no history of sharing, many of the marketing heads did not know one another, and many saw no value in the initiative. The marketing executive nevertheless did not give up. He called a face-to-face meeting with all of his peers to debate the issue, get to know one another, and plan some next steps. It took some support from IT and the analytics group, but eighteen months later, the collaborative network was up and running. This is a good example of the time and energy it takes to create a network to serve business purposes when the current culture is not supportive.

The social platform created by GE's Colab receives a lot of attention. It was built internally and uses a lot of the software from Facebook and Twitter, so many people are familiar with the system. It was created to be GE-wide in scope and to be used by all levels of management. The designers launched Colab in January 2012 by getting GE's "power users" to use it. Following the concepts of the agile software development, they released a minimally designed system. Then, on the basis of feedback from users, they added features. They still release updates every two weeks as they link Colab to other systems like Salesforce.com and Chatter. Users can go to these other systems and not leave the Colab platform. More people join with each new added feature. As of spring 2013, about half of GE's 300,000 employees were users.

GE has an advantage. When Jack Welch was the CEO, he launched an initiative to create a culture of boundarylessness. Colab can therefore enable self-organizing activities more easily. One example is the Australian country manager who initiated a mining network across GE's businesses and regions. Starting with informal teams, the network addressed common customer

problems over social platforms. The network is now addressing product and services and is becoming a complete mining business network.

The social platforms can become more powerful when combined with employee network analysis (Cross and Thomas, 2009). Using network analyses, organization designers can visualize networks throughout the company. They can see the group of people who spend time on the Walmart account, for example, or who contribute to a particular new product. The organization designer can see holes in the network where conversation should be happening but isn't. Then working like the marketing manager described above, the organization designer can introduce people, make connections, and get them active on the social platform. In this way, partially formed networks that have been self-organized can be completed and strengthened by some organization design tools.

Not surprisingly, all of the articles claim that social networks will not be successful without top management support. The sophistication of social platforms at Dell is attributed to Michael Dell's active participation in them. There is also a person in charge of social networks in the communications function. At GE, a manager was appointed to a position as the new head of a business unit. He had been active on Colab in his old job. But he found that only thirty people in his new unit were on Colab, so he started communicating with them through Colab. Now about eight hundred of his more than one thousand employees use Colab. Clearly the usage becomes contagious when the leaders start using the social platforms.

In summary, it appears that social platforms can become powerful enablers of the informal organization. Organization design can help forge networks with network analysis tools and the building of relationships among network participants. In other cases, champions like the Australian country manager are needed, along with an organizational change initiative to support them, as in the case of the marketing manager.

Summary

In this chapter I described the origins of the functional organization from start-up to a full-fledged single-business strategy. A variety of single-business strategies and a corresponding variety of functional organizations are needed to implement those strategies. Some businesses are cost-centric, some are product-centric, and others are customer-centric. In the case of the latter two types, the functional structure is challenged by the variety of products and market segments. As a product-centric company grows, it often needs to reorganize into product divisions. But in order to ensure a smooth transition, it uses cross-functional product teams. This type of lateral organization is also used for cross-functional segment teams. Lateral capabilities are important in all types of organizations to coordinate the requirements from a variety of stakeholders and initiatives that companies must satisfy. Finally, I introduced the concept of the informal organization. Social networking platforms are particularly good at enabling this form of informal, lateral organization. Organization designers, using network analysis, can enhance self-organizing networks to include people who would not otherwise be included but are necessary for implementing a particular task. The next chapter addresses the more formal types of lateral processes.