Organizational Design

A Guide for Growth-Oriented Entrepreneurs

Sample Chapter: Elements of Organizational Design

GROWTH-ORIENTED ENTREPRENEURSHIP PROJECT

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Growth-Oriented Entrepreneur's Guide to Organizational Design

About the Project

The Growth-Oriented Entrepreneurship Project (www.growthentrepreneurship.org) engages in and promotes research, education and training activities relating to entrepreneurial ventures launched with the intent to achieve significant growth in scale and value creation through the development of innovative products or services which form the basis for a successful international business. In furtherance of its mission the Project is involved in the preparation and distribution of Guides for Growth-Oriented Entrepreneurs covering Entrepreneurship, Leadership, Management, Organizational Design, Organizational Culture, Strategic Planning, Governance, Compliance, Finance, Human Resources, Product Development and Commercialization, Technology Management, Globalization, and Managing Growth and Change.

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Growth-Oriented Entrepreneur's Guide to Organizational Design
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Attorneys acting as business counselors to growth-oriented entrepreneurs who are interested in forms, commentaries and other practice tools relating to the subject matter of this chapter should also contact Dr. Gutterman at the e-mail address provided above.

PART II
ORGANIZATIONAL DESIGN

Preface

Our goal of this Part is to provide a basic understanding of the structured processes that emerge within organizations to guide how their members (e.g., owners, executives, managers and non-managerial employees) interact with one another to pursue their mutually agreed goals and objectives with respect to the creation of value for themselves and the external environment in which the organization operates. While the initial idea for what becomes a new business may emerge suddenly, without warning, or after long deliberation but without any semblance of a formal roadmap as to how to proceed, efficient pursuit of the idea ultimately requires attention to creating and administering an appropriate organization for the business. An organization does not simply appear on its own; in fact, organizations are contrived social systems that are created by like-minded groups of persons in order to pursue and hopefully achieve a stated goal or purpose. This process of creation—organizational design—is the focus of this Part.

This Part provides a brief introduction to organizational design and identifies and briefly describes the factors and issues that must be considered in designing, implementing and maintaining an effective organizational structure that is properly aligned with the strategy and culture of the organization. The Part describes several well-known models of the organizational design process and the key elements of those models including strategy, structure, business processes and lateral linkages, compensation and reward systems, culture and human resource management. The Part discusses how organizational design fits within organizational theory and explains why the design process is an important determinant of the competitiveness of an organization. The Part also includes a description of the information processing model of organizational design to illustrate how changes in organizational strategy, and the way in which the organization and its members must collect and process information, impact the other elements of organizational design.

A separate chapter in this Part provides an introduction to the relationship between organizational design and technology. Technology is more than just machinery and other equipment and also includes intangible elements such as the knowledge and experience of the persons involved in the complex process of converting inputs into outputs and the formal and informal procedures that the organization has created to carry out its work (i.e., conversion) activities. Technology not only impacts organizational strategy, which is the foundation for decisions regarding organizational design, but also influences working relationships within organizations and the ways that organizational members interact, collaborate and communicate to share information. Most successful organizations have forged a tight and efficient alignment between their technical and social systems and have adopted procedures for identifying technological changes and quickly adapting their structures and processes to those changes. Among the topics

covering in the chapter are the relationship between technology and organizational effectiveness; the types and impact of technology at various levels in the organizational hierarchy; technological interdependence among departments, including pooled, sequential and reciprocal interdependence; managerial implications of analyzing organizational technologies; advanced manufacturing technology, including computer-aided design, computer-aided materials management, just-in-time inventory systems and computer-integrated manufacturing; the impact of advances in information technology on job design; and role of technology in service firms.

Another chapter in this Part covers what are widely recognized as co-equal determinants of organizational success and focuses on the steps that need to be taken by top management to integrate organizational design into creating and exploiting the firm's core competencies and competitive advantages. The chapter explains why and how strategies need to be developed at multiple levels within the organizational structure and describe the process for settling on functional-, business-, corporate- and global-level strategies and making sure that they are consistent with one another. Other topics include the relationship between strategy on the one hand and other issues such as organizational structure, control systems, human resources management and organizational culture.

Chapter 1
Elements of Organizational Design

§1:1   Introduction

An organization does not simply appear on its own; in fact, organizations are contrived social systems that are created by like-minded groups of persons in order to pursue and hopefully achieve a stated goal or purpose. Organizational design is concerned with the factors and issues that must be considered, and the rules and processes that must be implemented, with respect to the design, development, implementation and maintenance of a successful and effective organization. Organizational design is more than simply organizational structure—the boxes and lines that are normally found on a traditional organization chart—and extends outward to include a variety of other factors including information and reward systems; management and decision making processes; organizational culture, including mission, vision, values and norms; strategy, including the goals or purposes for which the organization exists; and the human resources who will do the work necessary for the organization to operate, survive and thrive. The creativity involved in the design process has led some to refer to the field as "organizational architecture".

The organizational designer is charged with balancing each of the factors mentioned above and determining the best way to bring about coherence or fit among them in order for the organizational design to become and remain a source of competitive advantage. The decision process involves important strategic choices with respect to the goals and purposes of the organization, the modes of organization, the processes for integrating individuals into the organization, and the timing for changes in any of the elements to

respond to changes in the environment in which the organization operates. Since an organization is perceived as a continuum that exists over a period of time, organization design is concerned with maintaining coherence over the life of the organization. Accordingly, care must be taken to constantly monitor and shift organizational goals, organizational modes and processes that impact the experience of individuals involved with the organization. In order for this process to be carried out smoothly and efficiently organizations must also develop capacities for organizational learning in order to collect and stockpile the knowledge and information needed for change and adaptation.[1]

For companies the role of organizational designer generally falls to the chief executive officer ("CEO") and he or she will rely on the other members of the executive team to provide input on the key elements of organizational design that also fall within their scope of functional responsibilities. For example, the CEO is responsible for strategic planning—setting the business and financial goals for the company and creating and implementing the specific strategies designed to achieve those goals. The senior executive overseeing the human resources function is responsible for developing, recommending and administering rewards systems that motivate managers and employees to effectively execute the chosen strategies. The head of logistical activities, sometimes referred to as the "chief operating officer," is charged with making sure that vertical business processes are established to ensure communication and collaboration between departments and divisions. Finally, all the members of the executive team should focus on creating and supporting the organizational culture and preferred management/leadership style that are appropriate for the organizational strategy and other elements of the design model.

§1:2   Models of organizational design

A wide range of methods and models have been used to identify and depict the elements that must be considered in the organizational design process. One of the most popular is the "Star Model", which was first developed by Galbraith in 1977 and which emphasizes the following five major components: tasks, structure, information and decision processes, compensation and reward systems and people (i.e., human resources management). Each component presents the organizational designer with several key choices. With respect to tasks, the organization must decide upon the correct scope of diversity, difficulty and variability to meet its performance objectives. Structural choices include identifying the appropriate division of labor, departmentalization, configuration, and distribution of power. With respect to information and decision processes, the choices include selection of the decision mechanism, the frequency and formalization of information collection and decision making, and design of the database. When focusing on choices regarding the people who will be integrated into the organization, important factors include selection, training and development, promotion and transfer. Finally, the choices with respect reward systems include the compensation system, basis for promotion, leadership style and job design.[2]

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[1] J. Galbraith, Organization Design (Reading, Mass.: Addison-Wesley, 1977), 5.
[2] Id. at 31.

The Star Model is generally depicted as a pentagon that connects each of these components and a star is placed inside the pentagon with the word "fit" to emphasize the interdependence of each of these elements and the need to make sure that each of them is consistent with the business strategy that has been adopted by the organization. The primary driver of each component is the strategy adopted by the organization. If a change in strategy requires a modification to any one element then the designer must check each of the other elements to confirm that they still work in the new circumstances or to determine what changes in those other elements might be necessary and appropriate to accommodate and compliment the initial change. For example, if the organization alters its strategy by targeting a new market the designer must determine if the necessary human resources (i.e., "people") are available to the organization for the initiative and make sure that the organizational reward systems provide adequate incentive to shift focus toward achieving the revised strategic goals and objectives in the new market.

By 1995 Galbraith himself had modified the five points of the Star Model to include the following: strategy, including vision, governance and comparative advantage; structure, including power and authority, information flow and organizational roles; business processes and lateral linkages; compensation and reward systems; and human resource management, including organizational learning (see Table 1.1).[3] Several other variations of the Star Model have evolved and been popularized by business consultants and academics. For example, information technology has been added to structure, process, people and culture to form the five points of the star and "strategy" has been placed in the middle of the star to emphasize how the choice made with respect to organizational strategy should be tightly aligned with the other organizational elements.   Another version of the Star Model is based on taking a strategic focus toward the following five areas: vision and strategy, with a specific emphasis on identifying a mission and set of goals that go beyond financial performance; values and culture, including ideas about how the organizational values can be marketed and delivered to customers and other business partners; leadership and management, which include recruitment and motivation of talented human resources similar to the element of "people" in the other variants of the Star Model; business processes, including information technology; and organizational structure, both formal and informal.

A similar analytic tool for looking at the organizational design process is the McKinsey 7S Model that has been widely utilized to analyze and improve the effectiveness of organizations. Like the Star Model, the 7S Model has various elements that are depicted as interdependent elements. These elements can usefully be broken down into "hard" factors, such as strategy, structure and systems, and "soft" factors that are more intangible and imbedded in the culture of the organization, such as skills, shared values and beliefs, staff and style. The notable difference from the Star Model is the inclusion of skills, including the capabilities and competencies within the organization; shared values, which are defined as the values and beliefs of the organization; and style, which calls for taking

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[3] J. Galbraith, Designing Organizations (San Francisco: Jossey-Bass, 1995).

into account the leadership approach of top management and overall operating approach of the organization.[4]

The key organizational design elements chosen by other influential thinkers in this area are quite similar to those described above. Nadler and Tushman reference informal and formal organizational structure, business processes and human resources.[5] Merron focuses on vision, strategic goals and strategic management, organizational culture and organizational structure.[6] Henning mentions the role of the organization (i.e., strategy and purpose), reward systems, groupings (i.e., organizational structure) and business processes and work design.[7] The goal of each of these models, as well as those described above, is to reinforce that organizational design does not stop with structure and that an effective organization cannot exist without ensuring that all of the elements in the chosen model have been analyzed and then arranged in the manner that is best suited for executing the strategy of the organization and achieving its stated mission and goals.

Table 1.1
Organizational Design Checklist

- What is the organization's strategy? Organizational strategy includes the vision and mission of the organization and its short and long-term goals. Strategy is determined by the organization's external environment (e.g., competitors, suppliers, customers, technologies and regulators) and the strengths and weaknesses of the organization in relation to the factors in play in the external environment.
- What superior organizational capabilities can be developed and used to create a competitive advantage for the organization? Organizational capabilities are the unique combination of skills, processes, technologies, and human abilities that differentiate an organization. Competitive advantage is the ability to offer better value to customer than competitors through lower pricing and/or more highly-valued benefits and services.
- What is the business portfolio of the organization? The business portfolio includes each of the product lines and/or business units within the organization.
- What is business model of the organization? Elements of the business model include the value proposition, target customer segments, distribution channels, cost structure and the model for generating revenues.
- What steps must be taken to develop and exploit the organizational capabilities necessary to effectively and successfully execute the chosen strategy? For example, if the organizational strategy calls for positioning products and services to meet the specific needs of local markets around the world the elements of the Star Model must focus on creating and maintaining expertise and presence in each local market.
- What metrics should be used to determine whether the steps taken to develop and exploit the organizational capabilities have been successful? If presence in new local markets is the goal the metrics should track retention and expansion of relationships and accounts in target markets.
- What is the structure of the organization? The structure determines where formal power and authority is located within the organization. Organizations are generally structured around one of the following key dimensions—functions, products, geographies, or customers.
- What are the key roles in the organizational structure, how is worked managed and how are important

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[4] R. Waterman, T.J. Peters and J.R. Phillips, "Structure is Not Organisation" Business Horizons, Vol. 23(3) (New York: McKinsey & Co., 1980), 14-26.

[5] D.A. Nadler, M.L. Tushman and M.B. Nadler, Competing by Design: The Power of Organizational Architecture (Oxford: Oxford University, 1997).

[6] K. Merron, Riding the Wave: Designing Your Organization's Architecture for Enduring Success (New York, NY: John Wiley, 1997).

[7] J. Henning, The Future of Staff Groups (San Francisco: Berrett-Koehler Publishers, 1997).

decisions made? Related issues include centralization and decentralization, use of rules and procedures and coordination.

- Does execution of the organizational strategy require high levels of collaboration across internal boundaries that exist within the organizational structure? If so, particular attention must be paid to processes and lateral connections.

- What processes should be put in place to make sure that necessary information moves efficiently up and down and across the organization? Processes can be work-related, such as development of a new product, and management-related, such as planning and forecasting.

- What lateral connections should be created to make sure that structure boundaries do not restrict or destroy needed collaboration? Examples of lateral connections include networks, teams, integrative roles and matrix.

- What metrics and rewards should be used in order to make sure that the behavior and performance of individual members of the organization is aligned with the organizational strategy and goals? When designing the reward system consideration must be given to the level at which performance should be measured: the locus of measurement; the behaviors and activities that should be measured; and the evaluation process.

- What human resource policies should be implanted for recruiting, training and developing people with the skills necessary for execution of the organization's strategy?

- What are the key characteristics of the organizational culture and do they support that strategy and goals of the organization? Elements of the organizational culture include common values, behavioral norms and the mindset that members of the organization are expected to have when dealing with other members and with parties in the organization's external environment.

- How effective is the leadership of the organization in actively communicating the strategy and goals of the organization? Guidance from organizational leaders can assist other members in learning and practicing the behaviors that are needed in order to effectively carry out activities, make decisions and resolve conflicts at all levels within the organizational hierarchy.

- How adept is the organization at quick re-configuring its structure, processes and lateral connections in order to take advantage of new opportunities in its external environment that dictate an unforeseen change in strategy? While it is difficult for an organization to change as it grows larger and matures it is possible to build in tools for flexibility in advance.

Note: The questions in this checklist have been adapted from A. Kates and J.R. Galbraith, Designing Your Organization: Using the STAR Model to Solve 5 Critical Design Challenges (San Francisco: Jossey-Bass, 2007).

§1:3   Organizational design and strategy

While all of the elements in the various models discussed above are important and challenging in their own right, the starting point in the organizational design process should always be the strategy of the organization. Galbraith suggests that strategy includes the selection of the distinctive competence, or domain, of the organization and the identification of the goals and objectives of the organization. The domain of an organization is determined by the choices that are made with respect to the products and/or services to be offered by the organization, the customers or clients to be served by the organization, the technology to be used by the organization in performing its activities, and the locations at which the work of the organization will be performed. Among other things, the choices made in establishing the domain of the organization will lay out the boundaries of the organization and the points at which the organization will become depending on others outside of the organization such as investors, unions, customers, clients and governments. The goals and objectives of the organization are based on decisions about how the organization intends to relate to the "others" identified during the domain selection process. Whatever decisions are made, it is important the

goals and objectives be understood and shared by those members of the organization holding positions of influence, such as the directors, officers and principal owners.[8]

While there are an almost limitless number of variables to be considered in formulating the strategy of the organization, among the most commonly emphasized elements are development of a statement of the overall mission or purpose of the organization, identification of the core competencies of the organization and other organizational capabilities that can be effectively deployed to achieve and sustain competitive advantage and the external environment of the organization. The byproducts of the strategic planning process include a vision of the future for the organization which is based on effective implementation of the strategy as well as specific goals and objectives and a description of the tasks and activities that need to be completed in order to achieve them. Strategic planning becomes increasingly complex as the organization grows and matures and should be supported by an internal infrastructure that continuously collects relevant information about the organization and its external environment and monitors the progress of the chosen strategy against objectively defined goals and measures.[9]

§1:4   --Organizational mission

The mission of an organization should be consciously laid out in a mission statement that informs and educates employees and other stakeholders about why the organization exists, the ultimate objectives of the organization and the values that managers and employees are expected to understand and observe. While a mission statement alone is not a strategy it should provide readers with direction and guidance for decisions regarding the selection and use of resources in pursuit of the objectives identified in the mission statement. The mission statement can play an important role in the organizational design process and should be crafted with an understanding of how it may be presented in the future to potential stakeholders. For example, prospective employees may refer to the mission statement in order to evaluate whether the goals and values of the organization are consistent with their own. Similar questions regarding the mission of the organization may be posed by other stakeholders including suppliers and customers. It has been argued that a full understanding of the mission of the organization is essential to competitiveness in rapidly changing business and technological environments since a shared vision among employees allows them to make decisions quickly without waiting for changes in the traditional organizational design elements that may take time to define and implement.

§1:5   --Core competencies

Core competencies are the basic technologies and skills that the organization needs in order to be successful in the businesses in which the organization chooses to compete. An organization's core competencies include its skills and abilities in specific value-

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[8] J. Galbraith, Organization Design (Reading, Mass.: Addison-Wesley, 1977), 5-6.
[9] For further discussion of the strategic planning process, see "Growth-Oriented Entrepreneur's Guide to Strategic Planning" prepared and distributed by the Growth-Oriented Entrepreneurship Project (www.growthentrepreneurship.org).

creation activities (e.g., research and development, manufacturing or marketing) that ultimately lead to the creation and maintenance of competitive advantages in key areas such as innovation, manufacturing efficiency, product and service quality and/or customer responsiveness. The organization can achieve a competitive advantage by developing and maintaining core competencies that are difficult for others to replicate. The relative strength of an organization's core competencies in relation to its competitors is a function of the advantages that the organization has with respect to the availability of specialized resources and the quality and efficiency of its coordination skills.[10] In addition, organizational capabilities include the unique combination of knowledge, wisdom and skills that makes up the collective intelligence of the organization. Organizational intelligence must be used to focus the resources of the organization on its target markets and design the activities of the organization in a way that allows it to be successful in those market and continuous responsive to changes in the overall environment. Organizational capabilities are embodied in the design of the organization and in its culture, systems, processes and interrelationships.

The specialized resources that can provide organizations with a competitive advantage can be broken out into two categories: functional resources and organizational resources. As the name implies, functional resources include the skills of the organization's functional personnel and the assets that have been invested in exploiting those skills. Organizations have different sets of functional skills. For example, a significant functional resource of a major software company such as Microsoft is the skills of its software design team. For a consumer products firm such as Proctor & Gamble the main functional resource is the new product development group. Other organizations may rely heavily on their research and development and/or marketing departments. Regardless of the type of functional resource that is most important to an organization the core competencies imbedded in that resource does not become a source of competitive advantage unless and until it becomes unique or special, difficult for competitors to replicate or imitate, and efficiently defensible by the organization.[11]

Organizations may use several strategies for protecting and defending their functional resources and the core competencies associated with those resources. For example, an organization may announce and follow a policy of long-term employment to create trust and loyalty among employees. Another important tool for increasing the likelihood that functionally skilled workers will remain with the organization is to grant them property rights in the form of stock options and participation in profit sharing plans.[12]

Organizational resources, which are the second category of specialized resources needed to develop and maintain a competitive advantage, include the skills and talents of the

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[10] G. Jones, Organizational theory, design and change (5th Ed.) (Upper Saddle River, N.J.: Pearson/Prentice Hall, 2007), 205. See also C.W.L. Hill and G.R. Jones, Strategic Management: An Integrated Approach 4th Edition, Boston: Houghton Mifflin, 1998 ("The strength of its core competencies is a product of the specialized resources and coordination abilities that it possesses and other organizations lack.").

[11] G. Jones, Organizational theory, design and change (5th Ed.) (Upper Saddle River, N.J.: Pearson/Prentice Hall, 2007), 205. See also M.E. Porter, Competitive Strategy, New York: The Free Press, 1980).

[12] G. Jones, Organizational theory, design and change (5th Ed.) (Upper Saddle River, N.J.: Pearson/Prentice Hall, 2007), 206.

organization's senior management team, the vision of the company's founder(s) or CEO, valuable and unique tangible and intangible assets (e.g., land, capital, plant equipment and patents and other forms of intellectual property), brand names, and the good reputation of the organization.[13] Once again, in order an organizational resource to provide an organization with a competitive advantage it must be unique and difficult to replicate or imitate and applying this standard often uncovers potential weaknesses that may undermine the organization's strategy. For example, if managers can be easily lured to competitors then their skills and talents are not truly sustainable organizational resources of the organization. Similarly, if the organization's core technology can be purchased or licensed by competitors from an outside source the organization will soon find that any advantage it may have had in that area will be of little or no value. On the other hand, a brand name or good reputation is more defensible since it cannot be acquired by hiring away managers; however, these resources are challenging to create and generally require substantial investments of time and capital.[14]

Another potential core competency of an organization is the skills and abilities of its managers with respect to coordinating the organization's specialized resources— functional and organizational—in a way that maximizes the value created for the organization's stakeholders. Organizations use control systems (i.e., organizational structure and culture) to coordinate activities and motivate employees and organizations that are most effective in these areas can achieve and sustain a competitive advantage. For example, while two or more organizations may have access to the same functional resource, such as production technology, the competitive advantage associated with the use of that resource will go to the organization that develops the coordination mechanisms (e.g., rules, standard operating procedures and cultural norms) to make the most efficient use of the resource. Similarly, the ability to implement coordination mechanisms to integrate activities involving several departments or divisions can contribute to the creation of core competencies. One common illustration of this is when organizations create strong integrative links between their product development, manufacturing and marketing departments to energize and streamline their processes for designing and launching new products.[15]

§1:6   --External environment

The external environment includes a wide range of factors outside of the organization that must be taken into account when developing the organizational strategy including the characteristics and dynamics of the marketplace, competitors, economics, relevant legislation, governmental jurisdictions, and stakeholders. Environmental analysis should be done in the earliest stages of the planning process in order to identify potential opportunities for the organization as well as challenges in the external environment that may need to be overcome or, at a minimum, managed in order to reduce potential adverse

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[13] Id. See also K. Weigelt and C. Camerer, "Reputation and Corporate Strategy," Strategic Management Journal, 9 (1988), 443-454).

[14] G. Jones, Organizational theory, design and change (5th Ed.) (Upper Saddle River, N.J.: Pearson/Prentice Hall, 2007), 206.

[15] Id.

impact on the organization. For example, new laws and regulations may create or expand markets for the products and services of the organization and strategies should be developed to exploit those opportunities. On the other hand, legislative action may increase the costs and risks associated with continuing to follow a particular strategy and the organization must be prepared to either change course or perhaps invest resources to convince lawmakers to reconsider their positions and modify or rescind the applicable laws and regulations. Economic conditions are obviously another important external environmental factor that can influence customer buying patterns, availability of credit to maintain and/or expand business activities and the financial health of business partners.

§1:7 --Aligning design elements with organizational strategy

Once the organizational strategy has been selected it is the job of the organizational designer to work on each of the elements in applicable design model to ensure that they are properly aligned with the chosen strategy.[16] For example, the designer must select the proper structure, which includes choices regarding the decomposition of the activities of the organization into identifiable and manageable subtasks and the selection and implementation of methods to coordinate the various subtasks so that the entire task is completed on a timely and cost-effective basis. Organization of subtasks may be based on a variety of common factors including customers and clients, products, locations or technical specialties and the designer may select from a variety of organizational structures based on what is perceived to be the most important dimension. As for coordination, the designer must choose from a number of procedures including hierarchy of authority, rules and information systems. Human resource management is another important part of the design process and essential to effective execution of the organizational strategy. The designer must develop policies and strategies for identifying and attracting those individuals with the skills required to carry out the chosen organizational strategy and integrating those individuals into the organization. Among the challenges in this area are task design and the creation of reward systems to induce individuals to choose to perform their tasks at or above the desired level of performance so that the organization achieves its strategic goals and objectives.[17]

The relationship of organizational design to competitiveness is discussed in detail below; however, it should not be hard to appreciate how important it is for the elements included in the popular organizational design models to be closely aligned with strategy of the organization. Tasks, workflow, power and authority systems, reward systems, human resource practices and business processes must all support the business objectives of the organization and the right choices with respect to these elements can promote effective communications, productivity, and innovation. Problems with organizational design can undermine potential advantages such as strong functional capabilities and talented human resources. For example, even though an organization may have strong sales and production resources that perform well as separate units the organization will not be able to achieve the greatest advantage from these competencies unless and until the design

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[16] For further discussion of the relationship of strategy and organizational design, see the chapter on "Organizational Design and Strategy" in this Guide.

[17] J. Galbraith, Organization Design (Reading, MA: Addison-Wesley, 1977), 5-6.

element are in place that ensure that sales and production will communicate about customer needs and cooperate on activities that will satisfy those needs. Another example concerns how well reward systems fit with the organization's strategic goals and objectives. If the organization has decided to pursue growth by adding new customers it should be sure that its compensation programs for sales personnel place greater weight on new customers as opposed to maintaining the pre-existing customer base.

§1:8   Organizational design and structure

Organizational design is often thought of as primarily, if not totally, an issue of how the tasks that need to be carried by the organization are defined and how the persons and groups within the organization should be placed within an organizational structure. As noted above, organizational design is more than just structure; however, many of the initial questions that the designer must address and answer are related to structural issues that have been central to the work of organizational theorists for many years. For example, one of the first issues debated within organizational theory was division and configuration of management authority and how best to divide authority among sub-managers to process information and make decisions about issues and problems arising in specialized areas in order to relieve the general manager of the organization from having to be involved in absolutely every single detail of the work processes of the organization. Commentary on this issue touched on a number of familiar themes including the "unity of command" principle and identifying the appropriate scope of command for managers at each level of the organizational hierarchy. Other organizational design issues that have been exhaustively studied include "departmentalization," which focuses on the optimal strategy for integrating worker expertise and workers performing related tasks to create efficient worker groups, units, departments or divisions, and the selection and use of information and decision processes that promote communication and collaboration across the "borders" created within the organizational structure.

As discussed elsewhere in this Guide, most organizations use a functional-based structure at the beginning which relies on grouping people, capital and technology into departments that perform a particular set of activities or operations that are essential to the operation of the organization such as research and development, production/operations, sales and marketing, customer service, human resources and finance/accounting. As time goes by, however, and the organization grows a change in its structure will be necessary in order to support and facilitate coordination and communication across functions. In response, organizations begin to take a close look at the span of control for managers and supervisors, the responsibilities and reporting relationships associated with each position, the level of authority granted to each manager and supervisor, and the degree to which authority will be "decentralized" (i.e., pushed down to lower levels of the organizational hierarchy), and the result is often a shift toward lateral organizations that are flatter, less hierarchical and a change in the primary dimension for organizing and managing human and technical resources that features cross-functional teams that focus on outputs such as products, projects, markets or customers. This transformation has been accompanied by a number of other significant changes in the way that organizations are managed and workers view themselves in the

context of the organization's activities. For example, organizations are now co-locating specialists from various functions who are engaged in a particular project or collaborative activity. Also, managers overseeing multi-functional projects are more generalist. Rewards systems can no longer be exclusively based on functional metrics and organizations must adopt more flexible methods for evaluating and rewarding performance including processes for recognizing cross-functional collaboration. Finally, organizations have been forced to invest in information collection and processing technologies, as well as communications tools, to facilitate coordination and control of the activities of everyone within the organization, support lateral relations and the new lateral organization, and ensure effective collaboration across diverse departments and other business units.[18]

§1:9   --Specialized management roles

One of the earliest and most well-known classical management theories on how to divide management work was Frederick Taylor's functional foremanship.[19]   Taylor noted that one person acting as the general manager of an organization could not possibly have sufficient expertise to make informed decisions about all the issues that arise in the production process such as quality control, maintenance and inspection, materials and scheduling. Accordingly, Taylor suggested that it would be better for each of these functions to be overseen by a sub-manager, or foreman, who would be primarily responsible for making decisions in these areas. While his peers agreed with Taylor that creating specialized management roles would increase the expertise that can be brought to bear on making decisions within the organization, they had concerns about how the possibility of multiple authority relations might impact the behavior of the workers. Specifically, they speculated that two or more of the foreman might be providing inputs for a decision at a particular point along the production path and that workers would be unsure as to whom they should accept instructions.

Early management theorists argued that one way that organizations could clarify authority issues and resolve conflicts for their workers was through the design principle of unity of command, which is based on the simple notion that no member of the organization should be receiving directions from more than one superior. In order to implement this principle, organizations need to establish the desired chain of command and hierarchy of authority that would begin at the top with the general manager or chief executive and then flow downward to the most junior members of the organization. However, while unity of command reduces ambiguity for workers it also creates challenging organizational structure questions as to how many subordinates could or should be coordinated by a specific supervisor. Clearly there are cognitive limits for any single person that ultimately caps the number of subordinates that the person could effectively oversee. On the other hand, if the scope of command was too small the

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[18] J. Galbraith, "The Business Unit of the Future," in J.R. Galbraith, E.E. Lawler III and Associates, Organizing for the Future: The New Logic for Managing Complex Organizations (San Francisco: Jossey-Bass, 1993), 46-47. For further discussion of organizational structure alternatives and determining the optimal structure, see the Part on "Designing the Organizational Structure" in this Guide.

[19] F.W. Taylor, The Principles of Scientific Management (New York: Harper & Row, 1911).

organization runs the risk of having too many people in relatively non-productive coordinating roles and thus loses the potential benefits from the efficiencies associated with the division of labor.

§1:10 --Integrating specialized expertise

In addition, even as organizations were trying to decide how best to design the hierarchical structure associated with the unity of command principle, they also needed to consider how to smoothly integrate specialized expertise into managerial decisions that grow more complex as the size of the organization increases. Management theorists suggested that specialists should be placed in new staff roles to provide expert advice and support services to the line managers who retained the ultimate authority with respect to operational decisions. While this makes sense in theory, practical problems could still arise in making sure that there were clear distinctions between the role and authority of staff and line managers. For example, it is not always easy for workers to understand that while staff specialists should be consulted for questions about how to do a particular task, decisions about what tasks to do and when to do them must still be made by the line manager. Accordingly, when introducing staff support the organization must be sure that channels are created for resolution of conflicts, something that is usually done by falling back to the hierarchy of authority approach.[20]

Introduction of staff specialists also requires decisions about where they should be placed in the organizational structure. One alternative is to slot all of the experts into a single place at the top of the organizational pyramid so that they are available to offer their expertise on a global basis throughout the organization. This so-called "centralized" line staff model provides the related benefit of minimizing the number of experts needed and thus reducing costs. Another option is to implement a "decentralized" line staff model in which staff specialists report to line managers at lower levels. This obviously increases the number of specialists that need to be recruited by the organization and increases costs; however, decentralization makes sense in situations where there is significant variation in the nature of the subtasks within the organization such that decision-making authority has been driven downward to lower levels and the line managers at those levels are the ones in immediate need of specialized expertise.

§1:11 --Departmentalization

Once all of the tasks required for an organization to achieve its goals and objectives have been identified and divided into subtasks, organizational designers must decide on an organizational structure that combines workers performing related subtasks into the most efficient clusters (e.g., groups, units, departments or divisions). This problem has been referred to "departmentalization" and management theorists have suggested a variety of methods for aggregating workers. For example, a function-based structure relies on departments formed on the basis of the process being conducted or the professional or occupational training being used, such as engineering, accounting or drilling. Alternatively, the designer may opt for structural units based on the outlets for the tasks

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[20] J.R. Galbraith, Organization Design (Reading, Mass.: Addison-Wesley, 1977), 15-17.

being performed by the workers, such as products, markets or customers. Finally, as organizations expand their activities to geographic areas far afield from where the business was originally launched, including entering foreign markets, the primary dimension for the organizational structure may become the physical location where the work is being performed.[21]

§1:12 --Information and decision processes

Another important element of the organization design process is the selection and use of information and decision processes within the chosen organizational structure. Inquiry in this area has spawned the academic disciplines of operations research and management science and specialists believe that the decision-making process for organizations could be improved by rationalizing the process, formulating the decision problem as a mathematical problem, and testing alternatives on the model before decisions are actually implemented in the real world. In order for this approach to be useful, organizations must be willing to formalize their data collection and storage procedures through the use of computers and must learn how to use analytical tools such as linear programming. In addition, organizations must take all steps necessary to ensure that the information is available to decision makers at the time the decision must be made and that the information is clearly and efficiently organized so as to minimize the time necessary to locate the data required by the decision makers.[22]

§1:13 Organizational design and culture

Organizations cannot successfully execute their strategies simply by selecting and implementing the best structure and processes and recruiting the most qualified people to fill the key positions within the organization. Another organizational design element—culture—must also be carefully considered and nurtured. In simple terms, organizational culture can be thought of as the personality of the organization and can be broken down into several related components including mission, vision, values, norms and artifacts, all of which influence the assumptions that organizational members have about what is acceptable and valued behavior. No single culture works for every situation—each organization has its own unique culture that develops from various sources such as the founders of the organization, societal norms and professional standards. Cultural values and norms are passed on to newcomers when they join the organization and can be seen in action in a variety of outputs or effects—the behavior of members and the way that they interact with one another and with persons and entities outside the organization, strategies and technologies, products and services, brands and images, grooming and attire and even the way that work flow is laid out.

Organizational culture has been found to be particularly important in the context of efforts to effect organizational change, which is assume to be an attempt to execute a new strategy thought to be necessary in order for the organization to cope with new and changing conditions in its external environment. While organizational change typically

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[21] Id. at 15-17.
[22] Id. at 25-26.

requires modifications to tasks, structures and human resources management these steps will not be effective if there is lingering resistance due to conflicts with elements of organizational culture including core values and norms. For example, an organization with a culture that has traditionally valued loyalty and promotes based on seniority may have trouble absorbing and accepting hard charging salespeople brought in from outside who are interested only in themselves and their commissions and who have no qualms about picking up and moving to other jobs without warning or explanation. Cultural values within the broader society in which the organization exists can also impact decisions that are made with respect to some of the other design elements including structure and control systems. One illustration of how this works are the differences in the predominant cultural values found in the U.S. and in East Asian countries. In the U.S. there is a greater emphasis on decentralization in organizational structures and more reliance on quantitative and analytical tools for planning and control of organizational activities. In contrast, organizations in East Asia prefer to make decisions by consensus following consultations with a wide range of organizational members and place more important on long-term planning than on setting and meeting short-term objectives. These differences have become even more important for organizational designers to understand as more and more organizations quickly become and remain global entities.[23]

§1:14 Organizational design and human resources management

Organizational design is very much intertwined with human resource management ("HRM") and some of the key issues and activities that designers must deal with in relation to human resources include organizational structure and reporting relationships; definition of role responsibilities for each position within the organizational structure including scope of authority and expectations regarding inter-organizational communications and collaboration; creation, implementation and administration of compensation and reward systems; recruitment, training and ongoing development of personnel; development and administration of performance appraisal systems; and administration of procedures for effective employee relations. HRM should also support organizational learning by providing regular training on the use of new technologies and learning processes, as well as career development programs, so that employees can continuously improve and upgrade their skills and the organization is better prepared to implement future strategic changes.

HRM should be carried out in a way that is consistent with, and which reinforces, the primary characteristics of the desired culture of the organization. For example, compensation, rewards and other motivational strategies should be aligned with the behaviors that the organization wishes to see from its members (e.g., cooperation and communication, proactive response to challenges and opportunities, risk-taking and/or pursuit of quality). Leadership and supervisory styles should also be tailored to fit with the prevailing and accepted understanding of preferred values and behaviors within the organization. If organizational culture encourages collaboration and participatory

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[23] For further discussion of organizational culture, see "Growth-Oriented Entrepreneur's Guide to Organizational Culture" prepared and distributed by the Growth-Oriented Entrepreneurship Project (www.growthentrepreneurship.org).

decision making managers and supervisors must be trained in methods designed to elicit feedback from their employees and built trust among employees that they can speak their minds and have their ideas and concerns heard and respected. Shortcomings in this area can quickly erode employee morale and undermine other motivational initiatives including compensation and effective HRM should also include continuous surveys of job satisfaction and overall attitudes about the workplace.

Changes in various organizational design elements, particularly the trend away from traditional tall hierarchies toward flatter organizational structure, have also created significant personal challenges for employees for several reasons. First of all, employees will no longer be expected to simply do the work that they are told to do. Instead they must begin to think about how the efficiency and output of the particular activity can be improved and make specific contributions to the learning and change efforts of the entire organization. Second, the migration from the traditional hierarchical structure to the flatter organization means that career paths will become more ambiguous and that works must assume greater control over their own development in order to continue to demonstrate value to the organization. As a result, workers must be more flexible and be prepared both to move to different places within the organization as their specific skills become necessary and to invest the time and effort necessary to learn new skills and broaden existing skills in order to take advantage of new work opportunities that may arise within the organization.[24]

An intriguing set of arguments and recommendations involving organizational design and human resources has been put forth by Bryan and Joyce, who have admonished senior managers to expand their traditional strategic focus on maximizing returns on "people" and that this requires recognition of the important role of organizational design in strategic planning and execution.[25] In their words:

"Executives invest enormous energy in product designs and long-range strategic plans, though many of these initiatives become obsolete as markets and competitors adapt, social norms and regulations evolve, and technologies advance." Yet most corporate leaders overlook a golden opportunity to create a durable competitive advantage and generate high returns for less money and with less risk: making organizational design the heart of strategy. It's time for executives to recognize the strategic need to develop organizational capabilities that help companies thrive no matter what conditions they meet. … Our research convinces us that in the digital age, there is no better use of a CEO's time and energy than making organizations work better."[26]

Bryan and Joyce based their arguments on what they believe have been fundamental changes in the external environment for companies that have made traditional principles

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[24] S.A. Mohrman and A.M. Mohrman, Jr., Organizational Change and Learning, in J.R. Galbraith, E.E. Lawler III and Associates, Organizing for the Future: The New Logic for Managing Complex Organizations (San Francisco: Jossey-Bass, 1993), 106.

[25] L. Bryan and C. Joyce, "Better Strategy through Organizational Design", McKinsey Quarterly, No. 2: (May 1, 2007), 21-29.

[26] Id. at 21-22.

of organizational design obsolete. For example, while they concede that hierarchical authority and vertically integrated structures made sense when capital was the scarce resource and interaction costs were high, these structures no longer make sense in an environment where "interaction and transaction costs have tumbled and continue to fall" and tapping into the knowledge, "mind power", relationships and other talents of the workforce is the key to value creation.[27] They believe that companies must adopt organizational design practices that increase the productivity and motivation of workers and enable them to create sources of significant new wealth. They also stress that "remaking" the design of organizations is a relatively low risk way to undertake fairly dramatic shifts in competitive strategy.

Bryan and Joyce have provided a set of suggestions for changes that companies should consider when retooling their organizational design elements to "mobilize minds"[28]:

- Some degree of hierarchy is still necessary in the organizational structure to ensure that "workers direct and organize their own work so that it furthers the interest of the shareholders, not just their personal interests". Bryan and Joyce argue that hierarchy remains an efficient way to set aspirations, make decisions, assign tasks, allocate resources, manage people who cannot direct themselves and hold people accountable.
- More emphasis should be placed on using available digital technology to facilitate large-scale collaboration across the entire organization. In addition, participation in collaborative activities—helping others within the organization—should become an activity for which each person in the organization is held accountable. Using a sports metaphor, Bryan and Joyce argue for making "assists" just as important as "points scored" in the performance scorecard for organizational members. They also note that collaboration must come from mutual self-interest rather than from a mandate enforced by an unwieldy and complex matrix structure.
- Bryan and Joyce advocate the use of a "simple backbone line structure" and placement of authority at the "front lines" where companies have the most direct contact with customers and other business opportunities. Companies should also create "one company" governance structures at the top of the organizational hierarchy to set strategy and create and disseminate enterprise-wide standards, protocols and value that serve as the foundation for a unified organizational culture.
- Companies should create and support formal networks or communities of mutual interest, which Bryan and Joyce refer to as "communities of practice" for collaboration among members who share "common interests rooted in similar jobs, skills, or needs for knowledge". The idea is to encourage collaboration without the tension and anxiety that often arises in matrix structures when there is ambiguity regarding loyalties, accountability and authority.
- Companies should establish "knowledge marketplaces" where professional and managers can go to exchange and transfer knowledge that is needed in order to solve problems that arise as efforts are made to implement the organizational strategy. While "knowledge management", a popular activity in recent years, is part of this

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[27] Id. at 25.
[28] Id. at 25-28.

effort the real focus is on reducing the costs associated with searching for knowledge and making sure that it can be readily disseminated throughout the organization to the areas where it can be used.

- Companies should establish "talent marketplaces" to improve the efficient allocation of human resources throughout the organization. Talent marketplaces would allow employees to "explore alternative assignments" throughout the organization, thereby enhancing their experience and, hopefully, improving their morale and job satisfaction. At the same time, talent marketplaces would facilitate staffing of important projects with the "best people" regardless of where they might normally be located within the organization. Bryan and Joyce acknowledged that companies would need to take several important steps in order to launch and administer effective talent marketplaces, including specification of standardized roles, validation of the qualifications of candidates before they take on a new assignment and establishment of compensation standards for roles or assignments. Presumably such a scheme would also require allocation of more resources to training that allowed employees to obtain the basic competencies necessary for them to become qualified candidates for new assignments.[29]

- Companies must redesign their internal financial-performance measurement and employee evaluation systems to take into account the new tasks and behaviors for which employees would be accountable, including collaboration, knowledge sharing and transfer and positive participation as a team member on a continuously changing stream of assignments generated from the talent marketplace model. At the same time, companies must also embrace a new external measure of performance: "profits per employee".

§1:15 Organizational design and competitiveness

Many commentators have suggested that organizational effectiveness, which is a desired outcome of an intelligent organizational design process, has become the most important factor in achieving and sustaining a long-term competitive advantage. New strategies and initiatives, such as productivity, quality, customer service and innovation, are no longer competitive advantages. Instead they have become necessities for survival and the focus has now turned to how organizations can organize and manage their activities so as to identify, adopt and implement a strategy or initiative as early as possible and then remain flexible enough to move on to the next "new thing" and institutionalize it as quickly and easily as all of the others in the past. Core competencies remain important as the foundation for development, production and sale of new products and services; however, the "winners" in the future will be those organizations that gather and apply the tools to be effective and flexible and organize their affairs to maintain quality and speed while controlling costs. Emphasis on organizational design and the capabilities necessary to recognize and select the proper organizational structure with which to compete is being driven by the following factors in the global business environment[30]:

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[29] Id. at 28.

[30] The discussion in this section is based on J.R. Galbraith and E.E. Lawler, III. "Challenges to the Established Order,." in J.R. Galbraith, E.E. Lawler, III, and Associates, Organizing for the Future: The New Logic for Managing Complex Organizations (San Francisco: Jossey-Bass, 1993), 3 and S.A.

1.   The traditional hierarchical structures used by organizations cannot withstand the pressures of an increasingly complex business environment that is dominated by rapid change. As new challenges arise the organization must be able to move quickly to change its strategic goals, internal rules and processes, and work activities. In addition, there is now a higher degree of interdependence between the activities of business units which means that organizations must develop the tools and processes necessary to effectively coordinate work among line and staff units.

2.   Organizations are confronted with a substantial upsurge in competitive pressure as new products and processes can now be easily duplicated, and quickly transferred, almost anywhere in the world. As a result, it is no longer sufficient to be innovative in order to survive and flourish—organizations must be first to market and ready to execute their strategies more quickly and effectively than their competitors. The solution is "organizational learning" which requires an organizational design based on lateral linkages that permit communications and collaboration across functions and departments to quickly and efficiently solve problems and streamline the work flow.

3.   The competitive pressures referred to above place a premium on speed in order to reduce the amount of time required to bring new products and processes to market and the cycle time necessary to replenish supplies. Speed is also important when responding to the needs of customers. As a result, organizations must focus on cross-functional planning and optimization of simultaneous processes and re-design themselves to eliminate, or at least minimize, the delays associated with unnecessary bureaucratic approvals or awaiting decisions as problems drift upward through hierarchical structures.

4.   The demand for constantly improving product and service quality is expected to continue and remain a key element of customer satisfaction. The organizational response has been the ascendance of total quality management and the corresponding need to improve organizational processes so that staff and line units learn to work together to deliver higher quality performance in relations with customers.

5.   Organizations have been consistently increasing their investment in research and development activities and technology acquisition through purchase or licensing in an effort to keep pace with the technological advances necessary to remain competitive. The effect has been an increase in the fixed costs associated with new product development and the problem has been exacerbated by the simultaneous reduction in product life cycles which means that the higher fixed costs must be written off more quickly. As a result, organizations have been pushed to find larger markets to generate the volume necessary to cover their higher research and development investments and more and more organizations must accept and embrace globalization and appropriately modify their organizational design, including their structure and culture.

Mohrman, "Integrating Roles and Structure in the Lateral Organization", in J.R. Galbraith, E.E. Lawler, III and Associates, Organizing for the Future: The New Logic for Managing Complex Organizations (San Francisco: Jossey-Bass, 1993), 109-112.

6.   With more suppliers now available on a worldwide basis, and often a surplus of supply, the balance of power in transactions for the sale and purchase of products and services has shifted to the customer. As a result, customers have now become more demanding in the requirements that they impose on prospective suppliers including information exchange and systems integration. In order to remain competitive suppliers must be prepared to re-align all of their organizational processes to focus on customers and identify and satisfy their expectations. One example is the growing push from customers to provide systems solutions, rather than just components, which means that organizations must integrate their components before they are sold and ensure that their processes are able to coordinate the complex integration activities. In addition, the preference of many customers to reduce their number of suppliers and rely on long-term relationships with a small group of certified vendors has caused organizations to adopt more customer-focused organizational structures.

7.   Sweeping and rapid advances in information technology have changed the competitive landscape and facilitated the design and use of new organizational forms. Organizations can now use computer tools and common data sets to generate and disseminate substantial amounts of information and data throughout the organization on a real-time basis. While these developments support the creation of less hierarchical organization, the tools will only be effective if organizations develop adequate information processing capabilities and modify their designs to make optimal use of teams and other strategies for coordinated decision making among all groups and departments impacted by a decision.

8.   One reason that organizations are becoming more global is the realization that the work force skills necessary to become and remain competitive are located in a number of different countries and that the human resources necessary for a particular project or activity may not be available at the location where the organization is headquartered. In response, and with the assistance of the powerful information technology tools referred to above, organizations are moving their activities to the sites where scarce skills are available and/or costs are lower and creating links to these workers through electronic networks. In order to be effective, organizations must be prepared to adapt to location-free designs and make corresponding changes in their work flows. Also, the scarcity of skilled labor puts pressure on organizations to design jobs, reward systems and organizational structures in a way that satisfies worker requirements for growth and development or risk losing workers and their invaluable contributions to the core competencies of the organization.

§1:16 Role of founder on organizational design

Organizational development has been widely and intensely studied and researchers have been particularly interested in how external and internal contingencies confronting organizations as they grow and mature influence the organizational bureaucratization. Several researchers have observed that the amount, form and timing of bureaucratization as organizations develop and mature is significantly impacted by the circumstances surrounding the founding of the organization, particularly the influences of the founders,

and the "embedded" social relationships that took hold among the original members of the organization.[31] In addition, Weber, the most prominent student of "bureaucracy", argued that preexisting foundations of authority, which are often established and nurtured by the founders and their followers (e.g., charismatic, traditional or rational-legal), and social and economic context are two significant factors in predicting the form and character of bureaucratic institutions.[32]

Baron et al. studied the influence of founders on several facets of "bureaucratization" in a sample of California-based technology start-ups, specifically managerial intensity, the formalization of employment policies and relationships and the proliferation of specialized managerial and administrative roles and titles.[33] In selecting their areas of study, the researchers noted that they focused on several attributes of bureaucratization that scholars had previously identified as "defining aspects of the bureaucratic form", including the following elements: formal definition (and increasing specialization) of fixed and official jurisdictional areas; reliance on hierarchical authority vested in formal roles; formalization and documentation of rules; selection of personnel based on qualifications; employment viewed as a career and governed by explicit and well-documented rules and procedures; and the emergence of management and administration as a "role", conducted full-time as a professional vocation, which is discharged universalistically and dispassionately.[34] The researchers concluded that the organizational models that arose under the influence of the founders, as well as the social composition of the labor force at the time of founding, had a significant impact on the growth in managerial intensity among the firms, an impact that endured even after the initial founders were no longer with the firm.[35] However, the researchers found less

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[31] J. Baron, M. Burton and M. Hannan, "Engineering Bureaucracy: The Genesis of Formal Policies, Positions and Structures in High-Technology Firms", The Journal of Law, Economics and Organization, 15 (1999), 1-41, 2 (citing W. Boeker, "Organizational Origins: Entrepreneurial and Environmental Imprinting at the Time of founding", in G. Carroll (Ed.), Ecological Models of Organizations (Cambridge, MA: Ballinger, 1988), 33-51; and M. Granovetter, "Economic Action and Social Structure: the Problem of Embeddedness", American Journal of Sociology, 91 (1985), 481-510). Baron et al. commented that the results of their research provided evidence "that organizational architecture is shaped by social characteristics of, and relations among, the early "occupants" of the structures being designed" and took specific note of the significant negative relationship between the early representation of women in their sample of high technology firms and the level of specialization of managerial and administrative roles in those firms. Id. at 14.

[32] J. Baron, M. Burton and M. Hannan, "Engineering Bureaucracy: The Genesis of Formal Policies, Positions and Structures in High-Technology Firms", The Journal of Law, Economics and Organization, 15 (1999), 1-41, 2 (citing M. Weber, "Bureaucracy", in H. Gerth and C. Mills (Trans/Eds.), From Max Weber: Essays in Sociology (New York: Oxford University Press, 1946), 196-244).

[33] Id. at 1. The sample consisted of more than 170 young high-technology firms in California's Silicon Valley that were part of the Stanford Project on Emerging Companies. Id. at 4 (including a description of the characteristics of the study group and references to detailed discussions of sampling and data collection methods).

[34] Id. at 3 (citing Max Weber's list of several of the quintessential elements of "bureaucracy" described in W. Scott, Organizations: Rational, Natural and Open Systems (3rd Ed) (Englewood Cliffs, NJ: Prentice Hall, 1992), 40-41).

[35] J. Baron, M. Burton and M. Hannan, "Engineering Bureaucracy: The Genesis of Formal Policies, Positions and Structures in High-Technology Firms", The Journal of Law, Economics and Organization, 15 (1999), 1-41, 1, 3-4. Baron et al. noted that these findings were consistent with the observations of other researchers who had observed that the amount, form and timing of bureaucratization as organizations

evidence of founder influence on the formalization of employment policies and relationships and the proliferation of specialized management titles. In fact, they argued that these "superficial aspects of bureaucracy" were eventually adopted as a result of normal organizational growth and maturity and to satisfy "external gatekeepers", such as venture capitalists, analysts and institutional investors.[36]

Managerial intensity refers to the degree to which an organization depends on managerial and administrative specialists and follows Scott's definition of bureaucracy "as the existence of a specialized administrative staff".[37] Baron et al. measured the "prevalence of specialized managerial and administrative functions and personnel" by looking at the number of full-time equivalent managerial and administrative specialists employed by firms in their study group.[38] They found, as expected, that firms founded on the basis of a bureaucratic model had the highest level of managerial intensity while firms with founders that followed the commitment model (i.e., relying on implicit and informal controls and alignment of the interests of the firm and its workers through long-term attachments) exhibited much lower levels of administrative intensity.[39] Evidence was also found that the proportional representation of women among the firm workforce at the end of the first of operations had a statistically significant negative effect on managerial-administrative intensity.[40] As an aside, Baron et al. commented that the relatively low reliance on specialized managerial and administrative functions and personnel among "commitment" firms did not necessary mean that the founder had abandoned efforts at coordination and control and that oversight and monitoring may have come in any forms such as reliance on budgets, information systems or other similar types of controls.[41]

Formalization of employment policies and relationships was measured analyzing the level and timing of adoption of various employment practices, policies, forms and documents directed at formalization of some aspect of the employment relationship. Specifically, the person most knowledge about human resources matters at each firm was surveyed about which of the following items had been adopted by the end of the first year

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develop and mature is significantly impacted by the circumstances surrounding the founding of the organization, particularly the influences of the founders, and the "embedded" social relationships that took hold among the original members of the organization. See, e.g., W. Boeker, "Organizational Origins: Entrepreneurial and Environmental Imprinting at the Time of founding", in G. Carroll (Ed.), Ecological Models of Organizations (Cambridge, MA: Ballinger, 1988), 33-51; and M. Granovetter, "Economic Action and Social Structure: the Problem of Embeddedness", American Journal of Sociology, 91 (1985), 481-510).

[36] Id.

[37] W. Scott, Organizations: Rational, Natural and Open Systems (3rd Ed) (Englewood Cliffs, NJ: Prentice Hall, 1992), 40.

[38] J. Baron, M. Burton and M. Hannan, "Engineering Bureaucracy: The Genesis of Formal Policies, Positions and Structures in High-Technology Firms", The Journal of Law, Economics and Organization, 15 (1999), 1-41, 3, 9.

[39] Id. at 10. See also R. Walton, "From control to Commitment in the Workplace", Harvard Business Review, 63(2) (1985), 76-84 (arguing that organizations structured along clan or commitment lines can reduce the amount of bureaucratic overhead).

[40] Id. at 13.

[41] Id. at 10 (footnote 9).

of firm operations and by the time the researchers made their first visit to the firm: organization chart; standardized employment application; written job descriptions; personnel manual or handbook; written employment tests; written performance evaluations; standard performance evaluation forms; written affirmative action plans; standard employment contract for exempt employees; employee grievance or complaint forms; and human resources information system. While the researchers found that firms had, on average, adopted few, if any, of the aforementioned items by the end of their first year, by the time that the survey team visited firms had, on average, adopted between six and seven of the practices.[42] Baron et al. concluded that "[o]n balance . . . we find less evidence of enduring effects of founders' models on the extent or pace of employment formalization than we did on the evolution of managerial-administrative intensity".[43] They noted that in the this area it was not a question of whether technology firms would adopt formal human resources practices but how fast would they do it and pointed out that receipt of venture capital investment tended to accelerate the adoption process.

Formalization and specialization of top management roles was measured by looking at the extent to which the following positions had been created in the firm's organizational hierarchy by the end of the first year of firm operations and by the time the researchers made their first visit to the firm: President; Chief Executive Officer; Chief Operating Officer; Chief Financial Officer' Chief Technical Officer; Chief Information Officer; Vice President, Engineering (R&D, Technology); Vice President, Sales; Vice President, Marketing; Vice President, Customer Support/Service; Vice President, Operations (Manufacturing, Production); Vice President, Finance; Vice President, Administration; Vice President, Human Resources; Vice President, Strategic Planning (Business Development); and/or "Senior" or "Executive" titles in any of the vice presidential areas.[44] The researchers found a relatively weak relationship between founding conditions and formalization and specialization of top management roles and commented that increases in the proliferation of management titles was more strongly driven by factors such as employment growth, receiving venture capital financing and going public.[45]

§1:17 Organizational learning

In order to be effective an organization must be able to arrange its organizational design elements in a way that allows it to carry out its activities with the required variety and efficiency so as to allow it to respond to the inputs from its environment and produce the

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[42] Id. at 16. Interestingly, 64% of the firms had not adopted any of the employment practices during their first year and only 23% adopted more than one of the practices during their first year. Id.

[43] Id. at 23.

[44] Id. at 24 (also describing how the researchers handled categorization issues such as different titles and persons holding multiple titles).

[45] Id. at 28. The researchers noted that this was consistent with arguments of other researchers that development of bureaucratic organizational characteristics accelerates with the introduction of outside stakeholders, such as venture capitalists and institutional investors, in order for the firm to appear credible in the eyes of those stakeholders. The survey included evidence that firms often created specialized roles among their top management group prior to going public in an effort to flesh out and highlight specialized expertise that would be favorably received by investors.

necessary array of products and services necessary to execute its chosen strategy. In addition, however, since its external environment is constantly changing the organization must also develop its capacity for what has been referred to as "organizational learning," including learning new ways to obtain, secure and process different inputs; when and how to add new patterns of activity and/or delete those patterns that are no longer necessary; how to respond to demands for different products or services or for products or services that are more efficiently produced; and how to improve its sensing mechanisms to identify important environmental events and changes. While a good deal of organizational learning occurs as the organization goes through its daily activities, successful organizations make a concerted effort to improve in this area.[46]

Organizational design is a continuous process and organizations cannot become and remain successful unless they improve and sustain their processes for innovation, process improvement and self-design. In order to accomplish these tasks, organizations must develop the following characteristics[47]:

1.   The design of the organization at any point in time will need to be understood as merely a temporary configuration of elements that will need to be constantly reassessed and reconfigured as the organization identifies and responds to changes in its external environment and makes other changes in its overall organizational strategy.

2.   Resources will need to be invested in organizational learning, specifically in the development of skills and knowledge and pushing information and knowledge downward in the organization to solve complex problems closer to the point of origin.

3.   Organizations will become flatter and more agile and unnecessary layers of hierarchical and staff controls will be eliminated. Tight controls will be replaced by broad guidelines and management by results and the skills and resources of the former staff units will be integrated into line groups in order to make those groups more self-contained and self-managed.

4.   Organizations must learn the skills and processes necessary to create and deploy teams and "overlay" groups and develop inter-group networks in order to allow the organization to simultaneously focus on products, functions and markets (i.e., customers).

5.   Organizations must develop relationships with other organizations in their domain as a way to gather new knowledge and share information. Consortia, joint ventures, strategic alliances and multi-organizational symposia are examples of these types of relationships and organizations will need to learn how to use them to their advantage. Similarly, individuals working within organizations will need to create their own learning networks to keep their knowledge base and skills current and continue to develop.

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[46] S.A. Mohrman and A.M. Mohrman, Jr., "Organizational Change and Learning," in J.R. Galbraith, E.E. Lawler, III, and Associates, Organizing for the Future: The New Logic for Managing Complex Organizations (San Francisco: Jossey-Bass, 1993), 88-89.
[47] Id. at 104-106.

6.   Rather than rolling out massive system-wide changes, organizations will need to focus on sharing ideas and best practices across organizational units and allow and encourage managers to use this information to continuously redesign their units on their own to be more effective.

7.   Senior management of the organization must focus on developing and communicating a clear strategy and vision for the organization and challenging the organization to perform at the level necessary for the organization to achieve its goals. In turn, managers throughout the organization must be able to translate the strategy and vision into specific goals and objectives that can be understood by specific work units and then develop processes and designs for their units that are best suited to meeting these goals and objectives.