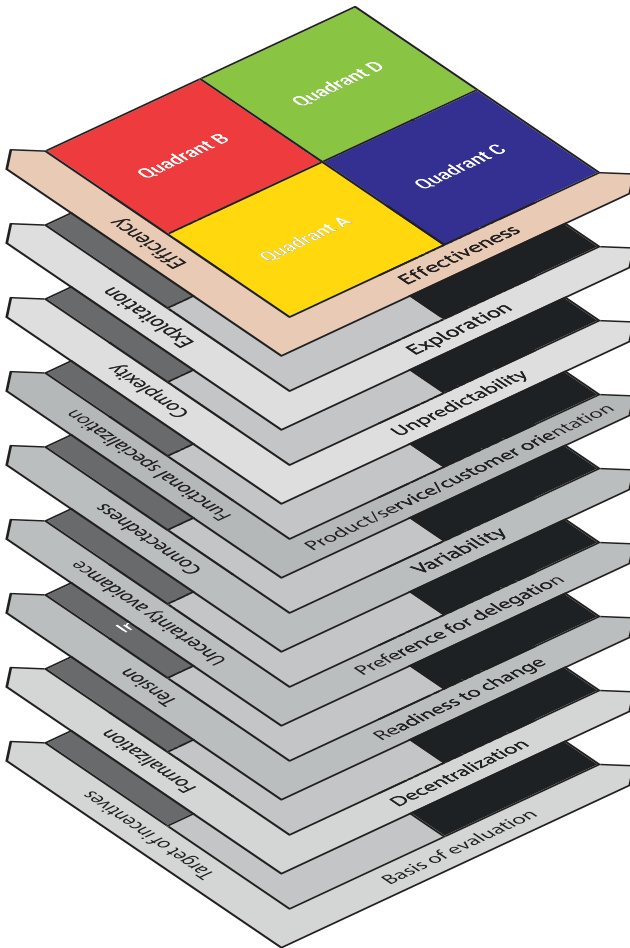


STEP

1

Getting Started



Step 1 Getting Started

1. Assessing the Scope and Goals of the Organization

Step 2 Assessing the Strategy

2. Strategy
3. Environment

Step 3 Analyzing the Structure

4. Traditional Configurations of the Firm
5. New Organizational Forms

Step 4 Assessing Process and People

6. Work, Task Design, and Agents
7. Leadership and Organizational Climate

Step 5 Analyzing Coordination, Control, and Incentives

8. Coordination and Control
9. Incentives
10. Designing the Structure and Coordination

Step 6 Designing the Architecture

11. Designing the Architecture and the Sequence of Change

Step 7 Implementing the Architecture

12. Implementing the Change: Who Should Do What When?

1

Assessing the Scope and Goals of the Organization

The Challenge of Designing

Organizational design is an everyday, ongoing activity and a challenge for every executive, whether managing a global enterprise or a small work team. The response has been varied designs: matrix, modular, cellular, network, alliance, collaborative, or spaghetti organization designs – to name a few. Globalization, worldwide competition, deregulation, increased focus on sustainability, political risks, and ever-new technologies including *digitalization*, artificial intelligence (AI), robots and machine learning drive ongoing designs and redesigns of organizations. Digitalization may be the biggest driver for change in the years to come moving the “traditional firm” into the “digital firm.” The digital firm is a general term for organizations that have enabled core business relationships with employees, customers, suppliers, and other external partners through digital networks and digital processes. The digital firm comes along either by companies that are born digital or by a digital transformation of an existing firm.

Yet, fundamental design principles underlie any well-functioning *organization*. Organizations require a formal design – including digital and self-organizing organizations. The fundamentals are: What are our goals? What are the basic tasks? Who makes which decisions? What is the structure of communication, and what is the incentive structure? Who has access to resources? Who has the formal responsibility? In terms of deciding who does what when, the “who” in today’s companies may be an individual, a team, or an intelligent robot, the what may be cloud-based services, and the when, in terms of timing, may be determined by the need for an ever-speedier response.

For these reasons, we have seen the rise of new organizational forms. However, Fenton and Pettigrew (2000, p. 6) state that “a closer inspection of the literature reveals that many of the new forms are not entirely new but reminiscent of earlier typologies, such as Burns and Stalker’s (1961) organic and mechanistic forms and Galbraith’s (1973) preoccupation with lateral relations.” Puranam *et al.* (2014) similarly argue that while the ways in which modern firms obtain differentiation and integration may have changed, the fundamental issues inherent in solving differentiation and integration remain fundamental for the modern organization of today and tomorrow (Puranam *et al.*, 2014).

Research on the relationship between organization design and performance shows that approximately 30 percent of the variation in performance can be explained by the organizational design (Obel, 1993; Doty *et al.*, 1993; Burton *et al.*, 2002; Volberda *et al.*, 2012). It is therefore important to get the design right. “Poor organizational design and structure results in a bewildering morass of contradictions: confusion within roles, a lack of co-ordination among functions, failure to share ideas, and slow decision-making bring managers unnecessary complexity, stress, and conflict” (Corkindale, 2011).

Let us illustrate the above points with a couple of examples from both the private and public sectors:

In the annual report 2018, Microsoft CEO Satya Nadella states:

Our mission is to empower every person and every organization on the planet to achieve more. Our business model is dependent on our customers’ and partners’ success. We are grounded in creating local economic opportunity in every community, helping to unlock the power of technology to address our customers’ most pressing challenges. Our platforms and tools enable creativity in all of us. They help drive small-business productivity, large business competitiveness and public-sector efficiency. They also support new startups, improve educational and health outcomes, and empower human ingenuity. Our sense of purpose lies in our customers’ success.

This is an outward-looking perspective on effectiveness, less on efficiency. However, in a market with very high competition they do have a focus on costs and efficiency. This is particularly true as Microsoft is changing from a product company to a service company. They do sell hardware products, such as Xbox and Surface computers, but more and more of their offerings are cloud services such as Azure and Dynamics.

Aarhus University has about 40,000 students and 10,000 employees, including faculty, staff, and Ph.D. students. For decades, Aarhus University had a very stable organization design with few changes in the overall structure. Since 2010, a series of major changes has been made. The point of departure for the reorganizations was the creation of the new Aarhus University by a merger of the old Aarhus University and six smaller research and teaching universities and national research institutions. To support the merger and the new strategy, the university was completely reorganized to break down the old faculty and department silos for the purpose of supporting cross-disciplinary research and educational programs to address the grand challenges. The organizational structure was changed from a divisional configuration to a matrix, with four faculties and four cross-faculty layers on teaching, research, talent development, and knowledge exchange. Further, the administrative structure was changed from many local faculty administrations to one central administration with local service centers. In 2016, Aarhus University got a new president. The first thing he did was to start a new strategy process, and as a result the administrative structure was rolled back to what it was before 2010. In January 2019, the president announced yet another strategy process and that the faculty structure would be reassessed, with possibly more faculties than the current four. The reason given was issues of internal efficiency and effectiveness, as well as changed conditions for the university in a modern world.

Turning to another public sector example, in 2007, the Danish Government decided to reorganize the emergency departments in Denmark. This reorganization

started a series of major changes that are still ongoing in 2019. Before 2007, there were about sixty hospitals with emergency facilities. In 2014, there were twenty-one. Further, five new large hospitals at a total cost of \$10 billion are being built to replace some of the old ones that do not fit the new design. The first of these hospitals was opened in 2018. The architecture and building layout of the new hospitals are designed to *fit* the new organization structure. Additionally, many of the remaining hospitals were rebuilt to be able to facilitate the new design.

Before the new design was implemented, the patients with a need for acute care were admitted to the department which was the most appropriate for each particular patient. Now, all acute patients enter the hospital through the new emergency departments. The redesign of the national system has also required a significant restructuring of the individual hospitals: new department structures, new staffing, new information systems, new decision rules, and new coordination of patient flow. The purpose of the redesign is to increase the quality of patient care and to be able to handle the expected massive increase in acute patients due to demographic changes – with a large increase in older people with more complex diagnoses. Further, the new design is expected to optimize the use of resources and thus also to control costs better. The implementation of the new structure is ongoing in the twenty-one hospitals, with a trial-and-error effort in choosing and deciding the details of the design (Petersen and Petersen, 2014).

Burberry is an example of restructuring based on a digital transformation. The change took place over a number of years and had multiple steps. Burberry spent several years implementing a backbone enterprise platform to consolidate their information systems. Then, they focused on digital marketing, allocating a substantial portion of their annual marketing budget to digital media. They revamped Burberry.com in eleven languages; developed Tweetwalk, live-stream fashion shows, with Twitter; collaborated with Google to create Burberry Kisses, allowing users to capture and send their “kiss” to anyone in the world; and collaborated with the Chinese social media platform WeChat. Burberry then began to collaborate with technology companies to make the “retail theater” concept real, enabling broadcasting multifaceted content to stores globally. They used technology to bring the Burberry brand to life in the stores: from the music to the rich video content on giant internal and external screens and to the iPads carried by all sales associates that gave access to the full global collection regardless of what was available in store. Customers were invited to watch runway shows live in stores and could shop the collection on iPads immediately for delivery in six to eight weeks. The company also made big investments in customer service, training salespeople both in stores and on its website, where customers can click to call or click to chat with customer service representatives 365 days a year, 24/7, and in fourteen languages (Westerman *et al.*, 2014).

These initiatives provided Burberry with a vast amount of data. So, the next step was to create analytic capabilities to handle and use these data for more insight into operations and customer preferences. The digital transformation had its peak in 2014, but without the intended financial results. Revenue grew, but in 2015 and 2016, the profit decreased. Burberry had a matrix structure and to integrate business, HR, and design, Mr. Baily had the role of both CEO and Chief Designer. In 2016, Burberry hired a new CEO; Mr. Baily continued as Chief Designer. Both the CEO and the Chief Designer reported to the chairman of the board. Many stakeholders

expressed concern with the new structure: Is Burberry swapping one ill-fitting structure for another? (*Financial Times*, July 12, 2016). The operating profit continued to drop in 2017, but made a turnaround in 2018 (Burberry annual report, 2017/2018).

One issue that has had significant effects on organizational design is AI and robotics. AI involves developing computer programs to complete tasks which would otherwise require human intelligence. AI algorithms can tackle learning, perception, problem-solving, language-understanding, and/or logical reasoning. In particular, AI is very good with regard to pattern recognition. Robots are programmable machines which are usually able to carry out a series of actions autonomously or semi-autonomously. Robots interact with the physical world via sensors and actuators. Artificially intelligent robots are robots which are controlled by AI programs. They are evolving both in production and in service and marketing, taking over a significant number of both white-collar and blue-collar tasks. The increase in network and cloud computing capacity, Big Data, and new sensors including cameras allow for new ways to interact. An example is the IBM Watson concierge robot Connie that works for Hilton.

There are many intelligent robots both with and without a physical representation. A chatbot, for example, is a computer program designed to simulate conversation with human users, especially over the Internet. Chatbots are primarily used in sales and marketing, but also in customer relations. A Danish bank has recently replaced 3,000 banking advisors with chatbots. CityBank is planning to replace up to 20,000 employees with chatbots. The rationale is that the chatbots are cheaper and better for these tasks than the humans they replace.

Uber puts a significant effort into AI. A specialized AI team develop AI solutions for challenges across the whole of Uber. Uber's mission is to drive service differentiation and business efficiencies at Uber using visual data. Uber want AI interactions to be as natural as talking to a friend. The goal is to leverage sensors as a source of truth and develop algorithms to solve users' top pain points. AI is part of features like crash detection and enhanced location accuracy innovations, and Uber's systems will send phone mounts to drivers for safer driving (www.uber.com/us/en/uberai/). There are nearly a million active Uber drivers in the United States and Canada, and none of them has a human supervisor. However, the algorithmic manager watches everything they do. Ride-hailing platforms track a variety of personalized statistics, including ride acceptance rates, cancellation rates, hours spent logged in to the app, and trips completed. Further, the platform displays selected statistics to individual drivers as motivating tools, like "You're in the top 10 percent of partners!" (Rosenblat, 2018).

These examples illustrate the challenges and complexity of organizational design. A good design is imperative and its implementation essential for good performance. Further design for many organizations is an ongoing process. Structural changes or design changes can on paper be effective immediately, but to implement a complete organizational redesign involves much more and will take time. *Misfits* (imbalances) between the various design components of organizational design can therefore be crucial for the performance of the organization. For example, if the organization needs to adapt quickly to many changes in the environment and has implemented a rigid organization structure, it will not be able to adapt. The negative effect can be

exacerbated if there is a misfit among several of the design components. In many cases, changes in design components are carried out to enhance the internal components of the organization (such as climate and work processes) and therefore are implemented without consideration of how these internal components are in effect interdependent with external design components. In this book, we provide a way to diagnose the need for a new design, as well as an approach to choose and implement the most appropriate design.

As can be seen from the examples above, organizational design goes beyond drawing a new organizational chart. It involves many interrelated components. An organization is a social unit of people with a relatively identifiable boundary that is structured and managed to meet a collective goal (Burton and Obel, 1984). All organizations have a governance structure that determines relationships between the different activities and the members and their assigned tasks, responsibilities, and the authority to carry out different tasks. The activities or tasks must then be coordinated (Burton and Obel, 2004) to obtain the collective goal. Structure and coordination are thus the fundamental choices in organizational design (Burton and Obel, 2018). Organizational design is deciding who does what when.

Based on a large body of research, an organization's design should be chosen based on the particular context, and further, the description of the context should be multidimensional, including both structural elements and human and AI agents. Structural components of organizational design include goals, strategy, and structure. Human and AI components include task and agents, people – both leadership and employees, coordination and control, and incentive mechanisms. Together, these components provide a holistic approach to the organizational design challenge.

It is important to acknowledge a change in the context or in a component. Further, it is important to be able to adjust appropriately. Sometimes the organizational components have to be changed; other times you have to change what the organization does within the given organizational design set-up. Yet, other times you have to change both. The ability to make the right changes at the right time and at the right speed is called *agility*. A highly agile organization reacts successfully to rapid advancements in technology, the emergence of new competitors, and sudden shifts in overall market conditions. Agility in the context of organizations has been used to describe a particular method of project management or to describe a particular organizational design often as a contrast to “old” organizational forms (Fernandez and Fernandez, 2008). Here we are using the word agility as it is stated in Webster: marked by ready ability to move with quick easy grace. Thus, we see agility as a property of the organization, not a particular organizational form. Through the book we will discuss how to design an organization that has the ability to move with quick easy grace. This discussion will be summarized in Chapter 10.

We present organizational, diagnostic, design of the architecture, and implementation as a continuous process. It starts with the organization's goals, and from there we work from the top to the bottom, considering strategy, structure, tasks and agents, people, coordination, control, and incentives. This is a top-down approach to diagnosing potential design issues. Based on the diagnosis, the particular architecture is designed. Next, the process of implementing the architecture should be undertaken.

The design and implementation steps will involve iterations involving managers and employees. The diagnosis, design, and implementation follow a seven-, step-by-step approach:

- Step 1 Getting started
- Step 2 Assessing strategy
- Step 3 Analyzing the structure
- Step 4 Assessing process and people
- Step 5 Analyzing coordination, control, and incentives
- Step 6 Designing the architecture
- Step 7 Implementing the architecture

We recommend a top-down approach with a strong top executive involvement, which is complemented by iterative incorporation of lower-level issues on the top-level design. Firm political and implementation issues may suggest that the organization be designed bottom-up, but such an approach would eliminate some possible good designs because the tasks of the organization can be misaligned with its goals and strategy. A bottom-up approach very likely will build on established tasks and job titles, each of which may need to be changed. Some modern organizations are experimenting with bottom-up approaches, but the majority of firm designs are decided by the top management. The top-down approach may have to be done in an iterative fashion to make sure that micro perspectives are included in the macro design. This approach is similar to what Westerman *et al.* (2014) found to be the most successful approach to develop digital masters.

The Multi-Contingency Model

An organization is a social unit of people with a relatively identifiable boundary that is structured and managed to meet a collective goal (Burton and Obel, 1984). Organizational design involves two complementary problems: (1) how to partition a big task of the whole organization into smaller tasks of the sub-units; and (2) how to coordinate these smaller sub-unit tasks so that they fit together to efficiently realize the bigger task or *organizational goals* (Burton and Obel, 2004). By complementary, we mean that the smaller tasks must be defined and arranged in a way that allows effective coordination. Puranam (2018) states it as the design of division of labor and integration of effort. In particular, this relates to task division, task allocation, reward distribution, and information flows (Puranam *et al.*, 2014), but it also relates to who can make which decisions and on which basis. These issues are relevant for “older” traditional organizational forms, as well as for “newer” modern organizational forms.

We address the organizational design using the *multi-contingency model* (see Figure 1.1). This model consists of nine components: goals/scope, strategy, environment, configuration, leadership, climate, task design and agents, coordination and control, and incentives. The components are inspected following the above-presented step-by-step process.

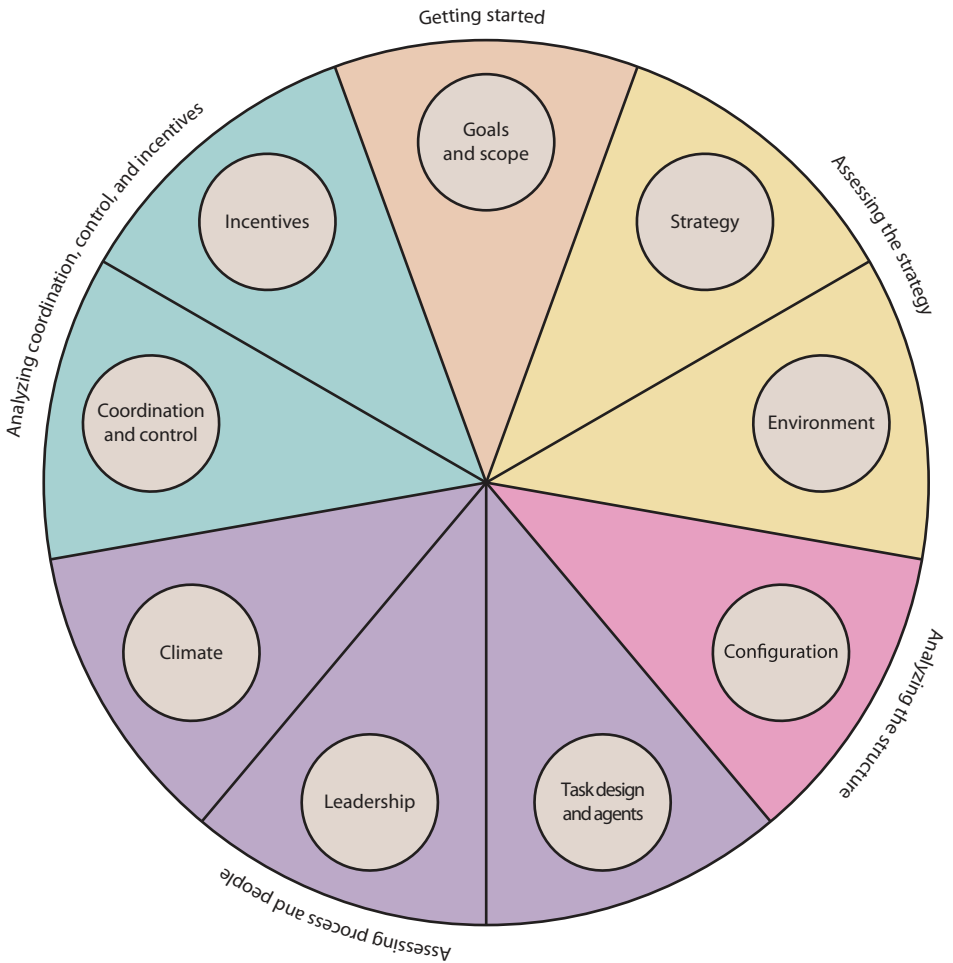


Figure 1.1 The multi-contingency model

The model is an extension of the multi-contingency model in Burton and Obel (2004), which integrates and extends the many single contingency models on strategy, size, environment, technology, and climate (Chandler, 1962; Woodward, 1965; Lawrence and Lorsch, 1967; Pugh *et al.*, 1969; Cameron and Quinn, 2011). The model is consistent with Leavitt's model (Leavitt, 1964), the organizational strategy, structure, and process model by Miles and Snow (1978), and the Star model by Galbraith (1995).

The step-by-step approach is a “how to” method for diagnosing, designing, and implementing an organization design change, based on the components and attributes in the multi-contingency model. Each step and its components provide fundamental building blocks for any organization, and we guide you through the process of assessing and analyzing each building block, as well as planning for change.

The step-by-step model presents a framework for dealing with the high degree of complexity involved in changing the architecture or design of an organization. The multi-contingency model provides a comprehensive framework for diagnosing the organizational design components and whether they are aligned or fit together.

Organizational design is an ongoing executive process that includes both short-term, routine changes and intermittent, larger-scale changes. We will address the dynamics of design, including misfit management, for both routine and larger-scale changes in the context of organizational design throughout this book. In the final chapters, we will address the issue of how to implement a new organization design. To find the right design or architecture is important, and to implement the design is even more important. Research indicates that more than 50 percent of change processes fail (see e.g. Hinings and Greenwood, 1988; Beer and Nohria, 2000; Amis *et al.*, 2004; Ford and Ford, 2009). Therefore, finding the right implementation process is vital.

Tushman and Nadler (1978) and Burton and Obel (2004) argue that the concepts of uncertainty and *information processing* can be used to integrate the diverse organization design and structure literatures. They suggest a contingency approach based on the information-processing paradigm to design a feasible set of structural alternatives from which the organization can choose (Tushman and Nadler, 1978; Burton and Obel, 1995, 2004). Further, the information-processing paradigm is a general theory and rather robust to changes in circumstances. It allows us to say something about “what might be” designs from knowledge about “what is.” The information-processing paradigm also provides a basis on which generalizable experimentation and observation can be done (Burton and Obel, 2018). Information-processing thinking can capture many theoretical issues, such as bounded rationality (Van Zandt, 1999), learning (Puranam and Maciejovsky, 2017), and cognition (Klahr and Kotovsky, 2013). As we will discuss later, it also holds promise in terms of conceptualizing the effect of digitalization on organization design, insofar as it enables translations of the effect of digitalization in terms of how it influences an organization’s ability to process information and the demand for information processing.

The multi-contingency model is tied together using the information-processing view of the firm (Galbraith, 1973). This view, or theoretical basis, provides you with a framework and a process for understanding a wide range of organizations in product and service industries and across global boundaries (Tushman and Nadler, 1978). The approach helps you interpret the history of organizations, assess and redesign complex organizations of today, and plan for the more information-rich organizations of tomorrow. The information-processing view is also the basis for assessing the fit and misfit relation between the organization’s components.

The discussion above argues that *organizational design* is multifaceted, with complex and interrelated components with significant performance effects. Thus, to design an organization, you need a comprehensive model based on tested theory and you need an approach to use the model. In this book, we provide you with such a comprehensive model and an approach for using it. We next describe the information-processing view and then move on to defining the *scope* of the organization and assessing its goals.

The Information-Processing View in the Digital World

The work of an organization can be seen as information processing: observing, transmitting, analyzing, understanding, deciding, storing, and taking action for implementation. These issues may be labeled with other concepts like learning, tacit versus explicit knowledge, knowledge management, and data mining, but the basic idea is