Chapter One

Introduction

Business Without Boundaries
in the New Global Economy

People have worked together from the beginnings of civilization, and the forms of collaboration have barely changed since that time. Although a group of laborers building the pyramids of Egypt may seem to bear little resemblance to a team of machine operators working in a plant, the two groups actually have much in common. Both are made up of people of similar backgrounds, with clear loyalties and interests, interacting face to face to perform relatively well defined tasks in pursuit of a shared goal.

But things have changed in recent years. New technologies have made the world a smaller place and altered the nature of work. Competition and markets have become global, and knowledge is now the most important resource for organizations trying to make their way through an increasingly complex world. As a result, traditional forms of collaboration are no longer sufficient for competing effectively in this new, more demanding global business environment.

To meet constantly changing conditions and demands, business has to transcend boundaries to get what it needs regardless of where it exists—geographically, organizationally, and functionally. According to James Flanigan (2004, p. C-5), business columnist for the *Los Angeles Times*, "Companies large and small see the entire planet as a place to do business. As long as they have enough expertise, every human being on every continent is a potential employee. Borders are virtually irrelevant." In other words, we live in an era of business without boundaries, where competing effectively means collaborating across time, distance, organization, and culture. Organizations now have to go farther to find the right

pieces and rapidly pull them together to create the best fit for their purposes. When circumstances change, they also have to be able to take these collaborations apart just as rapidly and start over with different pieces. In short, organizations need more complex collaborations to address the challenges of a more complex world.

These new collaborative forms are not like the teams of recent years. They may be strategic partnerships among multiple organizations with similar stakes in the outcome of the project, or they may involve virtual collaborations among people and teams working in different parts of the world. Collaborative value chains—collaborations among different organizations to produce a product or service that is primarily identified with one organization—are yet another emerging collaborative form. These collaborations are as complex as they are because of the number of people involved, the multiple organizational contexts within which they must function, and the potential psychological, cultural, and geographical distances that must be overcome. That is what this book is about: how to span these distances and transcend these boundaries to create collaborations that can address the business challenges of the new global economy.

In the next several chapters we will explore what these new, more complex collaborations look like, the challenges they face, and how to make them work. From our in-depth analysis of three case studies we will construct an action framework to help managers and executives compete successfully in the new world of global opportunities, boundary-spanning technology, and "anytime, anyplace" collaboration.

The New World of Complex Collaboration

To compete effectively in the new global economy, organizations are becoming increasingly dependent on more complex forms of collaboration. What are the characteristics of these collaborations, and what are the unique challenges they present? This is one of

those situations where it's easier to define an expression by first describing its opposite—a "simple collaboration"—and then comparing a complex collaboration against this baseline. A simple collaboration is an ideal case: a situation that involves no barriers to be overcome, and where the collaborative process can flow unobstructed. The characteristics of simple collaborations and of their more complex counterparts are summarized in Table 1.1.

One characteristic of a simple collaboration is a simple task, where the inputs are predictable and manageable, and where the procedures for processing these inputs—that is, "the work"—are well defined. These are routine tasks and are characterized by low "uncertainty." In other words, both the nature and the timing of the inputs are predictable, and the procedures for dealing with these inputs are well defined and fixed. An assembly line task is an example of a task with low uncertainty: known objects (such as automobile chassis) moving down the assembly line at a predictable rate. The procedures for working on these objects—for example, mounting a particular part on each chassis—are also known, straightforward, and unvarying (see Pava, 1983).

A highly uncertain task—one in which the nature and the timing of the inputs are difficult to predict and the task procedures are

Table 1.1. **Simple Versus Complex Collaborations**

Simple	Complex
Well-defined task (predictable inputs, well-defined procedures, low uncertainty)	High task uncertainty
Two people	Multiple people
Few differences	High diversity (of language, goals, organizations, and so on)
Common goals	Different goals and agendas
Face-to-face contact	Virtual communication

not predetermined but require judgment—is more complex. What is typically referred to these days as "knowledge work" is characterized by high task uncertainty (Mohrman, Cohen, and Mohrman, 1995). New-product development, new-program development, process improvement, and the buying, selling, and manufacturing decisions involved in global supply chains would be examples of highly uncertain tasks.

The simplest kind of collaboration also involves only two people. With only one person, there is no collaboration, and with the addition of more than one other person the possibility of different goals, points of view, personalities, and so forth, increases significantly, as does the level of complexity.

In fact, differences of any kind make the collaborative task more complex. Two very similar people do not need to spend a great deal of time trying to understand each other's point of view, language, and expectations. The more diversity involved in the collaboration, however, the more obstacles to be overcome. By now everyone is familiar with the challenges of cultural diversity, but the challenges of organizational diversity, although less obvious, are just as important. People from different organizations who are involved in an interorganizational collaboration bring different agendas, goals, points of view, and even different cultures to the collaboration, and so these collaborations are far more challenging than they would be if the people involved were all from the same organization. Similarly, people from different functional units—engineering, manufacturing, marketing—within the same organization bring their different professional "thought worlds" (Dougherty, 1992) or cultures into the collaborative mix, and this kind of collaboration, too, is more complex than one among two like-minded engineers, for example.

Face-to-face collaboration is simpler than virtual collaboration. The immediacy, social cues, richness, and almost instantaneous reciprocity of a face-to-face interaction generally make it easier for two or more people to collaborate. But their task becomes more difficult if they have to interact via media that are less rich and more imper-

sonal and that feature time delays between the back-and-forth responses that characterize successful collaborations.

All these factors can contribute to the complexity of a collaboration. Therefore, the important issue is not whether a collaboration is complex but how complex it is. From this definition we can see that complex collaborations go well beyond the images that typically come to mind when we think about collaboration—for example, two people who are working together on a face-to-face basis, or the internal processes that take place within intact, well-defined work teams. Complex collaborations involve individuals and formal teams, but they also encompass much more. Different individuals, teams, organizations, and cultures, often in dispersed locations, combine in various combinations to comprise the types of collaborations that are the focus of this book. The important thing is to understand that the more complex the collaboration, the more difficult it is, and the more effort is required to make it work. The challenge is to overcome the difficulty, to compensate for the complexity.

Showing how to do this is the purpose of this book.

An Action Framework for Designing Complex Collaborations

All collaborations, complex or otherwise, have the same foundation: people, the relationships among them, and the interpersonal processes that enable the people to work together. This is where collaboration begins; it is the petri dish within which collaboration breeds, grows, and develops. The success of any collaboration depends first and foremost on the people involved in it and on the nature and quality of their interrelationships and interactions.

As the discussion in the previous section suggests, however, complexity can distract or overwhelm even the most skilled, well-intentioned, and motivated collaborators. Therefore, the challenge is to manage complexity so that it enhances and energizes the collaboration instead of destroying it. We will show in the chapters that follow that the key is structure: well-defined roles, expectations,

responsibilities, decision-making processes, and the like, make it easier for participants to get a handle on the many issues, problems, and challenges they have to face in making a complex collaboration work. Structure helps to focus action, informs decisions, serves as a buffer against distraction, and improves efficiency. Structure in and of itself is not the essence of collaboration, but it does reduce uncertainty and confusion and increases predictability, and it can make complex collaborations less complex and more manageable. The more complex the collaboration, the more structure is needed. Structure creates a zone of stability within which creative collaborations can develop and thrive.

These two dimensions—people and their relationships, on the one hand (the "soft" side of complex collaboration), and structure, on the other—are, of course, related and inseparable: structure supports collaborative relationships, and collaborative relationships can produce structure. These two dimensions are like intertwined threads weaving through the cases we present in this book and through our action framework. Both threads are needed in stitching up the fabric of complex collaborations; without both, the garment falls apart. These are the fundamental truths, the DNA, that underlie our action framework and our perspective on how to make complex collaborations work.
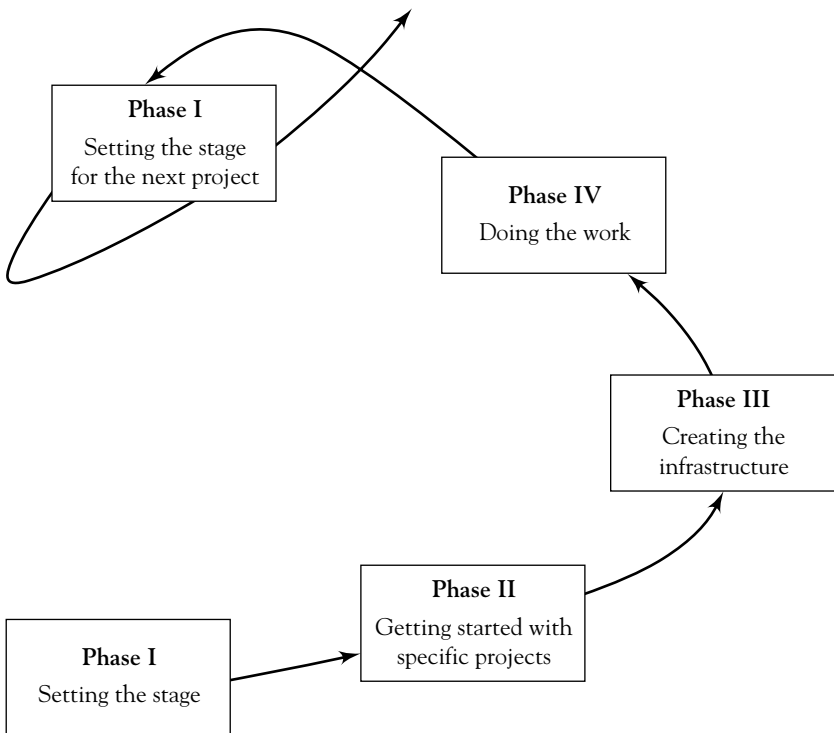
The Action Framework

The broad outline of our action framework is presented in Figure 1.1. In many respects, our action framework is similar to other, generic models for project management and organizational change (see, for example, Mohrman and Cummings, 1989). The difference with our framework is that we pay special attention to the challenges that arise when projects require collaboration across temporal, geographical, organizational, and cultural boundaries. How to structure, facilitate, and support these kinds of collaborations is the primary focus of the framework as we present it in this book.

The framework is composed of four loosely defined, overlapping phases linked in an upward-moving spiral.

- *Phase I: Setting the Stage.* This is the phase of getting organizations ready for complex collaborations in general. In essence, this phase creates the potential and provides the impetus for moving forward.
- *Phase II: Getting Started with Specific Projects.* This is the phase of initiating specific projects through the efforts of key people working together. Creating collaborative relationships among key people is one of the most critical steps in this phase.

Figure 1.1. The Four Phases of the Action Framework

Phase I

Setting the stage
for the next project

Phase IV

Doing the work

Phase III

Creating the
infrastructure

Phase II

Getting started with
specific projects

Phase I

Setting the stage

- *Phase III: Creating the Infrastructure.* This is the phase of developing the structure for the project, especially those elements that support collaboration, and outlining the processes to be followed in carrying out the project.
- *Phase IV: Doing the Work.* This is the phase of carrying out project tasks, and of revisiting and revising the infrastructure and the processes as needed. While participants are doing the work, they can also learn from their successes and failures and use that information to modify their goals, plans, and tasks. Ultimately, these learnings can be used to develop the collaborative capabilities of the organization in general, setting the stage for even more ambitious collaborations down the road. That is why we depict two Phase I's in Figure 1.1. Each project does not end where it begins but instead sets the stage for a new round of complex collaborations built on experience and knowledge gained from projects that have come before.

In the next several chapters we will flesh out the skeleton of our action framework by examining three very different cases. These cases feature very different complex collaborations involving a variety of organizations pursuing diverse goals and operating under varying circumstances. The cases enable us to show how the action framework plays out in real life as we recount the actual challenges that participants faced, what they did and did not do in response to these challenges, and what happened as a result. On the basis of this information we will identify specific action steps that other organizations can follow in collaborating across their own temporal, geographical, organizational, and cultural boundaries.

About Our Cases

Our three cases, each more complex than the last, are also wide-ranging. They touch on many different aspects, enterprises, and regions of the emerging world of boundaryless collaboration:

- Training programs for construction equipment service technicians

- Development of electronic games

- Manufacture of sophisticated computer network technology

- Construction equipment dealerships in the heartland of North America

- Product engineering teams in Hong Kong

- Factories in southern China

- High-tech companies in Silicon Valley

We chose to examine a small number of cases in depth instead of concentrating on a larger number of less intensive cases narrowly focused on specific practices, and our choice was dictated by the nature of our subject. Complex phenomena require complex cases to illustrate the many interrelated elements that make up those phenomena. In the next several chapters, we will show that the whole of a complex collaboration is greater than the sum of its parts—that, for example, the personal qualities of the collaborators mean little unless the collaborators have the opportunity to form relationships, and that these relationships are supported by communication systems and well-defined roles and procedures. It would have been difficult to show the interactions among critical success factors if our cases had not been rich enough to illustrate the interdependence among those factors. An in-depth case can also reveal the dynamic interplay among people, processes, and events as a collaboration develops, and as the success factors play out over time. Not only can in-depth examination demonstrate the final result, it can also show how successful outcomes were reached. A case studied in depth over time provides a moving picture, not just a snapshot.

For the most part, our cases feature successful projects. Examining these projects closely, we could begin to identify what made these collaborations work, and, by extension, what might make similar collaborations successful. But even in these successful cases,

things did not always go well. Sometimes decisions were not executed effectively, and the participants occasionally overlooked critical issues and failed to do what needed to be done. We learned from these failures of omission and commission as well as from what actually did work.

The first case features *interorganizational collaborations* among the John Deere Construction & Forestry Equipment Company and various John Deere dealerships and two-year technical colleges throughout the United States. The purpose of the collaborations was to develop training programs for technicians who serviced John Deere construction equipment; these service technicians were in short supply at the time the program was initiated. The case describes the overall program run by Deere—which initiates, facilitates, and supports these programs nationwide—as well as two projects, one in Minnesota and the other in Texas, that were conducted under the auspices of the new program.

This was the first case we examined, and we had the opportunity to follow it over an extended period. As a result, we were able to observe the ebb and flow of a long-term project, from the initial uncertainties as participants from different organizations felt each other out through the development of critical relationships and trust to the eventual pulling back as changing economic conditions led to different priorities. Therefore, when we talk about transcending the boundaries of time in complex collaborations, we are also talking about duration, not just time zones.

The second case shifts the focus to *cross-cultural collaboration*, particularly collaboration across international boundaries. Only one company was involved in this case, the Radica Games Group, Inc., one of the world's leading developers and manufacturers of hand-held electronic games and video game controllers. This case also included two major projects, the development of the Bass Fishin' game in the mid-1990s and a more recent set of projects to develop controllers for the video game consoles produced by Nintendo, Sony, and Microsoft. The Bass Fishin' game project involved dif-

ferent teams in Dallas, Hong Kong, and Radica's factory in south-
ern China; the controller projects involved the same sites in addi-
tion to a team from a company in the United Kingdom that was
acquired by Radica in the late 1990s. The international nature of
this case enabled us to take a close look at the challenges of col-
laboration across great distances, numerous time zones, and dra-
matically different cultures. The nature of the project and of the
industry—product development in the toy and game business—
adds another dimension to this case: the impact of intense time and
performance pressures.

Like the John Deere case, our third case also features an interor-
ganizational collaboration, but with a very important difference. In
a *supply-chain collaboration*, interorganizational collaboration is
more than just the means to an end. Companies like Solectron, the
primary organization in our third case, have evolved in recent years
from contract manufacturers to global supply-chain facilitators.
Their role now involves facilitating the entire supply chain, not just
acting as one of the links in the chain. As a result, complex interor-
ganizational collaborations are now the very core of such compa-
nies' business and their most important product.

Solectron is one of the pioneers in the electronics manufac-
turing services industry, an industry that is emblematic of the
increasingly global and interorganizational nature of modern man-
ufacturing. Because close collaboration is intrinsic to supply chains,
the collaborations in the Solectron case were more tightly linked
and critical to the success of all the parties involved than they were
in the John Deere case. In fact, close collaboration with customers
and suppliers is a particularly important element in Solectron's new
strategic direction. This case shows how Solectron executes this
strategy and supports the company's new emphasis on the close rela-
tionships that are so crucial to Solectron's future. We also examine
one of the company's most far-reaching efforts to date, Solectron's
close collaboration with one of its customers, Brocade, a producer
of data network storage systems.

Comments

For each case, we interviewed between twenty and twenty-five peo-
ple, mostly in face-to-face meetings, who either were directly in-
volved in the collaborations or were close enough to the projects to
provide additional details and supplementary perspectives. Except
in the John Deere case, the actual names of all the interviewees are
used, as are the names of the organizations they represent. The
names of the John Deere participants are real, but the names of
organizations and individuals outside John Deere are fictitious.

For the most part, our cases cover a limited period of time, and
each one is reasonably accurate for that time period. But things
change, people leave, and new information comes out. We did try
to update our information as much as possible, but at some point we
had to put an end to gathering information and making interpreta-
tions and bring each case to a conclusion. In addition, our three
cases as a group represent a wide range of organization types, prod-
ucts, services, outcomes, and collaborative forms. They clearly do
not represent all possibilities, but they are sufficiently diverse to give
us a degree of confidence in the general applicability of the recom-
mendations that emerge from our analyses. It is our firm belief that
more follow-up and additional cases would have added little to our
conclusions and recommendations.

Plan of the Book

The three cases are presented in Chapters Two through Six. The
description and analysis of the John Deere case are presented en-
tirely in Chapter Two. To each of the other two cases we devote two
chapters, a choice that reflects their greater complexity. Specifically,
Chapter Three describes the Radica case, and Chapter Four ana-
lyzes the case in terms of our action framework, whereas Chapters
Five and Six follow the same pattern for the Solectron case.

Because the individual case analyses provide only pieces of the
puzzle, Chapters Seven and Eight pull all the pieces together—that

is, all the action steps suggested by each case—into our comprehensive action framework for collaborating across time, distance, organization, and culture. At the end of Chapter Eight we conclude the book by returning to our two "threads"—structure and collaborative relationships—and exploring how they might be applied, as a speculative rule of thumb, to all complex collaborations: those that are current, and those that may evolve and emerge in the years to come.