# Inventing Organizations of the 21st Century: producing knowledge through collaboration

**by**

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## Abstract

This manuscript examines a Process Handbook (PH) special project using a learning history form. A learning history is an assessment-for-learning, designed such that its value is derived when read and discussed by teams interested in similar issues. Its contents come from the people who initiated, implemented, and participated in the documented efforts as well as non-participants who were affected by it. A learning history presents the experiences and understandings of people who have gone through a learning effort in their own words, in a way that helps others move forward without having to "re-invent" what the original group of learners discovered. The content of the learning history creates a context for conversation that teams within organizations wouldn't be able to have otherwise.

This learning history, and the PH project it describes, raises issues around knowledge creation and team structures by looking at how a project team of individuals from university, business, and consulting organizations was effective in creating new knowledge. The team members held different predispositions toward theory development, producing business outcomes, and developing capacity for action. Their complementary, and at times conflicting, interests provided a robust structure for knowledge creation. Knowledge created through this team structure is also multidimensional, having theoretical, methodological, and practical components.

# Foreword

I first learned about the codification and re-use of knowledge in the military, where I served as an Air Force pilot, and later in the Air National Guard. After flying, aircrews always gather around a familiar place — in the olden days it was often a beat-up table in a hangar — to debrief, compare notes, and analyze the day's events. "Hangar flying" was a valuable way for pilots and crewmembers to learn from each other's mishaps and adventures in an informal, collegial environment. In the 1980s, the military began to capture those experiences and codify them, using face-to-face maintenance debriefings. Over time, aircrews became more astute about observing details and gathering data — and maintenance levels and aircraft performance improved.

One of the greatest challenges in global consulting firms like ours is how to leverage core knowledge across geographically dispersed staffs so they consistently deliver high quality results for clients. We are not promoting "cookie cutter" solutions; rather we want to be able to leverage the firm's considerable knowledge and the non-proprietary portions of learnings from each client engagement on behalf of our greater client base. Like the dynamically formed aircrew, when we assemble a consulting team across industries, geographies, and functional disciplines, we need to know they can meet certain expectations. We want them to be reasonably consistent in style, content, context, and techniques for planning, analysis, design, and execution activities. As we grow at more than 20% per year, this becomes a daunting challenge.

We viewed the special project that combined the repository and analysis capabilities of the Process Handbook with the behavioral learnings of the learning history techniques as a chance to explore new ways to conduct consulting assignments. The combination of university, business client, and consulting resources and approaches presented a great challenge to overcome. The reader of this document is left to determine how well it worked on behalf of each constituency. From our vantagepoint, we think the experiment was quite worthwhile.

*— PCC Partner*
*(Sponsor of the Research Project)*

We often assume that the best research is detailed and dispassionate. In addition, we often think that the best practice is highly engaged, concrete, and removed from theory. This project demonstrates the potential of fruitful interactions among people with a variety of different views about the role of theory and the importance of practical applications.

We suspect that intellectually productive and economically effective interactions between the world of theory and the world of practice will become increasingly important in the knowledge-based economy of the future. While many aspects of this project are unique to these individual

people and this particular situation, we hope that the themes described will help others think about similar issues. Failing to address the challenges involved in collaborating across research, consulting, and managerial practices will limit the significant role universities can play in creating and teaching better theory for improving organizational practices.

*— MIT Director*
*(Faculty Responsible for the Research Project)*

FinServ was motivated to participate in this project for several reasons. One was the opportunity to gain access to leading edge academic research that could potentially contribute to solving a real work problem in real time. Another was to explore the possibility of incorporating aspects of the research into an emerging business strategy. Yet another was to experience a knowledge transfer methodology in order to build our own capacity for organizational learning.

In all of these, our interest was quickly translating ideas into action. The resulting collaboration revealed very different worlds and worldviews with respect to time and outcomes. Building shared understandings and mutually rewarding outputs among three disparate entities was a significant challenge. In this respect, the project is a case study in how organizations can learn to partner across boundaries.

*— FinServ Representative*
*(Corporation providing the research project site)*

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# *How to Read a Learning History*

## Learning from the Learning History

This document is designed to spark conversations that will lead to collective learning. As you read through it, notice your reactions and write them in the empty spaces and the margins. These notations will serve as "markers" for later conversations.

A learning history describes what happens in the voice of participants. It not only documents the "hard" facts and events, but what people thought about those events, and how they perceived their own and others' actions. The learning history unveils the differences in people's perceptions. "Hearing" all the voices and recreating the experience of "being there," can help you understand what happened in a way that enables you to make more effective judgments.

The objective of a learning history is to transfer and diffuse participants' learning. Therefore, when you read this document we ask you to do two things:

**Use it as a tool for better conversations.** Read the document simultaneously with other members of your team. Plan *at least* a two-hour meeting to talk about what happened in the story, and why and how it applies to your own organizational improvement efforts.

1. **Take on the mindset of a beginner.** "Listen" to what people said in the document. Try to suspend your judgment and "hear" why they did what they did. Don't automatically condemn the people who made "mistakes," or assume you know why the mistakes occurred. Notice how you react. Write your reactions in the white space. Think about how this story is similar to, and different from, the issues that face your team. Be prepared to talk to your team members about your reactions and thoughts. Be prepared to learn from one another about the implications this story has for the efforts of your own group.

## Titles and Subtitles Cue You to Shifts in the Story

Several different styles of text exist in this "jointly-told" tale and there are no set rules for reading it. Some readers skip back and forth between the right-hand and left-hand columns; others read one entire column before switching to the other. Text running across the width of the full page provides the context and background for each part of the story and leads into the narrative in the two-column format.

In the left-hand column, you will see critical observations and key questions from the "learning historians." These comments tell why the right-hand text was chosen, and ask questions to prompt reflection and application to your own situation.

*The right-hand column contains the primary narrative. You will see each paragraph in the right-hand column credited to a particular individual, who tells his or her part of the story, like this:*

**PCC Consultant:** In the midst of this confusion I got out the workplan and had no idea where we were or what any of it meant and then threw my hands up in the air and said "Okay, we're not going to have any more meetings until I can figure out where we are and what it all means." That was a very difficult situation for a consultant to be in. I felt like I had failed.

**Sidebar:** Occasional boxed passages in sidebars provide additional description and background. For instance, sidebar passages might describe a particular consulting technique, background on individuals or groups, or details of a theory developed by researchers.

Learning is not always an easy process. It involves taking on the mindset of a beginner, letting go of the known, and being willing to try something new. When people try new behaviors and actions, mistakes are inevitable. A major problem in business, however, is that mistakes are often covered up and made undiscussable. The people who tell their story in this learning history are no exceptions. They were successful, and they made mistakes. By reading their story, you will have an opportunity to learn from their experiences.

# Chronology

| FinServ[1] Activities | Timeline | MIT & Special Project Activities |
|---|---|---|
| | **1995** | |
| FinSys President hired by FinServ<br>FinServ CEO requests HR improvements | February | |
| CEO asks again | November | |
| | **1996** | |
| FinSys analyst begins to collect data on FinServ hire process | January | |
| HR VP hired<br>CEO asks again | March | |
| Findings presented to new Steering Committee<br>Hire Team formed with HR staffing director as co-leader | April | PCC Consultant assigned to MIT full-time |
| | June | Process Handbook Summer Camp |
| Hire Team begins work with FinSys<br>Analyst hired from PCC as FinSys co-leader | July | |
| FinSys co-leader develops Hire Team plan<br>Dedicated workers assigned to team. | August | Process Handbook presented to PCC Steering Committee |
| New hire initiative kicks off<br>Second FinSys designer/analyst hired from PCC and joins Hire Team | September | Process Handbook chosen as MIT/PCC special project<br>PCC contacts FinServ internal consulting group as possible project site |
| Hire Team misses milestone | October | FinServ group declines involvement |
| Hire Team co-leader contacts PCC<br>PCC hired by FinServ | November | FinSys hire team co-leader contacts PCC |

[1] FinServ and FinSys are pseudonyms.

| FinServ Activities | Timeline | MIT & Special Project Activities |
|---|---|---|
| | **1996** | FinServ hires PCC |
| "As-is" presentation by Hire Team to Steering Committee | December | **Special Project Activities**<br>12/13 Special project kick-off presentation meeting. Expectations listed.<br>12/23 Special project team meeting (MIT Director likens project participants to Teaching Assistants. 5 insights) |
| | **1997** | |
| Hire Team confronts HR VP<br>Senior management meetings<br>Hire Team "as-is" and "vision" presentation to Steering Committee<br>Hire Team's work ends | January | 1/3 Special project team meeting (Interesting Orgs. DB: 16 insights)<br>1/13 Special project team meeting (Focus on "hiring is like buying": 13 insights)<br>1/17 Special project team meeting. Project Manager's last day.<br>1/23 Special project team meeting (Look at coordination processes: 7 insights)<br>1/31 Special project team meeting (Educate on theory: 3 insights) |
| PCC Consultant works on proposal for "retire"<br>PCC Adjunct Consultant works on enrollment system for FinSys | February | 2/10 Researcher and PCC Consultant meet twice during week to review theory<br>2/14 Special project team meeting (4 insights). Chess Master analogy articulated.<br>2/21 Special project team meeting (1 insight)<br>2/23 Researcher and PCC Consultant meet |
| PCC Consultant's work with FinServ ends<br>PCC Consultant works full-time on special project | March | 3/7 Researcher and PCC Consultant meet<br>3/10 Researcher and PCC Consultant meet<br>3/17 Process Compass presented in meeting with students and researchers.<br>3/24 FinServ members attend team meeting to review presentation<br>3/24 Researchers and PCC Consultant meet to fine-tune presentation |
| FinSys debuts enrollment system<br>PCC Consultant presents Process Handbook to Steering Committee | April | 4/4 PCC Consultant presents to MBA class<br>4/11 PCC Consultant presents to FinServ |

# I Introduction

How do you run a collaborative project when the project team includes people from different institutions with varying goals and purposes? This learning history documents the activities and behaviors of one such team who set out to learn from each other as they tested and developed a new way of redesigning a business process.

The people involved in the project included managers in a business organization, academics at a research university, and consultants in a professional firm. The project itself focused on applying coordination theory through a tool called the Process Handbook[2] to a financial service firm's process for recruiting and hiring employees. The emphasis of the learning history is on the interrelationships between these three groups, and their collaboration to create new knowledge. The project efforts are set in the context of a real firm and the complexities inherent in typical business process redesigns.

The story of the project is told from the varied perspectives of people who participated and were affected by it. As a story, it presents an in-depth inside look at the issues that arise when people from different professional backgrounds collaborate. Each professional group — managers, consultants and researchers — had its own, often different and conflicting goals, standards and work processes. Working together required trusting others when there was little history to engender trust, accept risks, or take stands. The creation of new knowledge and relationships, at organizational and personal levels, were the results — results whose value can be judged by readers themselves.

## The Context: Inventing Organizations for the 21st Century

Today's business environment is undergoing profound and far-reaching change. Globalization of industries, faster development times for new products and services, and advances in information and telecommunication technologies are altering the basis of competition among firms. Many believe that our current large hierarchical organizational structures will be ineffective in this new environment. But how will new organizational forms be created, and who will be involved in their invention? How will organizations in the 21st Century be organized and managed? Who will work in them, and how and where will that work take place?

In 1994, the Massachusetts Institute of Technology's (MIT) Sloan School of Management launched "Inventing Organizations for the 21st Century, " a research and educational initiative created to consider these questions. The 21st Century Initiative, or "21C" as it is more commonly called, encompassed several research centers and drew on the knowledge and research of a broad base of academic disciplines. Not only was the territory for this initiative radical, so was the approach taken, especially for a traditional research university. Participants in this exploration would not be limited to professors, students, and like-minded academics. A new partnership between researchers and sponsoring companies would "help invent the organizations that will become common 10-20 years from now." In fact, the active involvement of corporate partners would be

[2] Coordination theory is an approach to capturing and representing the methods businesses use to organize and implement tasks. The Process Handbook is a repository of business process alternatives that help characterize, analyze and create business processes. See Malone, et al, 1993, 1997

crucial to the venture's success. Company partners would contribute funding *as well as* their knowledge of real world operations. Companies' desires to create innovative approaches would be central to the research and development of new organizational alternatives.

## The Special Project

Founding or "major" corporate sponsors of the 21st Century Initiative were invited to participate in "special projects." These projects were "special" for several reasons: sponsors helped define them; could work with researchers in studying new concepts as they were put into practice somewhere in the sponsor's organization; and sponsors provided funding in addition to the basic membership fee for the projects. Conceptually, these project ideas were inspiring to managers and researchers, but practically, it could be difficult to find areas where sponsors' and researchers' interests overlapped.

The special project which this document describes was initiated by Process Consulting Company (PCC), one of 21C's major sponsors. It involved people from different institutions (see "Three Key Players" section following). PCC wanted a special project which would test and apply new concepts in a real business context, concepts that were embodied in a tool MIT researchers had developed called the Process Handbook (for more information see Sidebar: The Process Handbook Project, page 6).[3] The Process Handbook applies concepts from computer science and coordination theory for collecting, representing, describing, organizing and analyzing organizations' business processes. PCC recognized that the Process Handbook held great potential for improving their reengineering consulting practice.

This special project marked the point when research on the Process Handbook moved beyond theory and concept development to application and testing in a real world setting. Prior to this project, research work had involved developing ideas for capturing and organizing business processes, and building tools, such as computer databases, to test and support the approach. The Process Handbook database, and the information it contained, had only recently advanced to the point where researchers felt ready to test its use in a real company setting.

The company involved in the special project, Financial Services Company (FinServ) was a client of PCC's. PCC was hired to help FinServ with an ongoing effort to reengineer their "hiring" process.[4] PCC and FinServ expected the special project to show how the Process Handbook could be used as a tool in reengineering, helping them move effectively understand and redesign FinServ's hiring process.

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[3] As part of the special project, PCC wanted documentation to help them understand and communicate what they learned and accomplished in the special project. This document is the "learning history" that has been developed as a basis for discussion within PCC, FinServ and MIT. Through these discussions, and engaging in an assessment for learning what happened, the project learning can be diffused beyond the original participants. For additional information on learning histories see the Appendix. PCC was also interested in more generally testing the learning history methodology as a possible way of assessing and learning from its consulting projects.

[4] FinServ's "hiring" process includes all the activities and procedures from identifying the need for a person, hiring them, and through to the eventual end of their employment.

## Three Key Players: Consulting Firm, Research Center and Business Corporation

**Process Consulting Company** (PCC)[5] is a large international consulting firm with a strong practice in business process reengineering. PCC "joined" MIT's 21C in early 1996, when they merged with the consulting operations of a new parent company. PCC's self-described "research and development arm," the "Knowledge Center," inherited this sponsorship role from the new parent company. One of PCC's partners in the local Boston office became responsible for the work and relationship with the MIT 21C initiative. Five members of PCC were involved in PCC's special project. They were:

**PCC Consultant**: the consultant responsible for establishing and managing the special project. She was based in the local PCC office.

**PCC Adjunct Consultants**: two consultants who were peripherally involved in the special project, but directly involved in the consulting work at FinServ.

**PCC Partner**: the PCC partner responsible for the relationship with 21C, and for PCC's consulting work at FinServ.

**PCC Center Director**: the director of PCC's Knowledge Center, who provided funding for PCC's membership in 21C and the sponsorship of the special project. The Knowledge Center itself was based in another East Coast city.

**Massachusetts Institute of Technology** (MIT) is a large, prominent, research-based university. This project involved faculty and students from MIT's Sloan School of Management. The Sloan School, in addition to its teaching departments, also has research centers. These centers, funded from outside sources around particular intellectual agendas, provide opportunities for faculty, research staff and students to work together on research projects.

The Initiative for Inventing Organizations of the 21st Century, often abbreviated as the 21st Century Initiative (21C), is a cross-departmental research center. Thus in some ways each participating center's affiliated faculty, research staff and sponsors, as well as 21C's own staff and sponsoring companies, are considered "members." The Center for Coordination Science (CCS) was, however, the primary research center within 21C, and the intellectual agenda for 21C developed from CCS's research interests. CCS was organized by Professor Thomas Malone, who was also one of the two founding co-Directors of 21C (hereafter referred to in this capacity by the title "MIT Director"). The relationship between CCS and 21C is very close, and often indistinguishable, in part

[5] Although some researchers have identified project participants in their descriptions of the special project, for the purposes of this learning history we have chosen to maintain anonymity. This is also intended to help the reader focus on the story told here, without being influenced by prior knowledge or associations with participating organizations.

because the two entities share many of the same staff members, research interests, and sponsors.

CCS's objective is to study coordination in different kinds of systems, including computer and telecommunications networks, and human organizations. The projects CCS has conducted involve studying how people work together, and how work might be improved by the development and application of new information technologies. CCS projects have focused on developing new collaborative tools, and developing new theories of coordination. Five MIT people were involved in the special project, along with affiliated researchers from other universities, and students at MIT's Sloan School. They were:

**MIT Director**: a faculty member and tenured professor at MIT's Sloan School of Management. Also the co-director of 21C and the director of CCS.

**MIT Researcher**: the research associate directly involved in the special project. Previously worked for a large computer company; hired after participating in "summer camp" (see page 13).

**MIT 21C Manager**: the manager of 21C, responsible for daily operations and overall sponsor relations. Came from an industry background.

**MIT CCS Manager**: the manager of CCS, responsible for daily operations and overall sponsor relations. Came from a consulting background.

**MIT Project Manager**: a member of the 21C staff who was the project manager for the special project. Came from an industry background.

**MIT Affiliated Researchers**: research scientists at MIT and Professors at other universities who worked on developing the Process Handbook (see Sidebar, page 6).

**MIT Students**: Graduate students at MIT's Sloan School of Management who took part in special project meetings.

**Financial Services Company (FinServ)** is a large and successful company that provides investment and financial services to its customers. Its success was marked by several years of sustained revenue growth, growth which required it to develop subsidiary organizations and continually add staff. One of the subsidiary organizations within FinServ important to this project was Financial Services Systems (FinSys). FinSys was a new company formed to develop and market technology assisted products and services in the Human Resource (HR) area. PCC was interested in developing FinServ as a client, and was contracted by FinSys to assist in their efforts to reengineer FinServ's hiring processes. Subsequently, FinServ and FinSys also agreed to participate in PCC's special project. FinServ people involved in the special project were:

**FinSys President**: President of the newly formed services company, interested in implications of Process Handbook for FinSys' work.

**FinSys Analyst**: a process reengineering specialist who was a co-leader on FinServ's hiring process redesign team. She had previously worked at PCC, and had initiated PCC's involvement with FinServ. Although she was on maternity leave during the time this project took place and was not interviewed, she was often referred to by others.

**FinSys Designer**: a business process analyst and designer, who took over the FinSys Analyst's responsibilities while she was out on leave. He was most actively involved in the special project at MIT, and had also worked at PCC prior to joining FinSys.

**FinServ HR Director**: Director of Human Resources, peripherally involved with the FinServ hiring process redesign team's work, but did not actively participate in the special project.

**FinServ Staffing VP**: newly hired Senior Vice President of FinServ's central staffing organization. Colleague of HR VP's, with limited direct HR management experience.

**FinServ HR VP**: newly hired Senior Vice President of HR. Came from a different FinServ business unit, with little HR background. Declined to be interviewed, but often referred to by others.

**FinServ HR Systems**: the VP of HR Operations and Systems, part of the hiring process redesign team, and peripherally involved in the special project.

**Sidebar: The Process Handbook Project**

The Process Handbook (PH) (Malone, et. al., 1993, 1997) is part of a research project that develops and builds upon the ideas of coordination theory. The PH itself is a "Handbook of organizational processes," stored in a database, that can be used to promote process innovation, share "best practices," redesign existing processes, and develop software for supporting and analyzing processes. The PH research project examines how organizations can be aided in their redesign efforts, by both characterizing their existing organizational processes and "inventing" new processes, often in ways made possible by information technology.

The research includes two main streams of activities:

(1) collecting, organizing, and analyzing numerous examples of how different groups and companies perform functions such as "buying" or "selling" and
(2) developing new methodologies for representing and codifying these organizational processes.

The PH uses two basic concepts from computer science and coordination theory for representing processes — specialization and dependencies. Generic processes, such as selling a product, can be specialized into alternative variations, such as selling by mail order, selling through retail stores, selling by direct sales, etc. Each of these alternative subactivities automatically "inherits" the characteristics of the generic process, except when a characteristic is explicitly changed in a particular case. Tradeoff tables present the advantages and disadvantages of alternative specializations and help in selecting alternatives for creating new processes.

Dependencies are the relationships among activities, including material and information flows. These dependencies imply various mechanisms which coordinate among activities. A premise of the PH, and coordination theory, is that a typology of generic dependency types can be developed, including the associated coordination alternatives, which are then applied in selecting business process alternatives.

By characterizing organizational processes according to specializations and dependencies, users of the PH gain insights into how existing processes are coordinated, and insights into alternative coordination mechanisms can be quickly generated and tested. *For more information refer to http://ccs.mit.edu.*

## The MIT Director and the Special Project

As the head of CCS and the acting head of 21C, the MIT Director was the visible leader for the PCC special project. His background and long-term research interests provide a context from which to understand his interests and role in the special project.

**MIT Director:** Somewhere in graduate school, I developed a sense that the critical problems I wanted to attack had to do with the ways organizations were designed and structured.

Researcher's interests often develop from real life experiences and concerns.

When I was a graduate student, I once went to a political meeting where I sat in this room with about 60 people who were trying to make a consensus decision about what to do next in the demonstration. It struck me as an inherently hard thing to do. There were some things to commend their process, but it was really inefficient, and the nature of that inefficiency had something to do with the physics of organizing - with the sheer number of people who needed or wanted airtime.

To organize collective activity in ways that met goals other than economic goals, I thought we would need a much crisper understanding of something like the physics and mathematics of the possibilities. That's what I wanted to do. I could see that information technology was in the process of dramatically changing some of the parameters in that "physics of organizing."

So three concepts came together—the importance of non-economic values; the possibility of more systematic understanding; and the driver of information technology in enabling whole new classes of possibilities. Those three concepts together kind of became my mission in life.

The 21st Century Initiative started independently of me. But when I became a Director I tried to influence it in line with my life interests.

As a collaboration between a successful business organization, a renowned university, and a preeminent consulting company, the special project presented unique opportunities for all its participants. Researchers would be able to apply coordination theory concepts and see if the Process Handbook had the hoped for "traction in the real world." PCC could benefit from their early exposure to theory and the "tool" of the Process Handbook. Gaining an understanding of the implications the Handbook held for the future of their consulting business could also give them a competitive advantage. FinServ stood to gain an improved design for its hiring process, as well as the ability to understand a new method for improving other business processes. In addition, the results of the special project and the way it was conducted could help sponsors and researchers realize the 21st Century Initiative's vision of organizations "inventing" their future.

# 2 Competing Claims for Research: Relevance vs. Rigor

## Academic Research Centers: Bridging relevance and rigor

Establishing research centers from funding provided by corporations is a relatively new phenomenon at management schools. Modeled on the laboratories of physical scientists, research centers act as a kind of "home" where groups of faculty, research staff and students conduct their "scientific" inquiries. Companies fund and send their staff to learn from these centers for a variety of reasons, including the idea that understanding the findings of these scientific inquiries might create some commercial advantage for them.

As a result of a decline in government spending, MIT's Sloan School, like many universities, has increasingly turned to corporations as a source for funding. The needs and interests of commercial organizations are inherently different from those of government agencies or benevolent, non-profit foundations. The ability to form long-lasting, mutually beneficial relationships with corporations — while continuing to satisfy their specialized research interests — is unfamiliar to many in a university community. While government spending on research is justified by the resulting contributions to general knowledge and public welfare, corporate spending requires a more immediate benefit. In some ways, a "center" model replicated the positive aspects of traditional funding by pooling the interests and resources of a consortia of companies to support the desired scale and scope of university research. In other ways, this "center" model created new challenges, as university faculty, and the managers they hired, sought to develop and sustain this new way of conducting research.

Faculty see corporate sponsors as providing mechanisms to supply the ongoing funding for their research, as well as providing test beds and feedback which develop and improve that research. Companies tend to view their sponsorship as a way to give money to get value, which means that they must eventually be able to apply research successfully. The tension created by these inherently different goals for research is complicated, rarely explicitly acknowledged, and not easily resolved.

By 1996, almost two years after its founding, the 21st Century Initiative (21C) had attracted seven new sponsors in addition to its three founding sponsors. Sponsorship benefits were described in many ways, although it wasn't always clear to faculty members or sponsors themselves how sponsorship translated into business value.

> **MIT Director**: I don't know if there was a single answer as to why companies wanted to become sponsors. Different companies had different reasons. For their sponsorship, they got to come to a couple of annual meetings and to workshops on various topics throughout the year. They held ad hoc meetings with our faculty members on the topics of the faculty members' research. The major sponsors got to configure a special project with one or two faculty members of particular interest to them. Some of our sponsors felt, probably reasonably so, that they got PR benefit from having their name on

the list. "The 21st Century Initiative" was a sexy-sounding MIT project. Some sponsors probably also felt they got recruiting benefit by connecting to Sloan students.

**MIT 21C Manager:**[6] The relationship with sponsors and the gap between expectations and deliverables plagued the program from inception.

The literature on 21C set out a broad agenda, and explicitly pointed to senior executive engagement and senior executive collaboration with MIT faculty and joint research. All the founding sponsors were very excited to try and find ways to engage with MIT in a productive way. But each was very frustrated with their inability to use 21C as the vehicle for that engagement.

Each one told us they did not view this as a philanthropic investment. If they could not engage and get value, then they would place their investment dollars elsewhere. One of the sponsors said he felt that MIT had as much to learn from his company as his company did to learn from MIT, and that the relationship ought to include an equal exchange of views and true sharing and collaboration and cooperation.

I realized there was a mind set, a language problem, a semantics problem, protocol issues, and signaling issues which were inconsistent between the two cultures.

To some managers, sponsorship implied "peer" relationships, and an ability to influence MIT faculty and their research.

These comments are representative of a frustration which arises out of the difficulties inherent in a collaboration among individuals who hold different assumptions about what is important.

What might be the potential costs, and benefits, of using vague language to avoid addressing the different assumptions?

What are the imperatives when you enter another's culture?

Would this request have been any different if a faculty person had asked to be given line responsibility in a business so that he or she could learn about management?

**MIT CCS Manager**: It could be difficult to know how to approach a relationship that wasn't very well-defined. There was one perspective that said "Let's not define things anyway, because it closes off the opportunities."

At one point there was a liaison for a sponsoring company who really wanted to be considered "equal" to the faculty here. The faculty here had certain attitudes that made [that stance] pretty difficult, and he eventually left. I don't think he was really interested in finding a good relationship. He didn't really want to answer the question, "How can we work this relationship with MIT?" By contrast, another sponsor really thought carefully about what a relationship with an academic institution meant and what they could do with it.

[6] Although he had earned a Ph.D. early in his career, the MIT 21C Manager came from an industry background. He seemed to understand sponsors' concerns more readily than his academic colleagues, and became frustrated with being unable to manage faculty and researchers activities and interests along the lines of sponsors' desires. He left his position during the time the special project was going on.

## Special Projects: Balancing Research with Return on Investment

Scholarly research priorities are aimed at developing and advancing theory — work which is required of researchers to advance professionally. Within the university, many believe research will produce greater long-term benefits when it is not influenced by requirements to demonstrate short-term results. Both researchers and sponsor representatives are concerned that corporations receive value from their sponsorship. The onus for applying research to produce business value is traditionally left in the domain of the corporation. For a variety of reasons, the translation of research results into business benefits is difficult. Would 21C's concept and structure of a "special project" help to overcome these difficulties?

**MIT 21C Manager**: The idea of having special projects was in answer to unhappiness on the part of the founding sponsors. They had been paying $200,000 each and weren't sure they were getting enough value.

The problem was we didn't have a mechanism to actually link the sponsors with research that would constitute a special project. The sponsors were pretty much on their own to find somebody who was doing something they were interested in.

**PCC Partner**: There was a lot of frustration from the major sponsors, including us, around how much money was being spent versus real results in terms of commercializable research. [MIT 21C Manager] described managing this as trying to "herd butterflies." But he said he would try to report results in a way that was more meaningful to commercial entities, so it wouldn't always seem like academic research with no end in sight.

What benefit might careful attention to expressing research findings in a language which sponsors could readily understand bring?

What else might be needed?

**MIT Director**: With any prospective major sponsor, we had a series of discussions to identify a topic of mutual interest for a special project. Often that involved meetings between the sponsor and one or more faculty members who were potential candidates. It was kind of a mating dance: in theory, we would pick the thing that felt good to both sides and say "This is it." In practice, it was a somewhat difficult process.

**MIT Project Manager**: We were still in a learning process as how best to do special projects. There was always some tension involved as far as what was research, and what was consulting. Different faculty had different views on how much they wanted to work with companies, or what they wanted to work on. At that point, it was still in the experimental phase.

What are possible consequences for the organizations themselves of working with researchers—much like consultants would—on special projects to fix their problems?

Inherent in establishing a relationship between researchers and managers is the question of the extent to which researchers allow themselves to prioritize their activities according to corporations' interests. How might a balance between developing rigorous theory and relevant research be achieved? Does a financial model of funding special projects by

sponsoring corporations improve the possibility of finding a balance? Having inherited—rather than chosen— its sponsorship role, PCC wanted a clear understanding of how to achieve benefits from this, and other university partnerships.

**PCC Adjunct Consultant**: After the merger [with its new parent company], PCC found itself in a very entrepreneurial environment. The research [at MIT] was a pilot initiative for us, because we were learning what we could get out of a relationship with an academic institution. In our Knowledge Center we primarily extracted learning from consulting projects we'd done. We only brought people in from projects for a specific time to lend their knowledge about projects.

What might be different about "learning" from consulting projects and learning from academic research?

**MIT Director**: I thought of our research-sponsor relationship as one where the researchers pursued their own goals for their own reasons, for a much broader set of customers than the particular sponsors. I thought of a consultant as someone who takes money for a specific set of obligations. They define their success in terms of satisfaction of the person giving them money, and are willing to accept a lot of restrictions on what they do that a researcher wouldn't.

The customers for the research were the world, and sponsors provided money that enabled that to happen. We would like them to be satisfied with what they get, but their satisfaction was not the only measure of success.

The MIT Director's distinction is critical, but not always obvious. Consulting implies "helping" companies, and thus subjugating the primacy of a project's interests and activities to a sponsor's desires. Are there ways that projects could be structured so that researchers' interests in theory, and companies' interests in help, do not create an either-or kind of situation?

In our case, we hoped sponsors liked the results, and we devoted resources to help achieve their goals, but we're not responsible for the quality of the outcomes in their organizations.

The degree to which we came close to consulting was a continuing issue for us with our sponsors. I tried to maintain a position that, if you want consulting, you should pay for consulting. As a research program, we were pushing the state of the art and the results of what we did would be available to everyone. By being involved, you would benefit in a variety of ways. You'd have early access to research results, a better understanding of those results, and an influence on the agenda.

What characteristics would facilitate the ability to create projects that balance developing theory with producing results?

**PCC Center Director**: To us, the 21C relationship meant joint research. We made some people available, MIT was doing research and we were looking jointly at various subjects. I had many discussions with MIT people about the nature of this funding. The regular sponsor base price was clearly just funding [PCC's position] as a research sponsor, and MIT chose the research they wanted to do under the 21C banner.

We were simply saying "Here, take our $75,000, we're sure we will learn something beneficial from the research you do." The $125,000 fee for being a special sponsor on top of that $75,000 we interpreted as "We are buying

Several PCC members made the distinction that, as major sponsors, they were interested in the

relationship with 21C because they saw it as a way to benefit from the results of *applied* research.

something from MIT." We were buying a specific piece of research they did for us, or we were buying their joint participation in a piece of client work, or something. This was not an easily understood concept, but it was very clear to us. We were contracting with MIT on at least part of this money and this relationship.

What are the consequences for research centers if they are unable to satisfy their sponsors?

Alternatively, what are the consequences for research centers that are overly sponsor driven?

**MIT Project Manager**: As long as there were multiple sponsors out there knocking on the door, it was natural to avoid difficult issues. But in my experience, all products have a life cycle and at some point, a downward trend. The question was, when did we really need to start being more "customer oriented"?

## Walking the Halls: How Does Research Get Applied?

Sponsoring companies understand the workings of university research, and the idea that researchers are often driven by interest in their questions and theory. Yet the task, if not for the person controlling the corporate purse strings, then for the person assigned to a liaison role, is to demonstrate value for the sponsoring company.

Sponsors provide funding for research, but the responsibility for translating research results into application is not quite so obvious. Funding often carries an implicit understanding on the part of the sponsors that faculty and researchers have been "hired" by the sponsor, and thus they should help sponsors use the research results. Faculty, meanwhile, are oriented toward, and rewarded for, reporting their research to academic colleagues in a way that distinguishes their research to existing literature and theory.

If it is up to corporate sponsors to implement the ideas that get developed and presented as theory, what tools and methods do they need to do so? The nitty gritty details of application and implementation are not what faculty are recognized and rewarded for, and hence beyond the traditional responsibilities of a research center. Although a promise for a translation from theory to implementation was an explicit part of 21C's mission, and one of the things that made 21C attractive to sponsors, the ability to do so was not well understood. Creating, applying and testing new theories which could yield and be proven by business results required a kind of collaboration which business and academic people were unfamiliar with. Without mechanisms for collaboration in place, in what ways could a sponsor ensure they were "getting value" from a research relationship with MIT? Each company was left to find its own answer. PCC, perhaps because they themselves had not initiated their MIT sponsorship, approached finding their answer a little differently. The PCC Center Director organized the 21C sponsorship like a consulting engagement, with a PCC Managing Partner "on the line" for funding and staffing issues.

**PCC Center Director**: I chaired a group of officers in our firm who helped me make investment decisions. It was in one of those meetings, when I was being brought up to speed about what had been going on at MIT, that the whole group concluded that we would get more by

having someone on the campus to oversee the investment. Basically, we came to the conclusion that we weren't going to get anything out of the MIT relationship unless we put someone on the campus.

**PCC Consultant**: [PCC Center Director] had already had discussions within PCC about the need to put somebody on campus to really understand what was going on with 21C. We still weren't quite sure what the initiatives were. I basically just "walked the halls" of MIT for a few months. It was very unstructured. I focused on areas that were of interest to me and the practice I was in. I tried to talk to faculty in organizational learning, system dynamics, anything to do with change, and then the Process Handbook. Our parent company had actually funded the Process Handbook as a special project. They just put the money towards it as a demonstration of their interest.

The PCC consultant was known to the PCC Center Director for her interest in learning and change.

In what ways might this kind of an assignment help or derail the consultant's career?

**PCC Partner**: I'm sure that a lot of our parent company's interest in 21C was more around the use of technology to affect things like virtual corporations and extended enterprises. Our interest was more in the items that help companies transform themselves, like the Process Handbook. We were very interested in the whole concept of knowledge repositories and using them to make people smarter about what they do, so they do it better, with less angst, and less folklore. We were interested in how we could benefit from this relationship so we could commercialize it as a consulting offering. That's why [PCC Consultant] went right into the Process Handbook area after we took over the sponsor relationship.

When PCC placed their liaison at MIT, they found a person who was enthusiastic about "learning" and its application to process redesign consulting. The PCC Consultant's enthusiasm, interest and willingness to spend time at MIT began to bridge the worlds of research and business.

## Summer Camp: Developing the Process Handbook

A few months after the PCC Consultant was assigned to 21C, it ran a "summer camp" for the Process Handbook (PH). The eight-week program was organized and led by faculty and research staff. It was attended by people from sponsoring companies, consultants working with 21C, graduate students, and new employees of 21C. The PCC Consultant was one of only two people from sponsoring companies to participate in this program.

Summer Camp included teaching people the concepts behind the PH and applying those concepts. Participants were divided into "work teams," and each team took on a different project. These projects included developing a web site, writing a "How To" manual, and adding examples to the PH database. The idea of "hands on learning" satisfied two requirements: it provided opportunities for sponsors to learn more about the

PH research project and enabled important work to further the development of the PH to get done.

The PCC Consultant worked on a team with an MIT affiliated researcher. Her project included adding healthcare industry examples to the PH database, work which was done using data from one of PCC's clients. People often think of research as a revolutionary, revelatory process. Yet much of the research process is a systematic and incremental accumulation of data that adds support and examples to an existing pool of knowledge.

**PCC Consultant**: [MIT Director] invited me to participate in the summer camp because the Process Handbook was intended to be useful to a consulting audience. He thought I would be able to raise issues and provide useful feedback, plus I would get to understand the concepts better. I worked with [MIT Affiliated Researcher]. We got some "ah's" out of it, but we never really got "AHA! s" out of it. It was more like "Oh, well, that was an interesting exercise." It was disorganized, I never saw the end product.

Do the expectations that research will results in "Aha's" influence perceptions of whether research is valuable, or not?

**PCC Partner**: We were the only sponsor to put somebody on campus full-time. I thought that having [PCC Consultant] there full-time and contributing some real-life examples to the Process Handbook during Summer Camp probably helped the folks on campus. At the same time, [PCC Consultant] would say being on campus allowed us to leverage the way things went.

Although "eureka!" kinds of insights did not emerge, the potential for the Process Handbook became clearer in Summer Camp. PCC's insights into potential PH applications inspired additional interest and continuing support for their relationship with MIT. The PCC Consultant and the PCC Partner said that the PH might provide a more structured way to capture and access knowledge from consulting engagements. The concepts behind the Process Handbook were also seen as a methodology that could complement or perhaps even replace current reengineering approaches. Since PCC's sponsorship included special project funding, PCC decided to move ahead.

**MIT Director**: PCC's parent had the Process Handbook as their special project, but when PCC took over the sponsorship different people came on, so it was sort of coincidental that we arrived back at the same place. It seemed to me that we spent most of '96 going back and forth about what their special project would be.

**MIT Project Manager**: [PCC Consultant] was put "on the ground" full-time to work the MIT relationship in the spring. PCC was the first of our sponsors to do that. I think it was extremely important—it allowed her to find out what was interesting here, and what PCC might learn from us. Their special project evolved over time, through her participation in the PH Summer Camp. She began to get really interested in the potential of the Handbook, and got people at a higher level in PCC involved.

The PCC Consultant also began to develop friendly relationships with several 21C staff members as a result of spending so much time at MIT.

Note how long it took to get started. What are costs and benefits of the extended time period and interactions which this process required?

**PCC Consultant**: In August, I presented to the PCC steering committee and said "We've basically got a couple of areas we might look at." The list of possibilities was compiled based on my interests. I actually knocked on all the different researchers' and professors' doors myself and said, "Okay, let's look at each of these and see who's interested." It seemed to me that the only way you could make a special project happen was to come up with an idea that you could jointly massage so that both sides get something out of it. You didn't just go to [MIT Director] or [21C Manager] and say "I want to do this."

**PCC Partner**: I wrote a proposal to PCC over the summer about the need to create a body of knowledge that was available electronically within the firm. The idea was that it would help get our global practitioners up to speed on the companies we served, and the core processes that represented their work. This firm rejected it as too premature. The PCC Center Director was the only supporter.

When I got involved with MIT in September, I saw the opportunity to take the work back to PCC and say, "See, our ideas weren't unfounded, these folks have been working on this for years and, assuming that this comes to fruition, this is really the way we ought to go." I was pretty intrigued by the Process Handbook.

When we presented the Process Handbook as the special project, we were already telling the firm that if they went in this direction, it could radically change the face of consulting.

## Transplanting "Hothouse" Orchids: Nurturing Research Ideas

The Process Handbook validated the Managing Partner's earlier ideas, and linked the special project to his interests. Not only were interests linked, but the concepts suggested a possible change in the way consulting business could be conducted. In the presentation, PCC senior partners agreed to the value of the project.

As the PCC Consultant thought about organizing the project, she decided that a test should involve the redesign of a real business process. Finding a setting for this test, however, was difficult. This kind of project had never been tried between PCC and MIT before, never mind with a company as a third player.

In order to find a company to work with, the PCC Consultant wanted to present the potential for using the Process Handbook in as positive a light as possible. The researchers, however, were cautious about setting high expectations. They were concerned that overly optimistic expectations would lead to disappointment if they found that it was premature to put the Process Handbook into practice in real life settings. Like orchids carefully grown in hothouses, research ideas are unlikely to survive in the environs of the real world unless they are carefully nurtured. Setting appropriate expectations was a topic of considerable discussion.

**MIT Director**: I pushed back a number of times against

[PCC Consultant] and her superiors saying, “It’s not the right time to make this the definitive test. It’s just a first use and we’ll learn a lot from that, no matter what.” It wasn’t realistic to expect the first use to prove conclusively whether it was good or not. In fact, I believed that our expectations should have been that the first time out, it probably wouldn’t work, and then we’d be pleasantly surprised if it did.

Those more directly involved in sponsor relations were anxious to have ideas and concepts tested.

**CCS Manager**: You can theorize all you want, but eventually you have to start testing and seeing what the real world says about all your ideas.

Since it was PCC’s idea to involve a third party, they took responsibility for finding a suitable, and willing, company.

**PCC Consultant**: When I spoke to FinServ I was quite honest. I said, “In our opinion, this has strong potential and we’re very interested in it as another consulting method, or as a way to organize and leverage knowledge. However at this point, it’s unproven and experimental, so it is quite possible that you could participate in this, as we are, and not get anything out of it. That’s the worst case scenario. The best case scenario is we both walk away thinking this was a tremendous, insightful and wonderful experience.”

## Finding the Research “Subject”

The PCC Consultant’s initial efforts to enlist a PCC internal group as a “subject” were unsuccessful. She then contacted a consulting group at FinServ. This group, given their work, was thought to be interested for the same reason as PCC: the Process Handbook was a new methodology which could revolutionize the business process redesign. They too declined — but subsequently FinSys, another part of FinServ, contacted PCC with a consulting request. The FinServ request was made by a former co-consultant and colleague of the PCC Consultant.

FinServ’s request was unusual for PCC: could they assist in some redesign work an internal FinServ team had been doing? PCC did not consult in “support” roles, but based partly on the personal relationship and partly on the opportunity to use this situation to test the Process Handbook, they agreed.

**PCC Consultant**: When [FinSys Analyst] called, I thought “Oh, this is perfect!” We had worked together at several different consulting firms so we had a long history. We kept in touch after she left PCC. She had also recently hired [FinSys Designer] from PCC.

They hired us because they need re-engineering support and their internal resources had failed them. They needed help to meet their deadlines. It was primarily relationship-based. Basically, we got the work because of [FinSys Analyst].

**PCC Partner**: PCC viewed FinServ as a key account—current and future—so it was just a natural extension of PCC’s consulting practice there. It was probably easier for us to say we’d do the work because we assumed that [FinSys Analyst] understood the kind of work

consultants could do for a company, and wouldn't have asked us to do something she didn't think we could do.

**PCC Adjunct Consultant**: It was an unusual role for PCC, because we weren't driving the project. We didn't normally take work where we were in a purely supporting role. But here we would play a support role to [HR Planner] and [FinSys Analyst] to help them meet their deliverables. They basically didn't have enough people who had a re-engineering mindset.

Short, multiple projects are more akin to typical experimental settings.

**MIT Director**: I had some reservations about whether FinServ was the right place, and whether it was right to commit a serious effort at one particular place. [PCC Consultant] had some warning flags, and it wasn't obvious to me that this was the right site.

It would have been nice to be able to say "These are the kinds of situations where we'll get the biggest payoff," but we didn't have that kind of accumulated knowledge at that point.

**PCC Partner**: As a support team, we weren't driving the project. We couldn't force the client to define their up-front expectations for the final work product and then match the final work product to the expectations and say "We're done." If I were cynical, I'd say it was a no-win situation. Politically, people would always be able to say, "This project didn't meet my expectations."

I talked with FinSys President about the fact that we didn't normally take on projects like this. He empathized and said "I don't see how you guys can win here frankly. If we behave really well and if everything goes well, we will take credit for it. If the thing doesn't go so well and your names are on any of the documents, you will share the blame for it."

What are the personal career implications and project implications for consultants working on projects like this?

Would the nuances of this setting provide a valid test for the Process Handbook?

## The PCC Special Project: High Stakes for Participants

Once established, the special project created a new set of challenges. The way the special project was conducted would not only test the PH itself, but the relationships of everyone concerned. PCC was one of the 21st Century Initiative's major sponsors. The special project would have an effect on their continued involvement. Having been on the front line of sponsor relations, the MIT CCS Manager was relieved and excited that the project was finally being arranged.

**MIT CCS Manager** The fact that we were able to come up with a project that both sides found interesting and meaningful was a significant victory. It was a big step towards trying to cement the relationship between PCC and 21C. As someone responsible for sponsor relationships, I saw this as a really interesting first step. "Now," I thought, "We're going to push a little bit to see

what happens when this goes out in the world." I believed that would be really good for research.

**PCC Partner**: If we were going to spend money going forward on these programs, PCC was going to want to see some more finite results at different time phases than we had seen from MIT in the past. If those didn't square with the academic research program, I knew that we would have to change our expectations or decide that we didn't want to spend money at the founding sponsor level. We might decide to spend money somewhere else because we needed to get at commercial product issues faster. [If it came to that choice], I didn't know which way that would go, frankly. But I felt that was the decision that would eventually get teed up.

Individuals' interests and values are not always shared. Although MIT's project structure provided a "safe haven" for exploration, at the end of the day, people still have to justify the investment to their institutions.

**MIT Project Manager**: I found all the prior Process Handbook work very interesting, but having come from the private sector, and having seen a lot of problems and been a part of solving them, I was anxious to see the Process Handbook actually used. There was something exciting to me about being able to contribute to solving a real company's problem. It was clearly stated that one of the Process Handbook's intentions was to provide a new way and a better way of process redesign.

21C had several key staff members with extensive industry backgrounds. In what ways would this orientation help the 21C project?

**MIT Affiliated Researcher**: Having a real world example to study and to be able to write about was more important to me than being able to show our sponsors "See, it works." This wasn't to get us better sales copy. There really was, I think, a learning aspect to all this.

From a research standpoint, advancing research is itself compelling. The expectation is that new knowledge would itself be beneficial.

**PCC Consultant**: This project was almost a turning point, in the sense that it would define how we wanted to structure relationships going forward. We wanted to be able to say, "We need to work better with a university from this perspective and a university needs to work better with us from this perspective." Clearly, the 21C relationship hadn't been an easy road for either party.

Finding value in ideas whose genesis was in the "halls of academia" had become increasingly important to PCC, as well as to other sponsors of the 21st Century Initiative. Participants from MIT and PCC viewed the special project's success as critical to their ongoing relationship. For MIT, it was a test of years of concept and theory development. For PCC, the project would enable them to see if they could find value in the concepts whose development they had funded. In addition, the involvement of FinServ, a potentially large client, added an element of business vulnerability for PCC. For its part, FinServ was opening its business process redesign to outsiders, and committing busy staff members' time to an "experimental" project. The special project created an element of risk, and the possibility of reward, for everyone involved.

# 3 And Then a Miracle Occurs: the "Black Box" of Process Redesign

Solving complex problems usually requires long and careful study. Oftentimes people who are not directly and actively engaged in research can not see how results or solutions are derived. Many people have seen one version or another of a cartoon showing a scientist standing at a blackboard covered with equations, pointing to the final answer "$E= mC^2$." Somewhere amidst all the equations a compelling "answer" appears to have been miraculously discovered, but it isn't clear to ordinary human beings how the answer came from that set of steps.


This cartoon is a metaphor for how many people in organizations experience business process redesign activities. Although people are asked about what they do and how existing processes work in great detail, understanding how new process designs are developed from that information is not always clear to them. Dependent on the experience, creativity, and intuition of the "expert" process analysts, the conversion from old to new processes is a "black box" largely impenetrable to everyone but those experts.

Given the small group of experts who make those decisions, it's not surprising that many people in companies view reengineering efforts as a waste of time.[7] Tom Davenport, one of the first people to write about reengineering, summarizes why reengineering efforts generally fail:

> "Reengineering treated the people inside companies as if they were just so many bits and bytes, interchangeable parts to be reengineered. But no one wants to "be reengineered." ... No one wants to see 25-year-old MBAs in their first year of consulting ... putting the company's veterans through their paces like they're just another group of idiots who "can't think out of the box."[8]

[7] CSC Index's 1994 "State of Reengineering Report" found that 67% of these redesign efforts were judged by companies to have produced mediocre, marginal or failed results.
[8] Fast Company, Vol. 1 No. 1, 1995, p. 71

The Process Handbook (PH) is a tool people can use to open up and make visible the decisions that lie in the "black box" of redesigning business processes. The ideas for the PH are based on practical experience that was developed into a theory and systematic method for organizational process description, analysis, and redesign.

**MIT Director**: Early in my sabbatical, I wrote the proposal to the National Science Foundation for the initial funding for the Process Handbook project. During the course of writing the proposal, I found myself articulating things that had been implicit in my mind for years but that I had never said. In particular, one of the two key notions of the project, the notion of specialization of processes, just came out in some drawings I did as figures for that proposal. It seemed very obvious in a certain sense, but I had never seen it articulated that way. That was a very satisfying experience.

The Process Handbook and coordination theory ideas were developed collaboratively with other faculty and graduate students.

**MIT Affiliated Researcher**: [MIT Director] coined the term "coordination theory." It came from a paper that he and I co-authored which laid out the basic theory. It was hard to tell where the ideas came from. It's been said that one of the signs of a good partnership is when you can no longer remember who's responsible for the ideas. They were definitely part of a joint discussion.

The notion of creating knowledge through collaboration raises issues in the academic community, where identity, status and careers are determined by the new ideas and theories for which you are credited.

**MIT Director:** I was able to draw some of my graduate students in [to the PH research project] and to keep them involved even after they went off to the far corners of the earth. But it felt to me that the initial creative insights [for the PH] were mine. The idea of a repository had been implicit in what I was doing for many years. This was a way of doing the "chemistry of organizations."

I began to think of the Handbook as a kind of periodic table, and organizations were the molecules built up from the elements represented in this table. So, if you wanted to be a chemical engineer synthesizing new compounds, it would be very useful for you to have a periodic table. Not only would that give you the elements to be combined, but they would be structured in such a way that would suggest some things about the constraints on their combinations, like valances.

The Process Handbook was like a set of building blocks organized in a way that suggested how they could be combined.

Collaboration on the Process Handbook extended beyond the university to include members of sponsoring companies.

**MIT Affiliated Researcher**: The last year I was at [previous job in a computer company] I was one of the liaisons to MIT's CCS. I was very involved in the set of issues they were tackling about how to organize knowledge around processes so that you could collaboratively design better solutions to a given problem. What got me excited about the research going on here was that it directly addressed this issue of how to

think about all of the various alternative ways of "doing something." Nobody had really come up with any innovative ideas in this regard. [MIT Director] and these former graduate students were coming up with a set of base principles to organize the knowledge around the processes.

**MIT Affiliated Researcher**: [MIT Director] always used this cartoon where a guy's got a bunch of formulas up on the board and then in the middle it says, "And then a miracle happened." The Process Handbook was addressing that problem. It was saying "Okay, so making changes in organizations is really hard, and this vision of process re-engineering is sort of interesting, but the piece that no one ever talks about is —So where does this brave new idea come from anyway?" It has always been invisible.

The ideas behind the PH weren't readily apparent to most people. This quote is one of many that illustrates the difficulty people had in understanding the PH.

**MIT Student**: I had read about the Process Handbook in a couple of papers, but until I actually had to navigate around and put some processes into the database I never really understood things like the "generalization/ specialization tree."

Using the PH took considerable effort, and required a commitment which was hard for the casual user to justify.

**MIT Affiliated Researcher**: One of the issues that I bumped up against in trying to use the Process Handbook with different groups was the startup cost, in terms of the kind of cognitive load that it takes to get going. It seemed a little bit steep compared to what people would potentially get out of it. It was hard. There were a lot of little options on those menus, and exactly which one you picked could have a big impact.

**MIT Affiliated Researcher**: The representations in the Process Handbook were useful in a very specific way, which was to make people think. Probably the most useful thing you could do would be to say: "Here are 17 ideas that you didn't have before. Maybe 14 of them turn out to make no sense, two of them turn out to be bad ideas, and one of them turns out to be a really great idea that you would have never gotten otherwise."

Do people hold an expectation that brilliant and novel insights are needed for the labor of research efforts to be justified?

**MIT Project Manager**: You weren't likely to get any Einstein-like insights from the content of the Process Handbook. Although we were finding that the database, even in its rudimentary form, was stimulating thoughts and giving people ideas, that wasn't its strong point. It was the process of wandering from key words down the branches of the specialization tree and then up and around and looking at distant analogies that provided real insight.

**MIT Affiliated Researcher**: At some level the Handbook was a theory of design, and the only way you could test a theory of design was to use it to design something, and then see whether or not it was useful for people. Maybe I have a limited imagination, but I really could not imagine any other test that would convince me that the Handbook ideas were useful than to give it to people who were trying to think about designing processes and see whether or not it gave them some insight that they couldn't have gotten some other way.

Is the ultimate valid test of a concept, like the PH, a judgment based on the results produced?

What other tests would be helpful, and how could they both test and develop the concept?

The "and-then-a-miracle-occurs" metaphor implies a dual challenge in the context of the 21C special project. The challenge extends from the issues of how new knowledge around the Process Handbook is created, and into new knowledge about how to better undertake reengineering projects. What could be learned about the Process Handbook itself in using it to design new hiring processes for FinServ? What could PCC and FinServ people learn about business process redesign as they applied the Process Handbook?

# 4 "Fix it!": The Business Imperative

It was not just coincidence that FinServ became part of PCC's special project. FinServ had enjoyed successive years of double-digit growth, which had prompted hiring many new people.[9] The FinSys Analyst who hired PCC, and the FinSys Designer who participated in PCC's special project, were new employees. They were attracted to FinServ because of its dynamic environment, and the less demanding travel schedule associated with working in a single corporate setting. Both were former consultants and colleagues of the PCC consultant. These historical relationships would be critical to the special project.

## The Problem

FinServ's rapid personnel growth, which was close to thirty percent annually, had created numerous, autonomously developed hiring processes within different divisions. While appropriate for a smaller company, this informal approach became a challenge as FinServ grew. Different parts of the company often found themselves competing for, and sending conflicting messages to, job candidates.

In late 1995, the firm's CEO, fed up with complaints of bungled hiring practices, mandated that the problem be "fixed." The CEO's request increased the attention, scrutiny, and politics of redesigning FinServ's hiring process.

**FinSys Designer**: The "Hire to Retire" project was born in the mind of [CEO] over a year ago. He felt that the process of hiring people to FinServ had grown out of control. His concern was that, in addition to just being inefficient and costly, we were potentially disenfranchising thousands and thousands of potential customers every year by the way we handled them in the interview process. They might think that an inefficient recruiting and hiring process correlated to an inefficient money management process and decide not to invest money with us.

In interviews, several employees reported that their own personal experience of being hired by FinServ was no better or worse than their experiences at other companies.

**FinServ HR Director**: For instance, we did a really lousy job of managing candidate communications. After a resume got scanned into the database, it was conceivable that somebody could get an offer letter and an "I'm sorry" letter on the same day. Or worse, two of our several dozen, very decentralized companies might make competing offers to the same candidate.

**FinSys President**: Our hiring practices were a pain in the neck. People were saying: "I have to write my name out 33 times. I have to fill out 51 forms. I show up at

[9] The urgent need for rapidly developing skilled staff in support of business growth opportunities had driven FinServ to create new programs and approaches. FinServ's innovative and successful programs garnered general management interest and were written up in prestigious publications like the Harvard Business Review.

work and there's no telephone, there's no office space. I don't have a computer, so it takes me two weeks before I can even be productive."

**FinServ HR Systems**: The roles of HR are dramatically changing today. We are automating the administrative aspect out of oblivion, which tended to be the functions that got more and more specialized. If you weren't thinking about the employee as a customer, it was very easy to stay in your little functional silo.

The CEO was the most visionary human being I had every known, and he picked up on something that most of us did not pick up on. He was looking at the total experience from the candidates' and the employees' perspective. Those of us in the bowels of HR only saw a little piece of the process.

Financial Systems Division (FinSys) was formed within FinServ to develop technology solutions for Human Resources. FinServ's management held the belief that they should be entrepreneurial at all levels — what an internal group developed should and could be a viable product in the marketplace. FinSys was to develop information technology systems for cataloguing, tracking and managing candidates and then, if they were hired, systems for updating employee payroll and benefits (i.e. tax, insurance and pension) databases. The leadership for "fixing" FinServ's hire process was to come from the new president of FinSys.

The FinSys President's enthusiasm for developing new solutions and marketing them was tempered by his knowledge of the challenges in implementing these solutions. Changing processes and practices often redefined and eliminated people's jobs. He knew the CEO supported FinSys' approach to solutions, and that once he set these wheels in motion, FinSys itself would have to overcome the organization's resistance and politics.

**FinSys President:** So [CEO] said, "I want you to figure out how a company can outsource this whole set of services." He wanted to start by fixing our own hiring processes. That was within two weeks of the day I arrived at FinServ.

Reengineering hiring could not be done without co-opting the HR function. So HR had to participate, but wasn't interested. In fact, there was nobody in the HR organization to collaborate with on this activity for a long time. They felt this was a FinSys project, and wanted nothing to do with it. "Great," I thought. "We have a joint activity, but a large part of the organization that is going to have to live with this doesn't want anything to do with it."

First I tried to talk [CEO] out of it, saying, "Why don't you put this aside for now?" We had a lot to do without that internal work. That worked for a couple of months, but he was the CEO. If I wasn't going to do it, he would basically have found somebody else. And then I would have had internal competition. I wanted to compete in the external market, not internally. So I took it on.

What conditions need to be in place to promote change when there isn't direct line or reporting responsibility?

**FinServ HR Planner**: I think [FinSys President] put off tackling reengineering hiring because he recognized it as extremely complex involving an organization over which he had no influence. He probably recognized a difficult situation when he saw one, and he wasn't going to enter in unless there was good reason.

**FinServ HR Director**: HR sat out in the businesses. The business HR person reported to the head of the business, who reported to the CEO. Well, there were ten people who reported to the CEO. Eventually the senior person in Human Resources in the businesses reported to the Operating Committee member who reported to the CEO. So if the CEO had an idea and said "Go do this," he didn't consult any of those HR folks before he said it. If a group suddenly cropped up and tried to say to these people, "We now have the charter by the CEO to go do this." It would be like, "Sure, okay, fine. Let me know when it impacts me." You could plan communications in a project plan, but you couldn't plan people paying attention.

When the CEO made his demand of FinSys, the FinServ Vice President of Human Resources and Vice President of Staffing positions were vacant. Therefore, in addition to developing technical solutions, FinSys would have to engender the needed cooperation among multiple autonomous units for the proposed redesign.

## A Hiring Solution that Backfires

At the FinSys President's request, an internal consultant spent several months interviewing people within HR and related functions, documenting and analyzing the firm's current hiring processes. She completed the assignment by writing a report that included possibilities for technology-assisted solutions to improving hiring processes. FinSys expected the report and its recommendations to be accepted, and was surprised when HR managers agreed with neither the analysis of problems, nor the suggested solutions. Although technically elegant, the plan to change hiring processes raised more issues than it solved.

**FinSys President**: We did a very high-level process flow. It wasn't really re-engineering, because it wasn't detailed, but we actually flowed out a new hire process. Underneath we listed all the questions that had to be answered around each of the segments. There were policy issues, there were process issues in terms of roles and responsibilities, and then there was technology. It laid out the questions you needed to answer along the way—it was a road map for really building a new hire process.

When we asked HR how they wanted to answer these questions, they basically said they weren't interested. They wanted to re-engineer recruiting, staffing, and the world of HR completely—a total re-engineering and benchmark.

Managers from HR and FinSys agreed to form a hire re-engineering team. In recognition of the fact that re-engineering hiring processes was looking at the organization by processes, instead of the functions that everyone was organized by, a new steering committee was formed. This steering committee included the president of FinSys, the heads of functional areas whose work was affected by hiring processes, and the newly hired Vice President of HR.

With close to fifty different autonomous business units, each with its own busy HR recruiter, FinServ had a wealth of experienced HR staff to potentially serve on the hire team. But since neither the purpose of the project nor its leadership was clearly communicated, it was difficult to find the right participants. The hire re-engineering team worked together over many months to document and analyze FinServ's hiring practices. Handicapped by a lack of resources and support, they struggled to complete the work.

**FinServ HR Planner**: The dedicated people we got to work on this were, for the most part, very junior and/or very new to FinServ. The kinds of skills that we were asking for in terms of being able to analyze a process were quite foreign.

## The New Enrollment System: Assuring a Deliverable

Frustrated at the pace of the hire team's work, and spurred by occasional inquiries from the CEO, the FinSys President decided to take matters into his own hands to develop something tangible as evidence of progress to show the CEO. A "new hire enrollment system" would automate the process a new employee went through in filling out forms. Using his own budget for the project, the FinSys President initially hired a consulting firm, and later assigned the people who had been hired from PCC to lead the enrollment system project.

**FinSys President**: I had a CEO who was looking at progress, and HR had basically been playing around with this thing for months. So I went off to the side with a project that I called the "new hire enrollment." I basically said, "What's the universe of possible alternative decisions they could make on how they want to do new hiring, and is there a segment of the process, a technology or an operation, that we could create that would accommodate any variation they could think of?"

Although the goals of re-engineering are to redesign, is it common to automate existing processes because of the complications involved in changing them?

**FinServ HR Systems**: The only thing [FinSys President] could do was to look at our current processes and figure out ways to automate them. Clearly, you want to look at where the roads should go, not pave the cow path—but we really couldn't get into the strategy and what the future vision ought to be without a head of HR.

**FinServ HR Planner**: FinSys had two roles in life, one of which was to be the outsourcing partner for FinServ HR, and the other was to create commercial products to sell to other companies. There was a lot of suspicion about FinSys's motivation. People felt they were just going to turn this work into a commercial product at the expense of HR.

**FinServ HR Director**: There were a lot of things we could fix, but a database wouldn't do it and saying , "Here's a book, go A, B, C, D," wouldn't do it. There were a lot of things that couldn't get put into little boxes on a flow chart. There were plenty of things that could be automated, and products developed that could be commercialized. But you couldn't automate hiring. You couldn't automate selection. You couldn't automate recruiting. We didn't understand why there was so much focus on hiring.

Although the enrollment system project partially addressed the concerns of the CEO, it also raised the anxiety level within FinServ's HR community, further complicating the hire teams' efforts.

## Getting Help: Hiring PCC

The hire team was aided by internal and external consultants at various points in the project, and the use of different methodologies added to the group's difficulties. The feeling that the reengineering was being done "to" them, rather than by or for them, heightened the uneasiness of the HR people.

**FinServ HR Director**: Roles were never clear, and everybody was doing their own thing, hiring different people and consultants, and what were they all doing? Communication was really bad, and it became highly politicized right away. I really began to feel like the consultants owned it, not FinServ.

**FinServ HR Systems**: Everyone underestimated the size and complexity of this project. We worked with a number of consulting groups both internally and externally, and we kept running into this attitude of "This is HR work, how complicated can it be?" And the answer was, "incredibly complicated, because it touches the entire organization."

**PCC Adjunct Consultant**: There was no consistency—a lot of different people came in and worked according to their own methodologies. In retrospect, I think that by the time PCC got there, people were just tired of the topic and tired of working on this.

The difficulties of completing the re-engineering analysis became overwhelming by the middle of the fall of 1996. The FinSys Analyst leading the hire team contracted PCC to help finish the analysis.

**FinServ HR Planner**: We intended to spend two months focusing on the "As is," doing an analysis of the current process, costing it out, understanding the metrics. At that point, mid-November, we realized that we needed much more support on the process redesign part than we had anticipated, so we asked to get PCC involved.

**FinServ HR Systems**: I remember that [HR Planner] was quite excited about the relationship with PCC, because one of the things that they were going to try to help us with was to think "outside the box" and to be innovative. If you are used to doing something a certain way, it is harder to think of doing it differently. HR people were sort of ingrained in how they did things.

## The "As-is" Report

PCC helped FinServ's hire team to complete the data gathering and package the "as-is" documentation into a report. The hire work at FinServ was led by FinServ personnel; PCC people were working on a time and materials basis. This arrangement was uncommon for PCC as their clients generally hired them on the basis of achieving certain outcomes.

**FinSys Designer**: By the time PCC arrived, the project team was in the process of preparing for their first major deliverable to the steering committee. PCC was brought in to support the work to prepare for the deliverable. It turned out to be a very frustrating experience for them. Their understanding was that the analysis was complete, and their main role would be to guide the development of the final report. Instead, they found that the analysis was still incomplete and many members of the HR team were unwilling to allow PCC to play any role in helping to complete it.

**FinServ HR Director**: The "as-is" project presentation meeting went horribly. The report was 60-something pages and people didn't know what was in there, couldn't get through it. The meeting started 20 minutes late. They went through the "as is", and were challenged on the validity of their information. A couple of times people said, "Well, yes, fine, so what? Where are we going with this?"

**PCC Partner**: People were dissatisfied with the

interim work product, but we had no say in how that "as-is" report was put together. It wasn't our work, and that is an unattractive position to be in.

Reactions to the hire report left PCC in an awkward position. While PCC consultants had little influence on the hire team's presentation, FinServ management's perception of the report reflected directly on PCC.

## Conflicting Initiatives: Asking for Clarity

By early 1998, there were several ongoing change initiatives in HR. The multiple initiatives, some with overlapping goals and membership, contributed to the confusion about the purpose and focus of the hire team project. The combination of uncertainty over roles, purpose, and negative reactions to the hire team's "as-is" report, led to a meeting of the hire team and the HR Vice President in early January.

**FinServ HR Planner**: A seminal moment was when the HR VP was confronted by [PCC Consultant], [FinSys Designer] and myself. We said we could not do anything until it was clear who owned the hire work, and until the various different initiatives were integrated. That led to a series of meetings during January and early February of all the main players. They really did a lot of clarification about what they were doing and who was in charge. Those issues had not been totally resolved up until that point.

**FinSys Designer**: With [FinSys Analyst] on maternity leave, I was now a joint owner of this work, and I thought the "as-is" report was weak in every respect. I also felt exposed and didn't want to go forward. We decided we needed to bring some of the issues to FinSys President and the HR VP's attention.

**FinServ HR Systems**: We were trying to re-engineer a process and we didn't have a process owner. If I had to do this again, I wouldn't start without a process owner. Somebody needs to take the lead, set the tone, and make some decisions, particularly as you start trying to figure what the future should look like. This was really not something you could do by committee. At some point, somebody had to be held accountable, who would be willing to say, "I own this, I am going to put my neck out."

**FinServ HR Director**: The meetings were about how does the hire team fit into, or should it fit into, where HR is headed. Did that mean pushing back on the CEO saying, "We know you had something in mind here, and that's great and we're going to do a lot of it, but it's going to fit into this whole thing. So, it's not just, by the end of April we're going to have a machine that fixes things that we can sell."

The enrollment system work continued, and it was to be presented to the CEO on April 1.

While the senior managers formed a steering committee and met to decide on the scope and ownership of the various initiatives, the activities themselves continued. The hire team began working on developing a vision for a new hire process, as the team working on new enrollment continued its system development project.

## Keeping Two Creative Approaches Separate

PCC consultants continued working with several members of the hire team to improve the "as is" analysis and create "visions" for possible alternative hire process designs. The PCC consultant, skilled in creative approaches to process redesign, led these efforts much in the traditional way PCC conducted redesigns. In parallel, she and two hire team members began working with MIT researchers. The MIT work involved examining FinServ's hire process, but it was kept separate from PCC's efforts with the hire team.

**PCC Adjunct Consultant**: We were asked to continue to help drive to a vision. We interviewed all the people who would be part of the process and had some brainstorming and creativity type sessions. We tried to think of how you would go about hiring in a new way, of different ways to facilitate the process.

**FinServ HR Systems**: [PCC Consultant] did some fascinating presentations on creativity. We were trying to assume that nothing was sacred and we could do things that were radically differently, if that was right for the business. The exercises were great, but on the other hand, I don't think it is possible to look at how things are currently done without also thinking about alternatives. Your brain doesn't work that rigidly. You'd look at somebody and ask , "Why do we do it that way, wouldn't this be so much better?" Ideas popped up throughout the entire process.

**PCC Adjunct Consultant**: To some degree, I think [PCC Consultant] was using Process Handbook concepts that resided in her head based on all the work that she had been doing over the past year with MIT. It was never explicit that she was using

it. The team was never educated in the Process Handbook and some of the concepts.

**PCC Consultant**: We were driving to use the coordination theory as an analytical framework for coming up with the options for a vision. We weren't

going to actually say, “This is the hire team’s vision and we used coordination theory to get there, or based on distant analogies and all the information in the database, we’ve determined that there are these options in these various components and here’s how we would evaluate which options you might want to select.”

I ended up, subconsciously, creating a line between what we were doing at MIT and what we were doing at FinServ. [HR Planner] kept saying to me, “When are we going to have some of this work come into this project?” and I kept saying, “We’re not there yet, we’re not there yet,” because I couldn’t figure out how we would present it. And if I couldn’t understand it, then I sure wasn’t going to bring it in front of FinServ. I had separated the whole process out, because I wasn’t sure what to do with it.

Did the PCC Consultant become gatekeeper of knowledge, rather than her expected role as purveyor of knowledge?

In what ways might the PCC Consultant’s stance facilitate and inhibit project progress?

The PCC Consultant’s insights from the meetings with MIT were a kind of knowledge which she could not communicate. Because she was unable to explain these possible alternative process designs, and still wanted to keep the research work with MIT separate from the client engagement, she hesitated in presenting the PH design alternative to FinServ.

## Clarifying Ownership

Ongoing FinServ meetings, prompted by the hire team’s questions about hire process goals and leadership, resulted in the recently appointed VP of Staffing claiming ownership of the hire process redesign. The leader of this effort was a colleague of the VP of HR, coming from a general, rather than HR, management background. When the new Staffing VP took over, PCC’s work with FinServ’s hire team ended. There had been no direct influence on the hire team from the MIT research project.

**FinServ HR Planner**: The Staffing VP explained to me later that when she walked into this new group of 60 people in staffing who would report to her, she realized they had no idea about what was coming. She was responsible for all these people who would have to do things very differently than they were used to doing them, and they just didn’t have a clue. She was going to have to really get them on board with these changes, and put all her efforts into that.

**FinServ Staffing VP**: I remember when I was hired saying, “Tell me a little bit about ‘hire’,” and the interim director said, “Oh, it’s a fast-moving train, just grab on to the caboose and hold tight, that’s about all you can do to impact it.” There was really a feeling in the staffing organization that they had no control and were being told what to do. People here really felt “It’s being done to

What are the ramifications of assuming leadership of a process that someone else has initiated?

us."

**PCC Consultant**: We would come in and say, "These are the decisions you need to make, by when." And they'd say, "Absolutely right," but nothing would happen. The time frames just kept slipping. We were working on a time and materials basis, and they kept just extending. We started to say, "This is not an effective way to use us." They did not understand how to get strong value from us by letting us help them drive it.

People commented that the PCC Consultant became the process owner.

**FinServ Staffing VP**: At one point, [PCC Consultant] stood up in a meeting and said, "You guys have got to get it straight about what you're looking for and where we need to go with this project, and until then, we're not doing anything." I was really taken aback, but I think she was right-on. If I was confused as one of the leaders of the initiative, then it's no wonder that [PCC Consultant] stood up and said so passionately what was really on her mind. It must have been frustrating for her, too. Anything she delivered could be right or it could be wrong. I'm sure it felt like a lose-lose-lose proposition.

**PCC Consultant**: I think we surfaced issues to the point where they had to be addressed. We had a sort of turning point meeting, where we were pushing very hard to have the same timelines as the [FinServ Staffing VP] and her team. We said, "We are one team." That really forced the issue to a head. We provided value for hire, because we surfaced the underlying, deeper issues about ownership and responsibility. Those were not things they were ready to address, which ended up killing our project, but it was the right thing to do.

In what ways did PCC become a catalyst for change at FinServ?

**FinServ Staffing VP**: Because of the lack of ownership or responsibility, PCC became the owner, telling people how to do the work. I remember when PCC said, "Only 10% is value-added." The staffing group just went berserk: You're telling me that 90% of my job isn't value-added? They said "How dare someone come in, tell them what their work was and how it should be done. " I actually had to have [PCC Consultant] and [HR Planner] step away for a while. That didn't feel good. They were great about it, but I

The decisiveness and drive PCC said was needed was some times perceived differently by FinServ.

had to remove them from the initiative to let me stand out in front.

**PCC Adjunct Consultant:** The political situation was fascinating. In the beginning HR was asking a lot of questions like "Aren't we a client for this new service offering? And if we are, then why aren't we really involved?" FinSys basically said, "You have to do it." Then HR started to think, "Why are they telling us what to do? That is not your role or responsibility." I thought it made sense that hire went back to HR, and that enrollment as a service offering went to FinSys. In the end, the projects resided where they should, and it was a

This consultant worked primarily preparing the enrollment systems for its debut with the CEO.

win-win situation for everyone.

## That IS How We Do Our Work!

The Staffing VP held an off-site meeting to look at the current hiring processes. She had, in previous positions, led other groups through process redesigns. Working together, the staffing group documented the way they did their work, and its many interdependent connections with other functions at FinServ.

**FinServ Staffing VP**: We had a 3-day offsite, and on the first day I put up the "buckets" of our work. From a requisition to a new hire, the process is really almost always the same. They said "No, that is not what our work is" and I thought, "Oh, my God, I've been here for two months and I don't get this?" We did a lot of work the next couple days. People made presentations and talked about how they did their work. We put up the map on the third day and they said, "Oh, that IS how we do our work." But they had to internalize it.

Would understanding their work better help staffing members in making changes?

When I came back and debriefed the others, they said, "Staffing did this?" There was a very low opinion of Staffing. This stuff isn't rocket science, but Staffing needed to feel like they owned it. HR added a lot of value, but they suffered because they were not the only part of the process. They understood how things were connected, but they didn't know how to articulate, influence, or change it.

**FinServ HR Systems**: The concept that the staffing organization had some responsibility for employees having a desk and a chair and a telephone the first day was very foreign to them initially. They just felt that was not their job. They tended to think only of the work they touched directly, and not in terms of a whole process. As they thought through the role of staffing, people started to say, "Well okay, maybe it is part of my role."

**FinServ HR Director**: Before that meeting, staffing defined their roles in very bounded terms. Afterwards, they realized that they had to take some responsibility for the whole hire process and work with all the other functional areas that support those different pieces. It was a very customer-oriented approach, which was a new concept for the organization.

Is this <u>always</u> true? If so, what responsibilities does it place on the Process Handbook designers and users?

**FinServ Staffing VP**: I learned the hard way. You can have a vision and you can create a vision, but the development of a vision into reality has to be done by the people who are doing the work.

The role which the Staffing VP assumed began to resolve issues of leadership in the hire process changes at FinServ. By declaring herself leader, and directly involving the people whose work would change, the Staffing VP was able to develop the consensus that had been lacking during the past year.

# 5 A Flock of Geese: Taking Turns at Leading

To what degree is a shared understanding necessary to guide participants' collective actions in any collaborative process? Given the varied characteristics, goals, and cultures of MIT, PCC, and FinServ, the *a priori* shared understanding among special project team members was limited. Yet, a commitment to an interdependent set of outcomes was needed to work effectively together. What would each person commit themselves, and their organization, to? Whose priorities would determine leadership, and when different pieces of work were carried out? Like a flock of geese, whose members take turns being the leader on long flights, the diverse constitutions of a team may be led by whomever has the energy and drive at that moment. And some of that drive may originate not in the work itself, but by factors in the larger environment.

During the course of the special project team meetings, the work moved through several different phases (see Chronology, p. viii). Preceding its official start were many weeks of discussion in planning the project. The first few weeks of meetings involved brainstorming process insights, followed by several weeks with an "educational" focus. The final weeks focused on developing presentations to explain the team's work and its findings. Each phase was led by different team members — leadership which arose in response to their differing needs.

## Developing a Work Plan

The PCC Consultant had attended the recent summer camp organized by MIT to teach PH concepts. The experience taught her how things are done at a university. In starting the special project, the PCC Consultant was determined that there would be clarity on goals, time commitments, and deliverables — the kinds of things that are critical to successful consulting engagements. The researchers, however, were hesitant to sacrifice the flexibility needed in a broad quest for new knowledge by defining the specific goals and deliverables that the consultant wanted. How to reconcile these approaches was not clear. The PCC Consultant led the development of the project's work plan.

> **PCC Consultant**: I got very concerned when we were structuring the work plan. I sensed [MIT Director] pushing back and saying "Now remember, it's an experiment." I had already gone and sold this to PCC. I'd already invested a lot in this. It was very disconcerting.
>
> At one point [MIT Director] said he viewed this project like I was the teaching assistant, and everybody else were students. I could lead this thing and he would come back periodically and check in because we were very smart people and could handle this.
>
> I was shocked: "Wait a minute, you're the content expert here, you need to be driving this for us." I really thought: "Oh my God, what are we doing here? We're going to go through 8 weeks and not get anything and I'm going to be in charge of this."

Some participants in summer camp said they felt like "lost sheep," with no clear direction or goals.

**MIT Project Manager**: When we originally designed this 8-week project, [PCC Consultant] really wanted it very structured, with goals each week. During summer camp, she and the rest of the group of "campers" experienced a lack of structure. Some of those teams' deliverables never were completed.

**PCC Consultant**: I understood that [MIT Director] was very concerned about managing PCC and FinServ's expectations, and it was somewhat frustrating. I went in saying "I want a work plan that says, Week 1, we do this and the outcome is this. Week 2, we do this and the outcome is that." Instead, it became very vague. [MIT Director] massaged it so that he was comfortable with it and, in the end, I don't think [MIT Project Manager] and I really knew what we were saying we'd do.

The process of negotiating the project activities and expectations brought out different emphases. The overall goal—a successful use of the PH in a real-world situation—was a shared goal.

But I clearly trusted the MIT Director and I trusted that he had a vested interest in making sure that this succeeded just like I did. I guess I put a lot of faith in him.

**MIT Director**: I kept saying we should set expectations very low, that this was just getting some information, not a definitive proof. It was an issue with [PCC Consultant], and I never completely understood why. She had a lot of reasons for wanting this to be a huge success. The project might have an effect on what happened while she was there, how she came back to PCC, and how her year at MIT was perceived. For me, if this particular attempt didn't turn out so well, I would just say "Well, let's try again."

Because the project's meetings took place at MIT—and the Process Handbook research project was based there—MIT was also the de facto "home" for the special project. Perhaps this is why the academic world's norms seemed to have a greater influence than those of the consultants and managers.

**PCC Consultant**: It's not how I expected to work. In a consulting environment, I probably would not have given the latitude that I gave to [MIT Director]. I would have said, "I have to do this work, so I need to know. We're in this together. Let's think through this work plan." But in many ways I was stepping into [MIT Director's] world and I wanted to give him the chance to perform in a way that he was used to performing.

Given the different emphases and expectations of research and consulting people, whose interests would drive this test of the Process Handbook? What would the implications of these differing expectations be for how the project was carried out?

## Defining Expectations: What's In It for You?

The special project kicked off with a full day meeting in the middle of December at MIT. Representatives from all three organizations—MIT, PCC and FinServ—attended. Members of each organization made presentations about their activities and interests in process redesign.

Starting in the middle of the afternoon, members participated in an exercise to surface and articulate special project expectations and concerns from the perspective of each organization. Each organization held differing criteria for success. The exercise allowed them to discuss where their goals and expectations were aligned and where they

conflicted (see Sidebar: Special Project Participants' Expectations and Concerns). The expectations, and their implications, revealed people's stereotypical views of each other — and what impact researchers', consultants' and managers' priorities might have on achieving overall special project goals. Differences were surfaced, but there was no time that day for a discussion of what actions would be taken to deal with these differences. People from each organization knew what *they* wanted, and they heard what others expected, but no one knew what would be needed to collectively meet everyone's expectations.

**Sidebar: Special Project Participants' Expectations and Concerns**

The following expectations were developed and presented by each organization at the special project kick off meeting(See Chronology, page viii).

**PCC**

a. want participants to be honest and reflections to be grounded in reality;

b. want commitment from all parties to workload and adherence to deadlines

c. cost and timing as special project is funded to go until end of January

d. desire by PCC for a product/conceptual idea that can be used internally in the future; "something to show"

e. project involves a FinServ—a new client relationship, which may be sensitive

**FinServ**

a. complexity in this project based on varying assumptions of the different people

b. integrating research project without adding to existing challenges

c. ensuring confidentiality in airing sensitive issues

d. meeting time pressures to complete process re-design; manage/minimize time requirements for research

e. benefits being achieved in time to incorporate them

f. position research project so that it is viewed as positive at FinServ

**MIT**

a. each company has appropriate expectations

b. expectations based on the fact that PH is an unfinished work-in-process and research

c. clarity of relationships and communication (MIT-PCC-FinServ)

d. possible conflicting success measures; MIT defines success as improving theory and improving examples; FinServ and PCC define success as improved operations

**MIT Project Manager**: One of my fears was that this group wouldn't fall together. There might be a disconnect between the expectations PCC and FinServ had and what we could deliver. The bottom line was, we didn't know exactly what we could deliver, because we hadn't done this before. It was like [MIT Director] always said, "We're on the sand dunes in Kitty Hawk." I think he really, really believed that this would work, but again—what did "work" mean?

There weren't really defined deliverables, so I wasn't

The happiness and satisfaction of clients is often a measure of success for consultants and those who "help" others. What standards are appropriate for researchers working with "clients?"

sure what the criteria for finishing the project were. How [PCC Consultant] and [FinSys Designer] were feeling was the criteria, I guess.

**MIT Researcher**: From my point of view, the key goal was to come up with compelling examples of how the Process Handbook or its concepts could be used. Our goal at MIT was not specifically to make FinServ happy, or to get some answer for a particular client, but to come up with examples that we could use in lots of forums—classes, talks, etc.—to illustrate how these ideas could be used and to help us develop the ideas further.

Part of my confusion was I knew what we could get out of it, and I knew what PCC could get out of it, but I wasn't sure I knew what FinServ would get out of it. The measure of success of this project was unclear. There were three parallel measures and satisfying all three would be difficult.

PCC was also interested in how to benefit from partnerships with universities in general, an expectation which wasn't articulated at the project team level.

**PCC Consultant**: I was looking for some grains of interesting knowledge that we could bring back in to the engagement [at FinServ}, either ad hoc-ly in different meetings with the executives at FinServ, or as part of our ongoing design work.

**PCC Partner**: We wanted to be able to demonstrate to ourselves and PCC as a whole that there was consulting value in the Process Handbook, even though it was not yet fully developed. It was a way to show the firm that we could benefit by doing things collaboratively with a client, even if we were not getting deliverables at hard dates from MIT. It was also a way to show clients that we were pretty advanced in our thinking because we invested money in new approaches, like the MIT research, and that we then brought to clients. In some cases, that kind of involvement strokes clients' egos. In other cases, they get a totally different perspective on how people view business, which I think is good for them.

Clients might benefit directly and indirectly from PCC's participation with MIT. In addition to knowledge gained from research, PCC's believed that a project with MIT enhanced its own image.

Although the president did not attend the initial meeting at MIT, he had been briefed on, and supported, the Process Handbook, project.

**FinSys President**: I had spent a lot of years thinking about and working on "How do you manage the transition process in organizations?" It was still too much art, and not enough science. At the heart of it, the people who were integral to helping in the transition were very threatened by the consequences of what we were doing. Another company which offers the same services FinSys does just takes over an operation, keeps employees they like, and gets rid of the others. They have their own resources to provide back up. We had to figure out a better way of doing it here. I thought anything that could help us manage transitions and manage change would be a useful outcome.

FinServ wanted insights and practical ideas about how other companies organized recruiting and hiring processes, and in getting help on the

clashes among internal groups they had experienced in the initial attempts to redesign their hiring process.

**FinServ HR Planner**: At the time, it seemed to me that having MIT as a third party could be very useful for FinServ. They could function as a catalyst for bringing together three groups at FinServ with three distinct ideas about what should happen together with a common reference point. I saw it as an intervention that we needed.

**FinSys Designer**: When I first saw it, I thought the Process Handbook was a great tool for helping to create a unifying framework. I knew what it would take to get a broadly supported consensus in FinServ, and I knew it was unrealistic to expect the Process Handbook to provide that, but I was interested in the possibility of a framework that would help the HR community focus on a vision we could all agree on.

I wanted a useful framework and methodology for looking at business processes. It seemed to me that there was a lot of intelligence built into the structure of the Process Handbook. And I thought, "Well if I can understand the concepts and learn how to apply them in my job, that would be a big win for me." I could articulate the benefits of my participation to FinSys President and I would feel like I brought value back to my company. I thought given the participants, something would come out of it that would be valuable.

## Trusting Leadership to Emerge

Without doubt, *all* the individuals in the special project were of the highest capability and quality. Exactly how they would all work together was less clear. One of least ambiguous ways to define the project was by how much time everyone would be spend working on it. Given the different goals, even these expectations varied greatly.

One of the things that allowed the project to move forward despite the ambiguity was the personal respect that various team members had for each other. While not always overt, members' shared histories emerged in conversation, and provided a sense of security for "taking the leap," trusting that problems would be worked when they arose.

**MIT Director**: [PCC Consultant], and to some degree other people in PCC, probably found it too easy to slip into the assumption that we were their consultants. But that's not the way I thought of the relationship. In my mind we were researchers, with whom they sponsored a special project, from which we both hoped to learn.

The analogy I used with [PCC Consultant] was that I was like the instructor for the class, this was one of the team projects, and [MIT Researcher] and [MIT Project Manager] and others were TA's. My responsibility was to help define overall context, goals and content, and provide a variety of intellectual inputs. It was their responsibility to select their own goals in detail and manage their own process. They were responsible for the

quality of the output.

What are the implications of the researchers' framing — with the project participants as students — for a "collaborative" project?

[PCC Consultant] wanted to think of it like we were facilitating and managing the process, rather than being resources to it. I don't think we ever got a clear, shared understanding of that, but I thought we'd muddle through with enough ambiguity and overlap that it would work.

**PCC Consultant**: The issue of time commitment was still coming to play in early meetings. What got me nervous was when [MIT Director] said, "Okay, you're the TA" and I felt like, but, it's in your head, isn't it? What we are going to be doing? We didn't end up talking about it off-line. We just went along and everything was fine. I just thought, "Somehow we're going to make it to the end. We're not going to worry too much about where we are today, let's just focus on what we both want to get out of it."

The level of the MIT Director's participation was a visible signal of MIT's commitment to the project's success.

**MIT Researcher**: When I found out that the actual time commitment was so much less, it was an easy sell. It was do-able. I talked briefly with [MIT Director] saying, "How important is this for them to feel good?" When I found out that [MIT Director] was going to be attending the whole first day meeting, it was like "Okay, it's important that they feel good."

The MIT Researcher would be doing much of the actual work with the special project team.

**MIT Director**: I felt like my personal involvement in the special project was pretty important. I felt like I had this intellectual vision for the whole PH special project, which had been implicit in my mind for many, many years and was gradually becoming more and more explicit. In many cases, it would become more explicit when I was confronted with a specific example or problem or situation and I realized, "Oh, well, obviously, the way to answer that is this."

**MIT Project Manager**: I was afraid [PCC Consultant] and I were going to be the leaders. I don't mind being a leader if I feel capable, but it doesn't feel good if you think you're going to fall flat on your face. She knew I didn't feel strong enough to lead it, and she knew she wasn't either. She was really tugging at [MIT Director] saying "I need serious resources to launch this thing."

The project manager, who also had a business background, could relate easily to the PCC Consultant's concerns.

[PCC Consultant] and I got along and communicated well. She was a pretty easy, open, and fair person. She was real clear with me around what she needed, or wanted to happen. We were roughly the same age, we were both pregnant, and we were both trying to have careers. We had a lot in common. Maybe [MIT Director] had a premonition that we would see things eye to eye.

## Bagging Insights: An Exciting Beginning

The Process Handbook database did not yet have many examples of hiring processes embedded in it. But coordination theory, and the tool itself, provided the team with examples and aspects of similar processes from which they could consider alternatives for FinServ.

When the special project team started meeting, enthusiasm was high, and everyone was ready to "dive in." The group kept track of interesting ideas or insights as they happened. These insights occurred as the team used the PH database to point it to hiring process examples and alternatives in another database (see Sidebar: Interesting Organizations Database). Capturing ideas which would be relevant for FinServ was called "insight bagging." In the course of a few weekly meetings a list of 42 insights was generated (see Sidebar: Examples of Insights). These insights were a validation of the PH's usefulness, and important in the project's progress.

> **MIT Director**: We tried to have two people in pre-set roles at every meeting. Anyone should feel free to point out an insight they thought was interesting, but one person was specifically charged with the role of "insight spotter"— observing out loud when an insight occurred. The other role was an "insight bagger," who was to record the insight. This methodology produces a lot of mini insights. There is no guarantee that you will get any major insight, but almost every time you use the PH you get micro insights. It was too easy not to notice them. You could go away from the meeting with the feeling that some interesting things happened but not quite remember what they were.

**Sidebar: The Interesting Organizations Database**

The Interesting Organizations database is part of a study to identify innovative organizational approaches and technologies which may become commonplace in the future, providing important foundations for inventing organizations of the 21st Century.

The companies and practices listed in the database have been identified by various means — press clippings, research papers, sponsor suggestions and contributions, and student and faculty research projects. The information is intended to be used for MIT faculty and student research, with an emphasis on studies which examine theories about the nature of work.

The database itself is broad, and includes organizations who are "interesting" for some of the following reasons:

- unique structure or approach to organizing work (for example, "virtual companies," or companies with a unique collaboration with suppliers or customers)
- novel strategic approach to markets, suppliers or customers(globalization, alliances, use of information technology)
- demonstrated success that is remarkable(in terms of agility, productivity, or new product development)
- innovative approach to a commonplace business function (marketing, finance, human resources)
- new area of application of traditional approaches(electronic markets, advanced technologies)

The database entries include a description of why the organization is interesting, brief descriptions of the organization's business profile, its background, and contact or source for further details. (More information can be found at http://ccs.mit.edu/21c/io.htm.)

**FinServ HR Planner**: We came up with examples, some from the database, of how things could work, like "bidding." They had some feasibility. They weren't totally pie-in-the-sky, and I thought at some point they could be evaluated in terms of how they might work.

Some team members said that some of these insights were irrelevant and impossible to evaluate.

**MIT Researcher**: Process redesign was not being done using the Process Handbook. There wasn't much there yet. In the meetings we just came up with a couple of ideas and then had an hour-long discussion to brainstorm. We were showing how the PH would be used. It was showing PCC that, yes, the Handbook is a useful tool, but it wasn't helping PCC solve FinServ's problem.

PCC was reluctant to communicate the special project activities to FinServ because the project was not helping solve FinServ's problems.

**Sidebar: Special Project Insights**

Insights generated from special project meetings totaled 60, with most of these occurring in the first few weeks of meeting. The following are examples of a few insights that occurred in the early meetings.

1. Insight for the future process reengineering efforts: Do process reengineering consulting in two parallel teams. The first team, made up of people knowledgeable about process details, can supply the second team, made up of high-level visionaries, with enough info. re: costing yet leave the high-level visionaries free to develop far-reaching analysis.
2. High-level hiring candidates (e.g. Oracle database analysts) can be viewed as having perishable availability. In addition, they become ripe again a few years later and therefore one strategy may be to cultivate them throughout their careers. On the other hand, entry-level candidates can be regarded as commodities with a certain set of attributes.
3. One way for FinServ to develop selection criteria might be to do an analysis of past hires and to determine "what did successful people look like at the time they were hired?" One could look at outcome measures (e.g. annual performance evaluation ratings) to determine success.
4. The characteristics of the people you want to hire are systematizable to a greater degree with "commodity-type" jobs (e.g. customer service reps, etc.). The more senior the position, the less you can systematize job requirements.
5. Creativity techniques could be added to the PH where the user would be prompted to help brainstorm; for instance "if you're interested in sourcing, here are some structured questions to ask."
6. FinServ budgets are driven in part by the current state of the financial markets. The managing process used for job requisitions should match the flexibility inherent in this market.
7. Job requisitions state what we want the employee to do, but we describe the ideal candidate by how they are, e.g. hardworking, self-motivated, responsible.
8. Consider the hiring process as a "buying options on a futures market" process.
9. The "closed- door" thought model helps think about dependencies between two processes: imagine two parties in windowless rooms; what would they need to communicate? This analysis could be simplified by focusing on the 'most promising' ways to manage the dependency.

**MIT Project Manager**: The actual meeting activity was a combination of a PH processes, common sense and brainstorming. We didn't learn much detail about FinServ's problems or what possible solutions might be. [FinSys Designer] was having a good enough time coming—this was his two hours a week where he could think creatively—he was okay with that, even though there might not have been direct applicability between some of the brainstorming suggestions and the real problems back at FinServ. It was hard to know.

I remember when I started working here at MIT I was amazed and happy to be in an atmosphere where people were so bright and interesting. I think [FinSys Designer] was experiencing that too. There was some concern early

on that he would have to justify spending time here, and that was part of why we needed results.

I got the sense that not only was he feeling that he was seeing some useful stuff, but he was also thinking and talking openly about how he could use this: "Not only is this interesting, but I would actually use this to give a presentation to my boss, and this could enhance my ability to work at FinServ." And since [FinSys Designer] was happy, I think [PCC Consultant] was happy, too.

Since people were having a good time, it made issues about expectations fall by the wayside. If it was hard for me to describe the meetings to other people here at MIT, it must have been even harder for him.

The PCC Consultant said her quietness in meetings, interpreted by the MIT Project Manager as happiness, was her strategy to get the FinSys Designer engaged.

## A New Focus for Consulting

The way the Process Handbook was used in the special project meetings suggested a new approach for conducting business process redesign to PCC. The team could move quickly from an understanding of how work was done to developing and evaluating alternatives. Generating alternative process designs early was substantially different from typical re-engineering efforts, where significant time and effort is taken up in documenting and costing "as is" processes.

Focusing on alternatives early on in the redesign process generated more enthusiasm and a creative focus for those engaged in redesign activities — much as the special project team itself was experiencing. A detailed "as is" analysis could come later, on a much more focused basis, when the processes and the ways in which they would change were identified. In a consulting project, a Process Handbook approach would save clients' time and money in the analysis phase, with the added benefit that this approach would also develop the support needed to implement proposed changes.

The combined experience of all the special project team participants was important in seeing the usefulness of a PH approach.

**PCC Adjunct Consultant**: A lot of documentation of the "as-is" is really unproductive. It just makes projects go longer and is expensive. The idea of cutting down on that and going straight to design is really interesting and very applicable. You could skim enough knowledge to understand just what you need to change and then do the redesign work. People always find that more interesting, and you can get momentum and enthusiasm going.

**MIT Director**: I have explicitly studied creativity techniques, and am sort of an implicit practitioner of those techniques. In a certain sense a lot of this work is creativity techniques applied to process invention.

Instead of having to make up everything from scratch, a lot of the structure and content is already there. The alternatives can be automatically generated and you just have to evaluate them.

**PCC Consultant**: When you go through visioning and do creativity sessions, you hope you'll get ideas. What the PH was actually doing for us was defining, in a much more structured way, the transition from looking at the "as is" to some kind of a new state. When we saw that, it became clear that this was interesting, this was useful.

**MIT Student**: Left to their own devices, PCC would have spent a lot of time measuring the efficiency of different parts of the existing process. Typical business process re-engineering. What was neat was that the specialization hierarchy really did bring them up to a different level to look at the process in a completely different way. It was interesting to see the Process Handbook used as a brainstorming facilitation tool. I hadn't looked at it that way before.

To what extent might the use of the PH have been determined by the skills and experiences of the PCC consultant, who was known for her skills in bringing creativity into process redesign consulting engagements?

I was impressed by its power to help consultants get out of their box. I thought it could also help people who might not be very knowledgeable do re-engineering. In a lot projects, consultants get so focused on the nitty gritty details of the efficiency of a particular process, and then lose sight of the forest for the trees.

**MIT Researcher**: I'd always considered "as is" documentation of questionable worth myself. At [previous employer] we had been implementing a major new software package, and I had been the project manager for its installation. I had wanted to spend two weeks looking at "as-is" and six weeks looking at the way we wanted it to be. I was overruled by a senior manager: "No, we want to spend time looking at the as-is." That eventually took ten weeks with a separate consulting firm, spending hundreds of thousands of dollars, and producing four inches of documentation, before we even started thinking of the way we wanted things to be. The people who had been involved, who actually understood the as-is, didn't have to have it on paper in order to do it better. They could have gone right to design.

## Leading for Relevance: What is important?

The special project started by using the Process Handbook to characterize FinServ's hire process, which, when combined with the Interesting Organizations Database, provided ideas for alternative process designs. The was no clear connection between the project's work and the Staffing VP's redesign team, which became apparent as the alternatives developed using the PH had policy implications for FinServ.

**MIT Project Manager**: There was definitely a dynamic where [FinSys Designer] and [PCC Consultant] felt like some of the people at FinServ were just not exploratory thinkers and needed prodding. They had suggested an idea for what we called "commodity" type jobs, and had been suggesting something called "trial employment."

That had gotten shot down because of legal problems, and [MIT Director] suggested using contract employees. It was really just a conversational insight. Later I realized there actually was an example of a company that does that in the PH, and told [PCC Consultant]. She said, "When you sent me that example I used it to bolster our suggestion. FinServ was sort of rejecting the idea and I said, 'Look, this other company actually does it!'"

By articulating process alternatives, and the criteria for selecting alternatives, the Process Handbook provided a way of communicating and involving a broad constituency in redesign decisions. However, the relevance and applicability of the proposed alternatives was not clear to FinServ.

**MIT Student**: In one meeting [FinSys Designer] talked about how they realized that one of the most valuable uses of the Process Handbook was as a consensus development tool. It was like a shared space where people could discuss options and reach agreements. It showed organizations who designed the processes, the logic behind the design, and how they made their decisions.

**MIT Researcher**: We stopped really concentrating on FinServ reasonably early — it was gradual, not abrupt at all. It was more like [FinSys Designer] was helping out as an intelligent observer, not as a FinServ representative.

**FinSys Designer**: I had two major tasks: to help lead the vision development work for the hire process initiative, and to manage the system development and implementation work for the enrollment piece of the hire process.

By the time our relationship with PCC and MIT was underway, the hire project was being reorganized. The enrollment service project was well underway and had a very tightly defined scope and objectives. As a result, the original focus of using the PH to add value to current projects was no longer possible.

By the time the special project was in full swing, its relevance to FinServ was no longer clear.

## Losing A Team Member

The MIT Project Manager led in providing logistical and scheduling support, while also participating in project meetings. With her industry background, which included consulting and line management, she was well suited for that role. Her attention to logistical details helped the team stay focused. Her earlier exposure to the Handbook, combined with her physical proximity and working relationship with the researchers, helped her to communicate to everyone on the team. At the eighth week, when the project reached its planned completion date, she left MIT for her scheduled maternity leave. The time frame for the project had been extended, but no new end date had been projected, and there was no one who could fill her role.

**PCC Consultant**: When [MIT Project Manager] was driving the project along with me, I didn't worry about things like whether we got on [MIT Director's] calendar. We worked together. Sometimes I didn't know what I wanted. She would bring something to the table and say, "Is this sort of what you're thinking?" and I could say, "Well, no, but tell me more about what you were thinking." and together we'd work something out. When she left, that link was gone, and I think we missed that. That is when we started second-guessing each other. At that point I had been moved to consulting full-time at FinServ and could not take on the sole coordination of all this.

**MIT Student**: At the beginning it was very well organized. [MIT Project Manager] would send us a message one week in advance: Okay, next Friday we will meet at this time, there will be these participants, and there was even an agenda. We had homework to do. We were very involved, we made presentations, and everybody did their part. After she left, it became less organized and more ad hoc. I'd see [MIT Researcher] and he'd say "Hey, we have a meeting, don't forget." And I'd think: "Oh, we have a meeting."

This researcher had experience working on three other special projects, but none of them had been a three-way collaboration.

**MIT Researcher**: It started off more like a consulting project, with a project plan and a project schedule and resources. It devolved from there pretty quickly, which was the sense I got on the other special projects. We are a research institute. It is really hard to come up with regular schedules, especially in terms of being able to identify deliverables. "When will you come up with your next good idea?" It is hard to say, "Yes, next Tuesday at 10 o'clock I will have an idea."

## Leading with Concepts: Educating on Theory

The kick off meeting introduced everyone to the theory underlying the Process Handbook, but examining coordination theory took on a greater focus as the project progressed. PCC and FinServ participants wanted more than the insights that researchers generated — they wanted to learn how to use the PH to generate insights themselves.

Detailed, careful presentations were made to explain how to use the PH to generate alternative process designs. The MIT Researcher led these meetings. This orientation and its ensuing tasks were challenging and rewarding, but often frustrating, to participants.

**MIT Researcher:** The middle stage of meetings was more educational. The two-way flow was: "This is too complicated, ease it up here." It was really changing how we try to present the theoretical underpinnings, as well as changing the theory. There was an evolution to the theory during the couple of months of meetings.

**PCC Consultant**: MIT was very intent in saying "Oh but the theory is so good, see?" And we'd say, "No, we're completely turned off. All we want is to understand how we can use this to redesign processes." We have time commitments.

Assumptions about time, and how long it takes to get things done, were very different for researcher, consultants and managers.

Half the time in these meetings, I felt like I had crossed a line between being PCC and MIT. I would start thinking "I am the project manager and this is our money and I'm going to be the one that says, "It's all very interesting, so what?" And then [MIT Director] or [MIT Researcher] would say something and I'd find myself saying, "That's interesting." Then I'd walk away and think, "Oh, my god, if PCC ever heard me," they'd think, "What on earth has happened to her?" That was also good in many ways, because, when I wasn't confused, I was open to this mindset of exploration. I told [MIT Director], "I can't tell if I'm delirious or if there really is something worthwhile here."

The PCC Consultant felt responsible for shaping the direction of meetings, yet wanted to stay open to support what might be discovered through research.

How might institutional affiliation and orientation affect the perceived value of the time spent in these meetings?

**FinSys Designer**: The really useful meetings were the ones where [PCC Consultant] and I forced a grounding. It seemed to me that [MIT Director] and [MIT Researcher] actually found it useful too—that they found burrowing into the details and staying there less than satisfactory, but being able to seamlessly go back and forth between real life examples and their work was much more useful.

"Grounding" refers to illustrating concepts with real-life details and descriptions.

**MIT Director**: The real examples were probably the most important thing of all. It had been clear for years that we needed some real business examples of how these concepts pay off. I thought, "With those examples, you could tell a story in five minutes that would be understandable and compelling to people." You could spend 30 minutes or hours talking about the concepts and lots of people would never even understand them.

The meetings provided what MIT researchers had wanted: examples to illustrate the PH's value.

**PCC Consultant**: [MIT Researcher] was really the key driver of this work, and he worked very, very hard and obviously put a lot of thought into it. His work was at such an incredible level of depth that we didn't always understand it or appreciate it.

At one point I said "So what you've really done is this, this and this, and come out with this thirty page document that says FinServ should be doing the exact same thing they're doing today. Is that all we got out of it?" I didn't know where we were going and I felt like I was wasting my time and, therefore, I felt FinServ was wasting their time. I wanted to stop the car. I didn't want to get out of the car, I just wanted to get a map and see where we were going.

The orientation to detail needed for research work overwhelmed a pragmatic orientation for producing timely and relevant insights.

**FinSys Designer**: As my [other] projects moved to a higher level of urgency, I started to be more careful about how I allocated my own scarce time, and needed to be specific about what I wanted to get out of this. The meetings were poorly structured, and it wasn't evident what the thread was between them. I expected more of an agenda, and a context set across meetings. I just couldn't justify spending the time.

It was always confusing about where we were in terms of what we were trying to achieve. I got the distinct feeling that the people from PCC and MIT entered into this initiative without having explicitly defined their ultimate expectations. It seemed that MIT was less concerned about having well defined deliverables than PCC was. As a company participant, I felt it was important to have a clearer sense of our objectives so that it would be easier to articulate the benefits of our participation to senior management.

As the special project meetings focus became educating on coordination theory and Process Handbook concepts, the non-researchers became frustrated and concerned about whether anything useful would emerge from their efforts. It was also at about this time that the PCC Consultant's hire process work at FinServ was ending.

## The Perils of Relationships

The historical personal and professional relationships among individuals at PCC and FinServ was the connection that brought the participants together for the special project. FinServ people were comfortable with the PCC consultants who proposed the project at MIT because they knew and trusted one another. The benefits from these relationships also had a cost. When PCC was hired to "help" with the specific task on the hire project, they took on a task they normally would not, in the hopes that it would lead to future, more traditional, consulting work. Their hope was dashed as it became clear that the hire process work, and their ability to influence it, was limited.

**PCC Consultant**: From day one of the engagement, when we all got into a room at FinServ, we all knew each other. When FinServ's internal consultant walked in, it turned out to be someone I had also worked with, who was in my consulting group before. We'd all done engagements together. We all had a common level of understanding of what needed to be done to drive the

project together. It changed the dynamics of this whole process. We didn't think explicitly about that, we just took it for granted and moved forward.

In what ways could these prior relationships make it easier and more difficult to raise difficult issues or discuss potential problems?

**PCC Partner**: Too many people knew each other as friends, and there probably wasn't enough rigor in the client-consultant relationship. Everybody was trying to accommodate everybody's approach. Being put on a time and materials basis was just too open-ended. Nobody, especially the client, had any incentives to be done. On the other hand, since everybody thought about process engineering the same way, there were no start up costs involved, which was good.

The collegial nature of the relationships were reinforced by the time-and-materials consulting contract between PCC's and FinServ.

In what ways could these conditions help or hurt in accomplishing FinServ's expectations?

**PCC Consultant**: It became very difficult to say, "We are your consulting firm." It became hard for me to treat [FinSys Analyst] as my client, when he knew so much about PCC and how we worked. I found it very hard to treat the FinSys co-leader like a traditional client. I had both a client and a friendship to manage.

**PCC Adjunct Consultant**: [PCC Consultant] and FinSys consultants had a commonality of approach, and respect for each other's skills. [PCC Consultant] had a reputation for being very creative, and people loved working with her, so that gave her a lot of credibility. At the end of the day though, when a client is paying you so much to do a project, it can't be all exploratory. There has to be some value that is delivered. It is risky to test unproven approaches.

The research component, while interesting, added a level of complexity to the consulting relationship between PCC and FinServ.

**PCC Partner**: Essentially, our clients' quality reviews helped determine whether or not (a) you stayed in the firm and (b) whether you got compensated every year. So if you went on a time and materials project with no results requirements, you would get no feedback. It was very foreign to the people in our firm.

Working on a consulting project like FinServ's hire process could e risky for the PCC consultant's career.

Working on a time-and-materials project added risk to the already complex research relationship PCC had with FinServ. Likewise, FinServ participants also had to be careful about their own priorities in working on the Process Handbook project. While personal relationships helped the project get started, these relationships compromised PCC consultants abilities to express themselves as they also needed FinServ's time and participation in working with MIT.

## Leading out of Necessity: We're NOT Done!

After the first month of special project meetings, the special project team meetings had produced almost 60 different insights about the hire process. The MIT Director commented to the PCC Consultant that the group had accomplished what they had set out to do, and

the project could be considered a success, even if they never met again. For the PCC consultant, the comment provoked a crisis.

**MIT Student**: Then, in one meeting, [PCC Consult-ant] freaked. She wanted to be able to apply the PH to other projects, or sell it as a methodology. She wanted to be able to explain it without [MIT Director] and without [MIT Researcher]. [MIT Director] was trying to keep expectations low because the Process Handbook is still in its infancy. At one point he said something like, "All the expectations that we set have already been met. Anything we do now is optional."

MIT had long since gotten value for its participation.

**PCC Consultant**: Maybe I didn't make it explicit, but in my mind I wanted to be able to say, "If PCC consultants want to use this on an engagement, here's the way they need to think about it." That was always my hope for the project. When [MIT Director] said to me, "Well, we could stop and declare this a success now," I was absolutely horrified. I was ready to just pull him over the coals, because I had not gotten value yet.

**MIT Student**: Because of my newness to the project, I sort of conceptualized this as just another consulting project. And from a consulting perspective, there was no way we were done.

**PCC Consultant**: It had been very important to me to get other people at PCC to participate in this. I had hoped [PCC Adjunct Consultant] would, and was disappointed when he had to move on to another client engagement. I wanted to have somebody else's perspective so that if I said, "I didn't think that was useful," and he said, "Oh, but I got a lot out of it," we would be able to balance it out.

Is uncertainty and ambiguity helpful for learning?

From the beginning, [MIT Director] kept changing the work plan to a point where I didn't know what we were doing. I had a lot of faith in him, but what I misjudged was how uncomfortable I would feel in that situation. I had none of my familiar tools to manage this process. In fact, coupled with my role in the work at FinServ, I was being forced to operate under a whole new paradigm. Sometimes that was exciting, but it was also really uncomfortable.

What happens to a person's ability to learn when there is too much unfamiliarity?

**PCC Consultant**: I constantly felt that I was going to play in [MIT Director]'s sandbox, but nobody would come play in mine. I always had to go in there saying, "Okay, I do understand this is research and I do understand that MIT doesn't operate quite in the way I operate," but nobody came back to me and said, "Okay, [PCC Consult-ant] from your perspective, what do you need to declare this a success?" I felt like the only way we were going to get anything out of this was for me to

Even though several MIT team members had worked in consulting roles, the kinds of institutional priorities they faces as members of a research center took precedence.

go into MIT's sandbox. I was in that sandbox alone and had to ask "Can I have a shovel?"

I was the only one with the eye on the ball of "What's in this for PCC," and, indeed, for FinServ. I suppose that was my role, but it was quite disconcerting to me that there was such a lack of emphasis on that and I was left holding the ball. I found myself constantly bending over backwards trying to accommodate what MIT needed, and found little response when I tried to raise issues of what PCC and FinServ needed.

Moments of despair are to be expected when trying something new — but experiencing despair might not help in the learning process.

It was quite frustrating for me that there wasn't a better mechanism to help me do that, from MIT's perspective. It was something I had to drive to do on my own. In the midst of this confusion I got out the workplan and had no idea where we were or what any of it meant. I threw my hands up in the air and said, "Okay, we're not going to have any more meetings until I can figure out where we are and what it all means." That was a very difficult situation to be in. I felt like I had failed.

The special project began without clearly defined goals or a shared understanding for the project process. After all, it was research, and who could predict when the "aha" moments would come? As the project progressed, different participants' agendas and needs determined the focus of the meetings. As the project was winding down, the PCC Consultant sought to take charge. With her back against the wall, she was faced with the prospect that she had "failed."

# 6 Project Outcomes: Making the Miracle Visible

PCC and FinServ special project team members wanted to learn how to use the Process Handbook in a redesign effort. Without that understanding, their involvement in the project would be difficult to justify—to themselves, and to their constituencies. What would it take to make knowledge that was implicit in the minds of researchers—how to use the Handbook— explicit for others to see and understand? How could what they had done as a team itself be clarified, organized, and presented to others?

## You Don't Need to Be a Chess Master

The MIT Researcher, responding to PCC's and FinServ's requests, developed a way of showing how to generate alternative processes. He created a systematic way to consider a set of alternatives to be considered when redesigning a business process. This framework, which became known as "The Cafeteria Menu" (see Sidebar: The Cafeteria Menu, page 54) yielded 72 alternatives for considering the basic choices in a process. The matrix was complicated but comprehensive.

**PCC Consultant:** At first we looked at the interesting organizations database and came up with some examples of different companies with interesting practices in the hiring of human resources. We got into muddier waters when we started looking at the theory and dependencies and coordination mechanisms. We felt overwhelmed with the range of possibilities and got lost in the details.

**MIT Student**: We were looking at the dependency between identifying and selecting a potential candidate. [MIT Researcher] had looked at all the theoretical possibilities that existed between these two, and developed a matrix where you could classify them, which was very interesting. He had only developed this a week before, and not even [MIT Director] had seen it. His interest was to extend the Process Handbook, which he did very successfully, but it seemed very theoretical and remote from the problems at hand.

What are the implications of an innovation when it is introduced to solve a need and it isn't well understood?

**MIT Student**: The dependency theory matrix was quite complex. You could create an exhaustive list of the different ways of managing a dependency, but you could get almost as much bang for your buck if you just said, "Intuitively, what are the different ways I could do this?" and listed out five or six.

### Sidebar: The Cafeteria Menu

The Process Handbook helps people redesigning business process make choices in their new process designs. Considering and evaluating a large number of choices, particularly when you want to be sure that you have considered all reasonable options, can be a daunting task. The name, a "cafeteria-style" menu, was developed to describe the possible choices. The Cafeteria-Style Menu provided a systematic way to consider possible design choices. Using a 'Cafeteria-Style' Menu, a process designer chooses among options for each subactivity to generate process alternatives in a manner similar to choosing courses from menu choices in a cafeteria.

Using this framework generates a total number of seventy-two (4 by 3 by 6) possible choices. Activities are considered based on the who, how, and why (3 dimensions) and the when, where, what and how much (4 dimensions) of a process. The range of possible alternatives form a 3 by 4 matrix. The matrix is expanded by considering six possible coordinating actions that can be taken — create, destroy, modify, preserve, combine and separate. Although all seventy-two alternatives are not appropriate for consideration, nor worthy of extensive evaluation, for each subactivity (figure below illustrates this point in that it shows less than ten choices for each subactivity).

**Cafeteria Style Menu of Options: Commodity Hires**

| *Identify Need* | *Determine Source* | *Select (by whom)* | *Select (how)* | *Offer* | *Install* |
|---|---|---|---|---|---|
| • Standards<br>• Committee<br>• Manager<br>• Computer Agent | • Internet<br>• Self ID<br>• Network Organization<br>• Journal<br>• Advertising<br>• Mailing List<br>• Catalog<br>• Search Firms<br>• Database<br>• Job Fairs | • External Agency:<br>- Prof. Agency<br>- Computer Agent<br>• Internal:<br>- Managers<br>- Employees<br>- HR<br>• - Computer Agent | • Aptitude or other Success Dimensions<br>• Interview:<br>- on line<br>- group<br>- screen<br>• - individual<br>• Trial:<br>-Internship<br>• -Probation<br>• Qualification:<br>- certification<br>- education<br>• Reference Check | • Purchasing<br>• Electronic Requisition<br>• Electronic Catalog<br>• Blanket Order | • Standards<br>• Customized |

**Trade Off Matrix**

| | Speed of Reaching Candidate | Speed of Reaching Candidate | Breadth of Access | Cost | Quality of Candidates |
|---|---|---|---|---|---|
| **Internet** | + | + | - | + | - |
| **Job Fair** | - | - | - | - | + |
| **Advertising** | + | + | + | - | - |

Key
+ = positive
- = negative
-/+ = neutral

**PCC Consultant:** Sometimes we frustrated [MIT Researcher]. [FinSys Designer] and I would sit back and have to digest and regurgitate what he said. You could see him thinking "That's what I just said." But we hadn't internalized it when he said it. We had to think it through.

**MIT Researcher:** One of the major techniques we used [MIT Director] dubbed the "5W2H." Who, what, when, where, why, how and how much? Your typical

journalist's questions. Now, going through those questions from a [FinSys Designer] or a [PCC Consultant] perspective was "Whoa, this is too detailed. Asking questions is good, but don't expect us to fill out the answer sheets. Just give me a simple sheet of questions and some options that I can start looking at."

**FinSys Designer**: In many respects they were fortunate to have someone like myself who had actually spent years studying these issues. Just by happenstance, I had read all of [MIT Director's] articles for the last ten years, had thought about these issues, and applied them in my work. I had a pretty good understanding of what was going on. But even so, it got confusing. It was easy to get lost in the details, and oftentimes we spent hours tweaking some little piece that was mildly interesting, but it was unclear where it was going to get us.

What background and preparation is needed for people to understand the PH?

What are the implications for spreading an innovation if it requires considerable study before it can be used?

**MIT Director**: It would be interesting to figure out how to identify people who would be able to understand and appreciate these things quickly. There is clearly something about cognitive style or academic training or some combination of the two that make a difference in how natural these things seem to people and how easily and productively they can employ these ways of thinking—but I didn't know how to specify it.

The direction provided by the MIT Researcher and MIT Director for the special project was different. The ability to delve into details is one of the valuable qualities of researchers, but when partnering with a business, this kind of attention to details is less desirable. How does the overall responsibility for the emphasis and management of this project shift between the day-to-day involvement of a researcher and the intellectual direction set by a research director? How might a director's supervision in an academic setting entailed different expectations than that of a boss-subordinate relationship in a business setting?

The PCC and FinServ people faced a challenge in communicating the level of understanding they wanted from their MIT involvement. They wanted something between, on the one hand, being given interesting insights into process alternatives and, on the other hand, an education on the vagaries of coordination theory. The frustration of being unable to express their desire was resolved when the PCC Consultant used a chess playing analogy to articulate the interpersonal dynamic she experienced in working with MIT.

**PCC Consultant**: We had lots of discussions around why we were getting so lost. We ended up coming up with an analogy to playing chess. MIT people, particularly [MIT Researcher] and [MIT Director], were chess masters in the Process Handbook. In many ways, they were bringing in theory at a chess master level,

saying, there are fifty million different moves you can make on this particular chessboard here. But we really didn't even want to be apprentices in developing new theory, we just wanted a conceptual framework we could understand and an approach we could use.

The figure above was part of the title slide of the presentation PCC later developed to describe the project. The chess players were symbols to the team members as they struggled to learn and be understood.

You did not have to be an expert in this theory, and we found out the hard way. It's like you don't have to be a Grand Master to have fun playing chess When I taught my 6-year old to play chess, he had no clue what the moves meant, he just understood the impact once they happened — that he lost his queen or whatever. He got an intuitive sense of the board and the pieces. If I had tried to teach him the more detailed ways of playing, he would have lost interest and not wanted to play.

Once we all understood this chess analogy, it was like the air had cleared and we could move on.

After weeks of struggle, the chess master analogy helped the whole team understand why they had been feeling so frustrated. The analogy allowed participants to give voice to what they felt, and do so in a way that could be heard by the researchers, so that the team as a whole could move forward and focus on what they needed to get done.

## Under Pressure: Expressing Process Handbook Value

Conducting a study and communicating its outcomes are important elements of research. But as the special project wound down, the PCC Consultant realized she wasn't clear on what value was of what they had accomplished, or of how to best tell PCC and FinServ what they had done. Her time-and-materials contract with FinServ had ended, and she put her full-time focus on creating a presentation to communicate what PCC and FinServ had accomplished and learned.

This presentation would be the mechanism to communicate the project's value to PCC and FinServ. The PCC Consultant also wanted to show that her time at MIT was a worthwhile investment for PCC, as well as illustrating the value of the Process Handbook as a consulting tool for PCC and her FinServ clients.

**MIT Researcher:** Originally, the project was FinServ-driven: [FinSys Designer] needed to present something. Then, after he said "This isn't going to help me with this particular presentation, so it's a different priority," it became PCC-driven. [PCC Consultant] was saying, "Okay, when do I need to present to PCC?" That became the deadline of when the project would be over.

**PCC Consultant**: I had to pull this together. I had FinServ looking at me, saying, "You asked us to participate, what is this all about?" I had spent PCC's money and couldn't exactly say, "I have no clue what we were doing, but we had some interesting times." I came

off FinServ and spent almost all my time trying to figure out what we had done and where we were. We had a lot of loose ends. We had the cafeteria style menu, but we didn't know how we'd really gotten there, or what we had done since that. We'd spent two months generating ideas but there wasn't much there.

The pressure was the trigger. Suddenly the clock was ticking and I didn't feel I had anything. I was very nervous. I went to the MIT Director and said I expected to get significant time from him to make this happen.

In deference to her relationship with the MIT Director, the PCC Consultant had accepted a lack of structure throughout the project, hoping that results would come. When those results were not evident, she felt herself placed under incredible pressure.

## Finding Direction with the Process Compass

Much of the special project team's research work was based on delving into the complex details of an analytical process. It had been hard for the non-academics, like the PCC Consultant and the FinSys Designer, to completely follow what the researchers were doing. It was even harder for them to figure out how they could tell others what they did.

Working one-on-one with the researchers, the PCC Consultant looked for a simple way of describing how to use the PH. The researchers each had their own slightly different ways of explaining and using it. The PCC Consultant sought a description which encompassed all of their methods.

**PCC Consultant**: [MIT Director] and I worked very closely, and I also kept going back to [MIT Affiliated Researcher] at [another university]. I'd have a meeting with [MIT Researcher] and then say, "I think this is what he is really saying. Now, would [MIT Affiliated Researcher] view this in this way?" I'd bring what we had come up with to [MIT Affiliated Researcher] and get his perspective and then I'd go back that night and digest it and say, "Let's try and think of the framework that unifies these different views."

I actually ended up being a broker for people who had used the tool, coming up with a framework that we could all buy into. Those were the people that needed to be connected, that hadn't been connected before. All I did was internalize it in a way that I could understand it and spit it back out. There had been no mechanism for that.

Not having been involved in true research before, I'd never been in a situation where you just went along a path and saw where it led. I did not expect to have to pull all this together. I thought MIT would be saying, "This is how we use it." Even though [MIT Director] had told me all along it was research, I didn't think it would be as loosey-goosey as it was, or that it would be up to the sponsor to create the framework.

At different points, team members attributed the creation of the Process Compass to different members. Retrospectively, people have agreed that the MIT Researcher was its creator. The PCC Consultant, however, created the conditions for its development.

[MIT Director] and [MIT Researcher] probably always had this is in their minds, but we were pulling it out and making it explicit so that we and our client could understand it. That is what ended up happening. It was just a question of getting it out of their heads and putting it down on paper.

These ideas for using the PH came to be called the "process compass." Like a navigational compass, the process compass is a device to help orient users as to where they are — in this case, the choices they have in developing alternative processes. It was based on a visual icon that helped people decide what "direction" to move in (see Sidebar: The Process Compass, following page).

This kind of "translation" was something that 21C sponsors had wanted for some time, but were unable to develop themselves. It was the drive of the PCC Consultant, not the structure of the special project nor initiative of the researchers, that reconciled and synthesized the various views from which the process compass was created.

The process compass idea had different values for different people. That value seemed to depend upon the depth of PH understanding that a person already had.

**MIT Student**: We talked about the compass and the directions for maybe ten minutes in the beginning of the meeting, and then for the rest of the meeting everyone referred to "northwest" or "south." As a metaphor it took hold quite quickly.

**FinServ HR Planner**: [PCC Consultant] really helped give a language to [MIT Researcher] and [MIT Director] about how to describe the Handbook. There was a real logic to the compass that I found quite useful. We did not use it when we were working, but once she came up with it, everything seemed a lot clearer in retrospect.

**Sidebar: The Process Compass**

The process compass provides a clear and concise way to communicate the PH approach to redesigning business processes. The compass uses innovation and the generation of novel ideas as the starting point for re-engineering. By shifting time and attention away from detailed analysis of existing processes ("as is" analysis) to innovation, the focus shifts to generating new process-alternative ideas. Those new ideas then become the focus for evaluating process improvements over processes the organization is presently using.

The process compass implements the PH concepts, representing them with a graphic that is easy for people to conceptualize and use as the basis for choosing among alternative redesign activities. It proposes starting with existing processes and moving in one of the following directions to generate alternative views of a business process:

1) **North**: is more abstract by aggregating activities into their parent activities

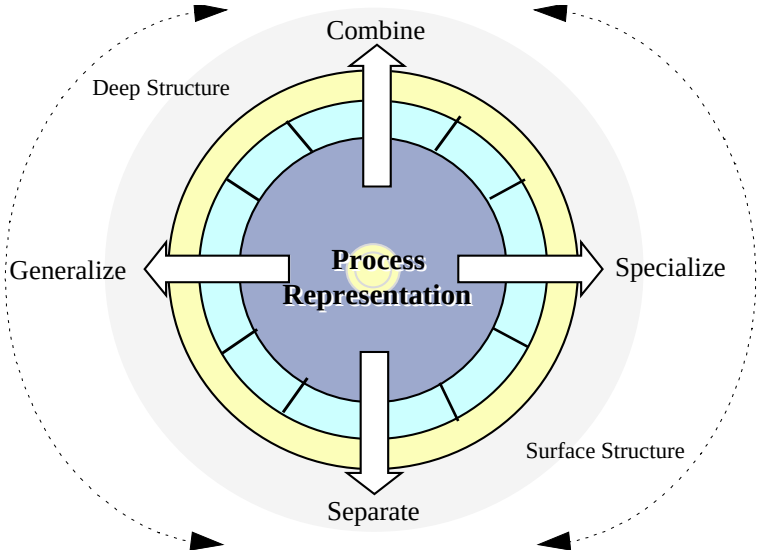
2) **South**: is more specific by decomposing activities into components

(the north-south dimension concerns the parts of an activity, and represents the *detail* at which a process is examined; what has traditionally been referred to as functional decomposition)

3) **East**: is more specific and examines alternative types of coordination mechanisms and activities

4) **West**: is more abstract and represents the process and its purpose

(The west-east dimension concerns types of an activity, and represents the *abstraction* at which information-flow-based and decision-making activities in a process are examined)




**The "Process Compass"**

The process compass helps people use the PH by suggesting that they move north and west to find the essential "deep structure" of a process, and move south and east to generate a palette of candidate surface structures from which a new process design is selected. At any point in the redesign process people can use the process compass to help them choose the "direction" of their examination based on their intended emphasis—generating alternatives or specifying optimal choices.

Metaphors still need to be "embedded" to be useful. Those who were familiar with the Handbook now needed to replace the "lattice" metaphor with the "compass."

**MIT Student**: In the last meeting, we were talking and sort of conceptualizing what direction we could move in, and somebody said "Well, that would be in the northwest direction." I thought, "Oh, okay." But you still had to have this mental image firmly in your head for that to make sense. To me, it wasn't that new. It was something that [MIT Director] always talked about as "the lattice," and it basically just represented the dimensions of the lattice.[10]

**MIT Director**: Using the process compass you could cycle around in almost any order. You could get a quick, even an intuitive, sense of what the deep structure was. Then immediately jump to between these three things we thought of, which is best? Then go back, and think a little more deeply about what the real essence was, identify some more alternatives, be more systematic in combinations, and keep cycling around at many different levels. It was very much like a brain storming or creativity technique. In fact, one way of thinking about the whole thing is to say it is exactly a creativity technique applied to business processes.

The creation of the compass was an important step in the process of making the "miracle" of process redesign visible. It described the way researchers used the Process Handbook and provided a way for the PCC Consultant to communicate what had been learned to FinServ and PCC.

## Pulling Together A Presentation

The process of assessing the results and findings of the special project involved looking back over the past four months of meetings. With the help of team members, the PCC Consultant worked on a presentation to communicate what the team had done. As a representation of the team's accomplishment, and the investment PCC had made in MIT and the 21C initiative, there was a lot at stake in how PCC and FinServ received this presentation. The focus of several project team meetings was on developing, reviewing and improving that presentation.

Insights were key pieces of "content" information which illustrated alternative processes for FinServ's business. The process compass was a tool that framed how these insights were derived. Neither alone was sufficient, but combining the two could illustrate the value of the PH.

**PCC Consultant**: I went back to the insights and said, "Which of these are useful? Which of these am I going to focus on to show FinServ?" I didn't want them to be frustrated by the Handbook. By giving FinServ the process compass, it was more like playing a game, and in just a few moves they could get some insights without having to know the strategy, without even needing to

[10] The "lattice of abstraction" which the MIT Director refers to is an extension of the "ladder of inference" described by Chris Argyris (see Overcoming Organizational Defenses, Allyn and Bacon: Needham, MA. 1990. pgs 88-89) in two-dimensions.

know the theory that we struggled so hard with.

Knowledge was being presented in different forms. Insights are "know how"— revealing approaches for doing work more effectively. The use of the PH, and Process Handbook, is "know why" knowledge—a method for uncovering alternative process designs.

**MIT Researcher**: An insight on our list would be, "Hiring is like buying, so we can learn from buying activities." [PCC Consultant's] list was, "Here are twelve different organizations that showed up in the Process Handbook and here are the ways they buy things that might be useful and interesting."

FinServ sees [PCC Consultant's] list as being the interesting one. They don't care how PCC or MIT happened to come up with, for instance, the Marriott hiring example. They care about, "Here is a company that does this, and we'll incorporate some aspects of it."

What might each type of knowledge have different value for various audiences?

**PCC Consultant**: At some points I thought the compass was interesting, at other points, I just thought "It's another innovation framework. What makes this one better than another?" We got something, but I can't determine its real value and thus support it.

Whereas [MIT Director] was saying, "Yes, we've proved the concept and now we have a framework for doing this on a repetitive basis, so it was a great success." I thought, "I've been in this sandbox too long. I've lost my perspective." I was reluctant to judge it positively.

**MIT Researcher**: There were three sets of expectations for the project that were not calibrated. Now the fact that we had not reconciled the expectations was not dreadful, or even inconveniencing. That encouraged the feeling, at least for me, of "We closed it when we felt like it." As opposed to, "Yup, we said this was the objective, we met the objective, we finished." It just sort of happened, as opposed to in any sort of planful manner.

Although presentations were not defined as the deliverables at the outset of the special project, they became a key part of the project's final outcome. When the PCC Consultant had developed her presentation, the team meetings ended.

## Presenting to Students: So What?

The PCC Consultant made the first presentation of the special project to the MBA students in the MIT Director's class. These students were analytically oriented, and trained to approach new ideas critically. Being given the opportunity to present the project to a class at MIT was one milestone in the success of the project.

**MIT Researcher**: The fact that it progressed far enough that [MIT Director] felt, yes, I want PCC Consultant to talk to the class to show here's how we use the theory in real life, was a real plus for this project.

[PCC Consultant] had a good presentation. It presented the concepts well, and covered the breadth of the detailed analytical things that we did in this particular project. It had lots of examples threaded throughout. And it was structured in a way that it was saying, "If we

had done just this much that would have been okay, but we went further and that was even better." While she was doing the presentation she was saying, "I could have stopped two slides in and it would have justified the project. I could have stopped five slides in and justified the project." She saw she really had gotten something out of the project.

**PCC Consultant**: I had told [MIT Director] that I thought we had a "C+" presentation, and that I was disappointed. He said we had an "A." That was a disconnect for me. He was saying that with the compass we had proved the concept. Now we had a framework for doing this on a repetitive basis, therefore the project was a success.

In the consulting world, the measure of a good presentation is the degree to which clients are "wowed." That emotional response often precedes the decision to hire consultants or to implement their recommendations. Presentations in the academic world are more concerned with communicating content, and less on the audience's emotional reaction.

[MIT Director's] class did not seem to think it was an "A" presentation. The questions that were being raised were, in my mind, almost synonymous for "so what?" It made me nervous. Had I gone native on this whole thing? They said, "If you'd had people with real hiring experience, wouldn't these ideas be obvious?"

**MIT Student:** I missed [PCC Consultant's] presentation of the compass to [MIT Director's] class, but I heard the follow-up discussion. He came in the next day and asked the students what they thought of the presentation. There seemed to be two sides, one of which seemed to think it was so obvious that it wasn't useful, and the other side seemed to think it was a useful application.

**MIT Researcher**: What came out of the project specifically is the concept of a process compass. We had talked about going from a ladder to a lattice of abstraction, where you go from general processes to detailed ones, but now we're using a compass that helped us understand, "Okay, here we're going west towards generalization, then south to decomposition, then back east to get specializations of the sub- activities." The details of the theory may not have changed much, but certainly the presentation of it did change.

Having a great theory is of uncertain value unless others can understand it. The special project helped researchers communicate the theory of the PH to others.

The doubt that the PCC Consultant expressed about the presentation was not alleviated by positive reactions from the MIT Director or MIT Researchers. The students, analytically oriented and already familiar with the PH, were a challenging audience.

## Presenting to FinServ and PCC: Very Interesting!

Following the presentation to the MIT Sloan students, the PCC Consultant and MIT Director presented to a group at FinServ. How FinServ reacted was crucial for PCC. They were a potential client and had represented real world criteria to judge the value of the PH. Choosing an exemplary illustration of an alternative process design developed from the Process Handbook, and "wowing" FinServ, were among PCC's goals for this presentation.

"Market-like bidding" was an innovative approach to coordinating recruiters of hire candidates.[11]

**PCC Consultant**: I said to [MIT Director], "I want to focus in on this concept of market-like bidding, and I want your role to be "magic." You lead it and you drive it, and I want a scenario at the end of it." And he came through. He sat down in the meeting and led us through a really interesting discussion of how we might apply the concept of market bidding to FinServ in terms of creating a bidding system for recruiting and hiring managers. It was very interesting and I summarized it in the presentation.

The fact that it could communicate what had taken project participants months to understand was a measure of the presentation's success.

**FinSys Designe**r: The presentation was surprisingly well received. I say "surprisingly" because that particular group had very little advance warning, and no background on the Process Handbook. The presentation was well-structured. The whole team found that hour or so highly valuable and well worth the effort.

The Staffing VP had commissioned a group to work independently on a hire process redesign. What they proposed included process designs which were similar to the ideas developed by the MIT-led team.

**FinServ Staffing VP**: When we walked out of the room we thought that was really great, interesting stuff. That's what consultants should bring to the table. It gives you unlimited options and different ways of thinking about things—like how to apply processes that aren't exactly the same, but similar. I find I do that all the time anyway, but this was very structured. We could have used that much earlier here, which [PCC Consultant] even said in her presentation.

**MIT Researcher:** A number of the ideas we generated, FinServ also generated. So we got confirmation that other intelligent people think the same things. Of the other insights or new ideas that we came up with, will they seriously consider and implement any? If they do, then it's useful from their perspective. It's such a large area that even if they only implement one, it's worth it. So if they say, "We like your idea of how recruiters bid for which positions they recruit for," and they implement that, then that's nifty.

**FinServ HR Planner**: People were very interested in all the different possibilities. They certainly were taking notes furiously. Many of them are associated with the redesign, and they could definitely see that the Process Handbook had value to them in helping think through the changes in the HR organization. The HR VP was very enthusiastic.

**MIT Director**: In the meeting at FinServ there were a

[11] The proposal was that FinServ use a market-like bidding system for contracting recruiters to fill specific hiring needs. Recruiters would "bid" on the opportunity to fill a new position by specifying how long they estimated it would take them to fill the position. Later, when the position was filled, the recruiter's fee could be adjusted for significant over- or under-performance relative to the original bid. This scheme exploits information resident within, but often completely ignored by, the process and systems by which hiring was carried out and recruiters were rewarded. A recruiter who had just filled a position would be able to use his knowledge (of additional qualified candidates created by his earlier search) in bidding his services for new searches.

lot of specific comments, like "That is an interesting idea," or "We should definitely do that." At one point, the HR VP said something like "I feel like we have passed through a door, and we are now in a space where things look very different and I can see a lot of new possibilities." I took that as a really nice description of what I had hoped we would do.

The success of the FinServ presentation was short lived in the eyes of the PCC Consultant. She expected her own organization to be a merciless critic. PCC's partners were experts on process redesign, and as experts with broad experience, they themselves were accustomed to providing innovative "insights" for process design alternatives. PCC's standards for judging the project went beyond the presentation to include a weighing of the benefits they got from their funding at MIT, including the time the PCC Consultant had invested in it. It was not enough to have "wowed" a client, value from their MIT investment would depend upon the usefulness and readiness of the Process Handbook as a consulting tool.

**PCC Consultant**: When we presented to FinServ, one side of me was very encouraged that they liked it, but the other side didn't know if I should believe it. This was an organization that was not known for thinking particularly creatively or innovatively and, therefore, was this really a sanction of approval from the right audience? I knew PCC would be a much harder judge. The proof would come when we presented to them.

**PCC Partner**: The significant things that came out of the project have more to do with the FinServ process design teams understanding that when you take apart a core business process, there are different ways of doing it then through simple functional decomposition. There are ways to take it apart and categorize the activities in types rather than in sub processes. You can use the types to go after things like distant analogies and say, "You know, this looks like something else in a totally different industry, let's go explore how they have made this world class."

They were also intrigued with the "interesting organization" database. I think it just opened up their eyes that there are people out in the world doing things in very different ways. It made them think that maybe they ought to get smarter about this kind of stuff because it might improve the way they do business. Since they are such a technology driven company, this kind of an approach appeals to them greatly.

The presentation to PCC, scheduled to be held for the entire steering committee of the Knowledge Center, was eventually held with just two members in attendance.

**PCC Consultant:** Originally the entire steering committee was going to attend the presentation, but it ended up being just the Knowledge Center Director and one other member from our London office. We met at MIT and did a demo of the Handbook and showed them

the presentation. I think the PCC Knowledge Center Director thought we had proved the concept, and could see the value of the PH as a knowledge management tool, but I don't think it was a "Wow." Later I informally presented to the PCC Partner myself. I think he was very glad the project was completed, but I don't think he was "wowed" either.

The PCC Consultant succeeded in showing the value of the several months of the special project team's work, and in illustrating how to use the Process Handbook to do innovative process redesign. Her presentation had implications which went beyond using the Process Handbook for redesign, to considering its role in the process of change.

## The Art *and* Science of Change

Most approaches to redesigning processes are very analytical. This analytical, or "scientific," approach can alienate and exclude the people who are being asked to change how they do their work. It is usually left to experts, with specialized knowledge for capturing and analyzing data, to propose how processes should be changed. This approach creates the impression that there is a "science of change." Yet, those close to the people and the implementation of re-engineering know that human-system change is not that precise, and there is an art to achieving expected outcome. The "art of change" recognizes that evoking greater efficiency and new behaviors is not as simple or causal as traditional re-engineering assumes.

The Process Handbook, while based on coordination theory and an analytical scientific approach, was used as a creativity tool that approached change as an art, or at least recognized the intuition and artist's sensibilities needed for effective change. Developments like the process compass and the cafeteria-style menu allowed people with less experience to become users of the Process Handbook. Perhaps the ultimate users of process change—those who are expected to change as their work and tasks are altered—could one day themselves redesign their own processes using the Process Handbook.

**FinServ HR Planner**: The whole organization change process — how you get people enrolled and accepting of why a change needs to be made and how it's going to be executed — is very difficult. The complexity of that part of the process is always underestimated. Everyone knows it's the key thing, but it's still a challenge to do it.

**MIT Director**: One of the important things we did in the course of this project was to get more explicit about the methodology for thinking about applying the PH to process change. For instance, there is a matter of art and judgment and intuition about where the likely payoffs are—where you should spend your biggest effort, and what kind of things you could just think cursorily about as opposed to exhaustively analyzing every single possibility. Just being more explicit about that was a big contribution.

The most important thing for us to do was to make it as easy as possible to communicate the concepts. To the degree that you can use simple terms and graphical

devices as opposed to complex, esoteric and academic sounding terms— you make it easier to communicate the ideas. It makes less of an "in group/out group," and breaks the barrier to understanding and applying all of those things which are necessary if you want to have 2,000 people doing the design, as opposed to 2.

Involving large numbers of people may ultimately result in much more successful redesigns—precisely because those who will be affected will be able to influence and "own" the new processes.

There had been some joking references in the special project group about "This is the religion, who was the messiah, and who were the prophets." I tried to discourage that. Different people have different artistic sensibilities about how to use the concepts. There isn't just one right way. I felt that the important thing was just to communicate the concepts.

The mystery of how process redesign is done, combined with the passion and interest of those who did those things, led to "cult-like" descriptions of those involved in this work.

**MIT Project Manager**: Sometimes we forgot that we were talking about real people doing processes. I was presenting a piece about getting new employees physically set up and registered and enrolled within a company, and I said the problem was that people ended up being "work in process" instead of "finished goods" on the first day they arrive. And [MIT 21C Manager] kind of chided me for using such cold, manufacturing-type terms to describe people.

This quote illustrates how easy it is for the experts involved in the analysis to forget the human characteristics of the people who are asked to change by a new process design.

**FinServ Staffing VP**: Some of the hire team representatives had showed the staffing directors the process maps and said, "This is how you do your work." They'd never seen maps before, and thought they seemed too structured or too rigid. When someone came in and showed them 88 pages of maps and flows, all they could see was the exception. All they could see was, "You've taken the art away" and they didn't buy in. "I don't work like that! I do it this way." They said, "Staffing is an art." And I said, "It's an art as well as a science. Just like any good salesperson has a sales model, it's how you apply it that's the art."

**MIT Researcher**: It's not likely that organization design will ever be an automated process. First of all, no one is going to believe the machine [that does the redesign] blindly, nor would we want them to. And secondly, you can't sort of hit the button at the end and have the organization transform itself.

As with most tools, the Process Handbook can be used in many ways. The Process Handbook was so named deliberately, to avoid the connotation of the tool as an "expert" — but rather as a tool intended to complement people, not substitute them.

One of the opportunities foreseen in developing the concept of the Process Handbook was its role in designing future organizations. What will be the core work of future organizations, and what role will people have in those firms? Peter Drucker has for some time proposed that knowledge is "the only meaningful economic resource." This statement implies that the critical resource in any organizations is its people, or "knowledge workers." Can the Process Handbook be used to engage these people in designing processes for applying their knowledge? The learning time required to understand and use the PH is significant. New approaches, like the process compass, seem essential to the MIT team's vision of how a Process Handbook could help create organizations of the 21st century.

# 7. From Where I Stand: the View from Here

Individuals from three organizations made commitments to participate in the special project. Each brought their own personal perspectives, as well as the expectations and perspectives inherent in their institutional affiliation. Working together, they produced innovations and outcomes that benefited each — results which none could have produced working on their own.

The "mix" of individuals from three types of organizations — academics, company managers, and consultants — played a role in the special project team's success. The context for their mixing was important: they came together to work, to learn, to produce results and to garner new knowledge. Without a situation like the special project, these organizations were unlikely to work together. And, as an examination of their working together reveals, it was not easy for team members to do so. Perhaps like the ingredients in a good salad dressing, they need to continually be "shaken" to work well together. When not engaged in a specific task or common purpose (however loosely defined), they tended to separate out, reverting to their own priorities, purposes and self-interests — and judging each other's efforts and results from their own parochial perspectives. When considering the costs of creating the supportive contexts for work like this, are they justified given the benefits that were derived?

## Pandora's Box

In Greek mythology, the god Jupiter gave Pandora, the first mortal woman, a box containing all the blessings for humanity. When the box was opened, all the blessings flew out and were lost except for Hope, which did not escape. "Opening Pandora's box" commonly refers to being suddenly confronted with unexpected possibilities or questions — questions which once asked seem to multiply, and can never be locked away again. This myth asks us to consider what happens when we start asking questions, and also reassures us that no matter what questions we unleash, we also retain the hope of finding answers.

The special project raised potentially revolutionary questions for PCC. PCC saw that once its consultants realized the potential in using the Process Handbook, they would want to use it in client engagements. Initially, "opening Pandora's box" referred to creating a demand among its clients and staff for trained consultants that PCC would be unable to fulfill. This consideration led to other, more complicated and philosophical questions.

Access to a database and methods for using the PH (like the process compass) made it possible for people with less expertise to redesign processes. How might the PH alter the expertise and experience of the people PCC hired to become consultants? What would it mean to work with clients in a way that allowed them to learn alongside a consultant, and to have access to the same capabilities that its expert consultant used in re-engineering? How would PCC provide clients value if they no longer simply provided answers, and if their special "expert" process knowledge were accessible to anyone?

**PCC Consultan**t: I could go and sell and use this right

now. I would be unique as a consultant. I would engage a client's interest far more talking the concepts of the framework — about "dependencies" and "coordination" — rather than "as-is" costing. In some ways, I think we've opened Pandora's box.

**PCC Partner**: The PH could completely change the hiring profile for consultants, because the deep analysis of how things work currently will already have been done. What you will need are people who can innovate off a given design—experienced people who are creative, more holistic thinkers, or people who are much more grounded in industry or function, who are not generalists.

Is the implicit premise that the PH would enable new MBAs to be more innovative a valid one?

**PCC Consultant**: Clients could populate this as well, either with a consulting firm or by themselves. The consulting value proposition changes because they come in and say, "We can really help you find the criteria for a database that's based on your culture, your particular needs, on what we've seen with our different clients."

**PCC Partner**: It could change the entire consulting industry. Companies will actually be able to go get their own "as-is" models of their industry and do a lot of the work themselves. They might only hire consulting firms to extend them to areas they might not do themselves. So if we jump in behind this with both feet, we are going to have to acknowledge that we might be creating a model for the consulting industry that is completely different from the one that we now know.

In the old days, a consulting firm would have built a model of business on its own tool so that when it went in to see a client it could say, "Here is how your industry really works." We could still go build a database to represent process, but the underlying rigor of the Process Handbook isn't something we are going to go build.

We want to participate in a program in which we put core process models of industries in the Process Handbook. Over time we bet that other firms will do that as well. Once they start to populate a Handbook and these things are available free of charge, clients are unlikely to pay a firm for a proprietary view of the same thing.

It is almost like the open architecture versus proprietary architecture technology issues of the computer industry back in the 70's and 80's. This approach has the potential of totally changing the consulting paradigm.

The Process Handbook could not only change the way process re-engineering was done — but the consulting industry itself.

If other firms helped populate the PH database, and if that database were accessible to anyone, PCC would not have a exclusive access to a unique tool. But as with any tool, or repository of information, its value depends on an ability to apply it. What PCC gained through the special project was an understanding for how to use the Process Handbook, and they gained that understanding before most people even understood the tool's potential.

## Whose Baby is it?

When new knowledge is "born" from a collaboration among diverse constituents, how does one decide upon its ownership? The process compass was a concept which made it easier to explain and use the Process Handbook, making it less exclusive and abstract and more relevant to the world of consulting and management. Our society thinks very carefully about the ownership of physical assets, and with increasing importance, of "intellectual property."

We don't yet think about owning knowledge, but in the developing "knowledge era," knowledge is, as Peter Drucker says, the only infinitely renewal resource, and the route to economic success. Knowledge, pragmatically, is not a static "thing," but a part of a dynamic process which is made up of an evolving understanding of what to do, why you are doing it, what outcomes you can expect, and how you can teach it to others.

If, as many say, the sign of a good collaboration is not knowing who was responsible for what, then what are the implications when collaboration produces a concept of intellectual value?

**PCC Center Director**: The steering committee asked a lot of questions last year about where the balances of contribution lay in this. [PCC Consultant] was in no way responsible for the genesis of the PH, that was clearly MIT. But the feeling we had was that if she had not sat there, said, "so what" and, in a truly collegial manner, put them through the wringer, they would not have been able to try it out with a commercial client. My perception is that she enhanced the usefulness and the commercial prospects of the Process Handbook dramatically.

In our vernacular, the PH is definitely a tool. It does not provide the answer for the client, it is one piece of an overall work plan. It is only as good as its content. Before this FinServ project there were no HR examples, and there weren't enough other processes from which to draw analogies. In all honesty, if I'd been a fly on the wall, I don't know if I would have concluded that the Process Handbook provided the ideas, or whether the people involved did.

By populating the PH database with examples of processes in the HR domain, the special project created value.

By providing insight into possible new ways in which consulting engagements could be enabled by a technological tool, another kind of value was created.

Another kind of value was created by the "test of concept" which applying the PH in FinServ's process redesign provided.

What other kinds of values were created through this project? Where

is the source of this value?

**PCC Partner**: I think the model that came out of the work—the navigational tool—was done by MIT and mostly [PCC Consultant], because she has really been driving this approach. I think [MIT Director] would say it is a very innovative way of trying to look at process development from end-to-end, quickly and visually, and is a good grounding for people. That will be really useful to us going forward. We are collaborating on papers, but we really haven't discussed ownership of it yet.

Project participants were not entirely sure who first came up with the idea of the compass and often credited each other.

The technology itself is not proprietary to PCC, it is an MIT technology. [PCC Consultant] is suggesting that we collect from our engagements, or design from scratch, our understanding of how the core processes of the industries we work with. We would essentially map those out and populate the MIT database.

Understanding how to think about processes, as well as how to build and navigate a process databases, is an important element in knowing how to organize and use industry content knowledge.

**PCC Consultant**: It raises all sorts of issues, now that we have something interesting. Who owns what? How do we do this? I don't know if PCC has positions on this as a firm, but clearly I've never been in this role before. PCC can now say, "We've got something interesting, let's bring it to clients." MIT can say, "We've thought about this all along, but here's a framework and here's a real life case where it actually was useful." We got something that we both wanted. The problem is how do we structure what we learned so that we can both use it?

Do I need the database and more theory to support an engagement moving forward? It would be more interesting for PCC to build a database that is our knowledge, structured in a complementary way to MIT's database. Coupled with this whole dimension of change, it could be a very robust way to begin to analyze and create a diagnostic for organizations. We might surface cultural dimensions that would be eye-opening for a consulting team to have access to before going into an engagement. Given the uncertainty, I wonder if it's better for PCC to build something based on their own experience and knowledge, and link up with MIT.

As PCC considered how they might use the Process Handbook, FinServ was deciding on whether to continue its involvement with the Process Handbook by working directly the MIT Director. The special project had provided a proof-of-concept that the Process Handbook approach could be valuable in redesigning their business processes.

**MIT Director**: One of the things that FinServ said at the meeting was that they wanted to think about the possibility of continuing this work with MIT in some way. There was a chance that FinServ might want to be a sponsor [of the MIT research], or maybe what they want

is more consulting, but there are a variety of possible follow-ons that we would like to explore.

**PCC Partner**: Our work with FinServ ended with a final presentation. They were pretty excited, and it looks like [MIT Director] is going to do some work with FinServ, one-on-one, which sounds like a good approach to me.

The willingness to continue to collaborate in the thorny issues of ownership, as well as to be open to new arrangements and applications of the PH, attest to the quality of the relationships that had developed between individuals at PCC, FinServ and MIT.

## Looking Back

The special project team worked hard, often under difficult and personally challenging circumstances, to produce results that they themselves were only marginally impressed with. Given this experience, would they do it again? And if so, would they do it differently? Depending on where participants were at the time, the answer could be very different.

**PCC Consultant**: We've barely touched the surface of what the Process Handbook can do. The implications for consulting and how we go about looking at processes is just tremendous. I would rather be on the inside thinking this through with [MIT Director] than sitting around waiting for him to publish his paper.

What benefits might participating in the creation of knowledge provide over simply learning it "second-hand?"

**PCC Center Director**: I think that truly great, very experienced, consultants have seen and stored in their memory cells far more than will ever be in the Process Handbook in my lifetime. And those excellent consultants operate the same way the Process Handbook does, by making analogies, drawing ideas from all sorts of places, and abstracting at different levels. They're not linear thinkers—they're able to call on their whole experience base.

If you gave me a choice between six such excellent consultants, or six average consultants and the Process Handbook, I would choose the six excellent consultants. But the market is very competitive for these excellent consultants. So if I can give a young consultant a range of experience to call on through the use of the PH, then it's probably good to do. I can see the merit, but personally, I prefer the human experience.

**FinSys Designer**: I think people in HR would definitely be interested in using the Process Handbook, but it won't happen naturally. No one is going to go back and pick up the presentation to begin to apply it in HR. In my mind, it could only happen as a result of it being integrated into a project going forward.

**PCC Adjunct Consultant**: I think you really needed all three partners. Without PCC and FinServ, MIT might

still be talking about seventy-two alternatives. I was sitting in that meeting thinking, this is probably a good approach. You have MIT thinking about theory and getting excited about exploring insights. You have a consulting firm who knows they need to come up with something tangible in a given amount of time. You have the client, who has just a wealth of data about how processes work. The three different perspectives came up with a good product in the end.

This consultant had little direct involvement in the special project, attending only the meeting where the team developed the "chess master" analogy.

**MIT Researcher**: I'm not sure that the three-party relationship makes sense. MIT with the sponsor makes a lot of sense. I'm not saying that it was wrong to do it with three parties, but it adds a complexity, even just for the management of the project, that I'm not sure makes sense for future projects.

Participants who had endured all the meetings were more cautious about repeating the process, and less certain if this was the best way to obtain the outcomes they achieved.

I didn't really learn much about content from the project, I already knew what needed to be there, but the conceptual learning was very good. The project was a precipitant cause for working on the theoretical basis. Some good thinking work definitely came out of this project.

I don't think that the FinServ examples helped with the conceptual ways of thinking. It provided grist for coming up with a few specific examples, and provided some content for the Process Handbook. We could have done the work without FinServ. Now, would it have been relevant is a separate issue.

How else might that "good thinking" work have occurred, without the necessity to demonstrate value which the special project and its various constituents created?

**PCC Consultant** Everybody worked hard to make something come out of this. [MIT Researcher] clearly put a lot of time and effort into thinking this through, and [MIT Director], given who he is, and his responsibilities at MIT, clearly made the effort to participate and help this process along. I think MIT worked with us very collaboratively, as did [FinSys Designer].

There does have to be more common ground, and someone who takes more of an active role on MIT's side, to help make the translation. Someone has to act as a broker, as [MIT Project Manager] did in the beginning. I wasn't sure that MIT appreciated or understood the cost of all this to PCC—for my time, not for MIT's fee—or the risk we took in bringing in a client. To get something out of this, I clearly had to go into MIT's sandbox and ask if I could have a shovel.

We pulled something together in the end, and people are basically happy. If you look at the dollars we spent, is the return on investment really there? Well, who really knows? But, it certainly proved that it's worth digging around and staying involved.

The different interpretations and assessments of the value of participating in the MIT/PCC special project should not be surprising. From the beginning, project participants had different goals, expectations, and understandings. Had they been fully aware of the difficulties these difference might bring, would they have even undertaken the project? Now that they had, the value they saw depended very much upon their own perspective. Yet, if the value that they all created together could be summed across the vantagepoints of the three organizations, perhaps they might each have more positive orientations. Would, however, that summed value be enough to compel new special project teams composed of researchers, consultants and managers to collaborate in creating knowledge that has implications for theory, method and practice? This final question is something that is left for each group of readers to judge.

# Epilogue

Since the end of the MIT special project and the interviews upon which this learning history is based, there have been several developments involving MIT 21C, FinServ and PCC the individuals in those organizations.

At MIT, the two 21C co-directors decided to restructure the way the research initiative operates. Rather than have a set of sponsors paying fixed fees and expecting to be involved in research projects, they decided to organize the research effort on an à la carte basis. Sponsors will contract directly with faculty and researchers on specific projects. There would no longer be an overall management function in the research center, although sponsor meetings to hear about faculty's research would take place annually or semi-annually. This new approach allows sponsors to stay connected as participants in a knowledge community, choosing from a "menu" of options, and paying only for what they want — papers, meetings, and research projects.

There would be "brokering" and administrative functions performed by individuals on request, but there would not be a fully staffed and formally funded entity. The 21C Initiative itself became on organization of the future, as it was entirely organized as a "virtual" organization. This organization allows faculty to reduce the time they spend fundraising and responding to sponsors' requests, and put more focus on their research and teaching activities.

The MIT Director's passion for testing ideas and seeing them help with "the physics of organizing" has been directed in another way. A company has been formed, with the MIT Director as one of its founders, to develop commercial products and services based on the Process Handbook database and theory. Knowledge gained from the special project, especially in terms of concepts for using and navigating through the PH, and its user interface, will doubtless find its way into these products. It the company is successful, over time, any company will be able to buy, or gain access to, computer systems that will help them with the mechanics of process redesign.

The PCC consultant returned from her maternity leave to find a working environment at PCC that remained unchanged, despite widespread recognition on the part of PCC managers of the difficulties in balancing work and family demands inherent in a consulting lifestyle. After some deliberation, she accepted an offer to take a full-time position with FinServ's internal consulting organization. One of the other consultants who worked on the FinServ project left PCC, while the other consultants remain in the PCC positions.

Although PCC was enthusiastic about the special project and Process Handbook application, given the changes in the 21st Century initiative, they are not expected to continue funding research at MIT. PCC has undertaken talks with the new organization formed to develop commercial software and databases based on the Process Handbook concepts.

FinServ continues to grow at a breathtaking rate. The new enrollment system debuted on schedule, met with approval by the President, and was pronounced a success. FinSys, the

organization providing systems and consulting in the HR area, has been reorganized and merged with another internal consulting and systems department. Work on redesigning the hire process has not continued.

The challenges inherent in integrating the worlds of research and business have not changed, nor has there been any progress as a result of this project to discuss them more explicitly. The structure of a special project like this is for a specific research task, with a specific sponsor, in a specific time frame. This structure itself does not create the orientation to do more than "fix" the situation in some way so that this project team can get its work done. Reflecting on the overall processes or approach by either MIT, PCC or FinServ, goes beyond a project structure.

The challenges are, however, generally recognized. The President of MIT, in the 1997 annual letter to the institute,[12] emphasized the importance of new partnerships between universities and industry — and the necessity of doing so while respecting the different cultures from which each operates. Noting that this kind of collaboration will require changes in traditional attitudes, more openness, and the ability to have constructive and purposeful dialogue, he goes on to point out that these partnerships will work only when partners see the projects as mutually beneficial. Although MIT's interest in partnerships with industry go beyond single projects, they will likely encounter the same issues that came from the 21C special project. Perhaps, given the longer-term, multi-year basis of a partnership, it will create a new structure to better understand and address underlying cultural differences.

It is likely that everyone involved in the special project would agree with the sentiment that they wished it were easier to work together, across the boundaries of academic research, managerial consulting and business practice. The question is simply how to do so.

Are there ways in which projects can be designed to take advantage of the energy uncertainty creates? Are there learning and communication skills which can be incorporated into projects to help participants address their differing assumptions, needs, and expectations productively? What cultural changes are needed on the part of each organization to work more easily together in creating new knowledge, knowledge which includes the development of theory, methods and demonstrated outcomes? Or, is there an essential element created by the strife inherent in people from different worlds work together, which requires crossing cultural boundaries, and playing in each other's "sandbox," that is *what* creates a robust form of new knowledge?

Perhaps a first step in thinking about these questions is to use the rich context created by this document of the special project as a basis for considering the issue. Too often in organizations everyone has their own experience, experience which is foremost in their own mind, and which filters and limits their ability to understand each other's. The MIT, PCC and FinServ special project experience is intended to be used as a common story to which people's own experience can be compared and contrasted. By collectively talking and listening to each other assess what happened on this special project, a team of

[12] "MIT Report of the President" available at http://web.mit.edu/president/communications/rpt96-97.html

individuals will gain insights and a new shared understanding of one another that will allow them to develop a more cohesive approach for effective action.

# Appendix - The Center for Organizational Learning and Learning Histories

The Center for Organizational Learning (OLC) was a research center at MIT's Sloan School of Management. As a center, it was also part of the 21st Century Initiative. The OLC was founded in 1991 by Peter Senge and his colleagues in response to widespread interest in the concepts described in the best-selling book, *The Fifth Discipline*. These concepts (concerned with "the art and practice of the learning organization") built on decades of research in system dynamics, action science, group process, and the creative process, as well as from practical experience in consulting and leading workshops.

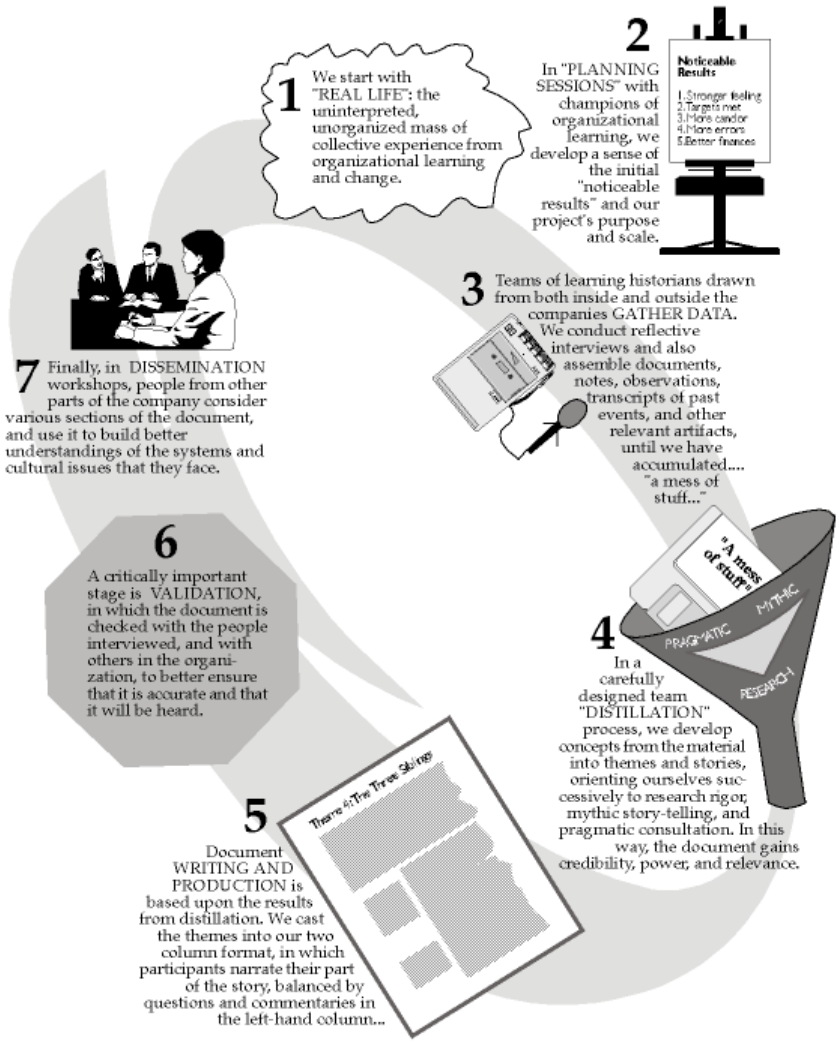
Organized as a collaborative partnership among 20 member companies, MIT researchers, and affiliated consultants, the OLC designed, implemented and studied the new learning processes it helped create. Through these projects, researchers tested theories and tools in realistic, practical settings. These tests allowed them to improve their theories and create better tools. OLC company members shared their experiences and project results in annual, semi-annual, and quarterly meetings, which also functioned as "community building" activities.

Researchers from the OLC attended meetings of 21st Century sponsors, presented their ideas and research findings, and worked with other 21st Century staff on research projects. PCC's parent company had been a sponsor of the OLC for several years. After PCC took over the 21C sponsorship from the parent, the PCC Consultant attended one of the OLC's Core Courses, and was later introduced to the concept of learning histories. PCC was particularly interested in using the learning history (see sidebar on learning histories following) methodology developed at the OLC to help it assess the special project. PCC also wanted to test the learning history as a potential method for assessing and learning from its own consulting projects with clients. This document is that learning history.

Before the special project concluded, the OLC "reorganized," leaving MIT to form a new non-profit membership organization called The Society for Organizational Learning (SoL). SoL's academic, consulting and business members have been invited to join, and pay annual fees. SoL's administrative staff subsequently moved into offices several blocks from the OLC's former home at MIT. The reorganization was prompted, in part, by the difficulties of forming effective partnerships between researchers, consultants, and practitioners while operating under the constraints of the university's policies, procedures and standards. Many of the OLC's staff members, and all of its corporate members, joined SoL. The MIT Sloan School of Management also joined as an institutional member. While the structure of SoL was designed to balance the interests and demands of researchers, consultants and managers (as a membership organization it is a "home" to none of these people), its ability—as a purely facilitative organization—to effectively address the challenges raised in this case remains to be seen.

## Sidebar: Learning Histories

Learning histories are a methodology designed to reflect upon, capture, and diffuse learning from project initiatives across organizations (Roth and Kleiner, 1995; Roth, 1996; Kleiner and Roth, 1997). The learning history is a document planned and researched by an insider/outsider team, organized around significant business accomplishments and emergent themes related to learning. The materials are presented as a jointly-told tale using participants' narrative (from interview transcripts) in a two-column format to distinguish researchers' perspectives from participants' experience. The document is disseminated throughout the organization in workshops with intact teams. These workshops are designed to encourage team reflection and conversation in assessing what happened and drawing out insights and ideas which can be applied in the team's own efforts.




For more information, refer to http://ccs.mit.edu/lh