

THE WORLD WIDE WEB:
IMPLICATIONS FOR ORGANIZATIONAL ALIGNMENT

by

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(1987)

Submitted to the Sloan School of Management
in Partial Fulfillment of
the Requirements of the Degree of
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ABSTRACT

The World Wide Web is *emergent* from both a technological and strategic perspective. This emergence represents an opportunity. With the Web we can generate innovative customer communications, introduce Web-centric products and product features, monitor evolving customer needs, and learn about the competitive environment. Yet technical and strategic emergence also pose a challenge to organizational alignment. The task of managing the non-standardized Web technology, coupled with the task of integrating this ever-evolving medium into a multi-channel marketing mix, may destabilize the organization. Web teams are, by necessity, multi-disciplinary, as grappling with this complexity requires myriad talents from multiple functions in the organization. The diversity of the Web team, can cause disruptions in familiar processes, task ambiguity, isolation, and uncomfortable shifts in power. Re-alignment around the Web technology thus becomes both a strategic imperative and an organizational necessity.

My findings suggest that Web merchants cannot achieve such alignment by simply concatenating the "best practices" of the Web pioneers and other new technology survivors. Rather, organizations need to engage in a deliberate learning cycle of collective inquiry, strategic dialogue, action, and reflection. This involves first inquiring into the way the organization's mental models may obstruct its ability to define and adapt to this new medium. Next, this involves conducting a strategic dialogue around the Web's actual and potential impact on the corporate strategy and processes. This dialogue informs the alignment decisions, which, in turn, sustain continuous inquiry, dialogue, and self-regeneration. Drawing from over 25 interviews at Web Merchant, partner, and research organizations, I make the following assertions in this thesis:

- The Web is in flux -- both *being defined by*, and *defining* the Web merchant organizations who struggle to understand it.
- The Web changes the relationships within and without the organization by altering the customer's experience with the brand and by destabilizing process, brand control, and power structure.
- To address these two sources of instability, Web merchant organizations are mobilizing a breadth of technical and adaptive skills. Their technical skills span functional disciplines. Their adaptive skills span managerial disciplines.
- I contend that aligning Web strategy with technology, structure, operations, and culture is a dynamic and iterative process. Only a *Learning Organization* can achieve this -- one that engages in a continuous cycle of collective inquiry, strategic dialogue, action and reflection.
- At the core of this Learning Organization is a Web team that deliberately sustains the learning agenda by combining technical and adaptive skills in continuous alignment with strategy.

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I. Introduction

It's March, 1996. You are the new World Wide Web marketing manager for a major Financial Services provider. You thought your objective was to cut marketing costs by moving to the electronic channel. To your surprise, only three weeks on the job, your in-basket is already brimming with your constituents' anxious pleas for budget dollars. Marketing Communications is lobbying for \$200,000 to hire several multimedia designers with HTML expertise. Product Development is asking for \$500,000 to develop a new on-line account information service for the company's Money Express product. Market Research is clamoring for a \$25,000 parallel processor workstation for its new high-speed search engine. Customer Service is whining about print collateral that lags behind the new on-line promotions. IS is muttering something about network capacity, and every day the local area network crashes. Legal is balking at rumors of security breaches...

You log onto the Web to check the company's latest homepage. The color scheme is dominated not by the corporate periwinkle, but by a vibrant orange. Sassy, "in-your-face," bylines seem to you to be a bit gauche for this hundred-year-old institution. You mumble to yourself, "Do we know that faceless electronic customer out there?" "Do they know us?" "What is the Web, anyway?" "How can I align my Web team if each of us holds a different view of the Web and of who we are on it?"

Today one cannot pick up a popular magazine or newspaper without seeing a headline about electronic commerce, a URL for a Web site, or a promotion for a new on-line service. We are increasingly bombarded with claims that the Web will revolutionize our companies' marketing and distribution programs, allow us to react to our customer or competitor in real-time, and provide perpetual customer research. Even without reaping these benefits, one cannot deny that the Web is fundamentally changing the relationship between product marketers and their customers, between complementary suppliers, and between information suppliers and researchers.

However, few organizations fully appreciate how the Web is affecting intra-company relationships. Because the Web is multifaceted -- at once a network technology, a communications medium, a distribution channel, and a relationship marketing vehicle -- Web programs require contributions of individuals from many functions within the organization. They bring with them a diversity of cultures, economic incentives, technical and artistic competencies, and perspectives on the customer. Managing such diversity takes substantial communication, coordination, even playing the referee. This challenge to the functional "silos" is only the beginning of the Web's destabilizing forces:

- Organizations that have perpetuated an hierarchical information flow are suddenly exposed to the Web's "democratic" culture stemming from its non-linear, hypertext linkage of information.
- The dynamic, interactive nature of the Web technology threatens the power of those individuals who control traditional communications media or manage processes rooted in traditional information technologies.
- Organizations whose identity is tied to its proprietary ideas are discovering that editorial content loses economic value when text can be emailed across the world in nanoseconds.
- Organizations bound to a static, non-interactive brand identity must now generate a new, dynamic, interactive one that combines sound, animation, and interactivity.

In my research program I conducted interviews with executives at Web merchant organizations, Web technology outsourcers and agencies, and Web researchers in industry and academia. My objective was to discover how the Web is impacting organizational structure, operations, and culture in American companies. I sought examples of Web teams that were adapting to -- and *defining* -- the Web

technology in a manner that enhanced their organizations' ability to compete. Specifically, I looked at processes these organizations used for achieving "organizational alignment," *a dynamic integration of the organization's operations, structures, reward systems, culture, and information infrastructure with its corporate strategy.*

The Web represents an opportunity to profitably generate innovative customer communications, to develop new, Web-centric products and product features, to monitor evolving customer needs, and to learn about the competitive environment. Whether an organization reaps these benefits or not is its own choice. Either it can be paralyzed by the destabilizing forces named above, or it can build a collective understanding about the Web's potential, and align its structures, action infrastructure, and processes accordingly. The latter route requires a commitment to *organizational learning*, and a commitment to build a Web team from resources inside and outside the corporation that sustains that learning. Organizations that embrace this continuous learning cycle will be the likely survivors of competition in the "marketspace."

Organization of the Thesis

This thesis is divided into two major parts. In Chapters III-V, I describe how research participant organizations are defining the Web today and are grappling with the impact that the Web has on their strategy and organizational designs. In Chapters VI and VII, I propose a process for achieving alignment through a deliberate *Dynamic Learning Cycle* and an enabling action infrastructure -- the strategic planning process, leadership, and a Web team committed to the learning agenda.

II. Research Methodology

In this research I used the case study method to explore and characterize organizational alignment for Web merchants.¹ My research involved a literature review followed by approximately 25 interviews. Interviewees were affiliated with three primary constituencies: Web Merchants, Web Partners (Marketing Agencies and Product Vendors), and Web Researchers (Academics and Web Technology Think-Tanks). Most of the interviewees worked with Web Merchant organizations. Web Partner interviewees included site developers, integrated media planners, and Web product companies. Web Researcher interviewees included academics at leading business schools and think-tanks.

Table 1 contains the names (or pseudonyms, where appropriate) and descriptions of research participant organizations. At each company I typically interviewed several individuals who were involved in different aspects of Web strategy and site design, including site planning, content development, database management, creative design, and site infrastructure management.

Table 1: Profile of the Research Participant Organizations and Individuals

Web Merchants

Company	Profile of Web Site
USCity.com (<i>Industry: Journalism</i>)	On-line "zine" with content from a variety of USCity Area public and private operations. Provides Web site development services to partners.
World Heritage (WH) (<i>Industry: Reference Publishing</i>)	On-line and CD-ROM-based, hypertext searchable Encyclopedia sold by subscription and accessed with password.
Fundco (<i>Industry: Financial Services</i>)	General corporate and product information to end customers, and specific financial databases and account access for channel partners. Also corporate Intranet.
TechFuture Research (<i>industry: Market Research</i>)	General corporate and product promotion for prospective customers, including interactive survey.
UnionDrug (<i>Industry: Pharmaceuticals</i>)	Corporate Intranet with company, market, regulatory, competitive and channel information. Accessed/supported on two continents.
SoloDrug (<i>Industry: Pharmaceuticals</i>)	Dial-up info-base providing drug and regulatory information to physicians. Proposed: Web-based promotion, by "disease team," to patients and the field, linked to disease associations' sites.
US Household (<i>Industry: Consumer Products</i>)	Proposed: Product and brand promotion and customer information, with couponing and on-line surveys.

¹I use the term "Web merchant" to refer to users of Web technology for both Internet and Intranet applications, in distinction from commercial Web hardware and software providers (e.g., Netscape), commercial on-line service providers (e.g., America Online), and Internet agencies (e.g., Strategic Interactive Group unit of Bronner Slosberg Humphrey).

Web Partners

Company	Profile of Services
Strategic Interactive Group, a Unit of Bronner Slosberg Humphrey	Multi-service interactive and non-interactive electronic channels agency offering strategic marketing, design, execution, home page hosting, and systems integration.
Utopia Inc.	Multi-service Web Agency offering Internet consulting, marketing strategy, market analysis, custom Internet technology, full Web site and homepage design, execution, hosting, and database management.
Netscape Communications	Web browsers, Web server software.

Web Researchers

Researcher	Related Research Interests
Josh Bernoff, Forrester Research	Technological, strategic, economic, and business activity implications of the Web.
Professor John Henderson, Boston University School of Management	Using information technology for coordinative and collaborative business activity, and using information technology to manage intellectual capital and propagate organizational learning.
Professor Wanda Orlikowski, Sloan School of Management	Implications of information technology on organizational processes, collaborative work, and change strategy formation.
Professor John Sviokla, Harvard Business School	Economics and competitive dynamics related to managing in the "marketspace."
Professor N. Venkatraman, Boston University School of Management	Using information technology for strategic alignment and business transformation, and to create virtual organizations.

Interview Process

I conducted interviews with an interview protocol as a guide, but allowed for open-ended discussion, so as to encourage a dialogue and to establish an environment where interviewee and interviewer alike could benefit from the discussion. In-person interviews generally lasted between one hour and two and one-half hours. Phone interviews lasted between one-half and one and one-half hours.

For each organization I interviewed, I collected data on the background of the company and the interviewee, the company's motivation for using the Web, its experience with Web technology, and the composition and conduct of the Web team. Table 1 summarizes the topics I raised in the interviews, classified by program management areas: Marketing Strategy, Organizational Alignment, and Multi-Channel Management. (See Appendix for Interview Protocol.)

Table 2: Interview Topics

Element of Web Program Management	Organizational Processes Addressed with Interview Questions
Generating Web Marketing Strategy	<ul style="list-style-type: none"> • Identifying and describing the target customer • Defining the value proposition (e.g., on-line product, interactive experience, fulfillment) • Selecting and managing the multimedia/interactive technology • Designing and managing relationship marketing strategy • Designing and managing the database management systems and data warehouse
Organizational Alignment	<ul style="list-style-type: none"> • Assigning ownership/accountability and leadership for the Web marketing program • Selecting functions involved, defining activities by function, by partner • Defining critical success factors by activity • Monitoring, managing resource commitments by activity and function • Coordinating and communicating across functions, across partner functions • Designing incentive structures and reward systems
Multi-Channel Management	<ul style="list-style-type: none"> • Coordinating relationships with complementary channel partners • Achieving continuity with other channels and promotional media

Data Analysis

My primary data set was the highly detailed notes from the interviews. From these I looked for key themes, common issues, and differences and similarities in the patterns of thought, activity and affect across the participant organizations. In my analysis of the data I sought to derive a framework that would capture the processes the organizations used to:

1. Come to a collective understanding of the Web technology, and its impact on relationships inside and outside the organization.
2. Generate Web strategy.
3. Organize themselves (and their partners) in alignment with that strategy.

It became clear during the interviews that no one Web merchant's practices in these three program management areas could be characterized as "best practice." Ruben Pinchanski, Director of Strategic Interactive Group, a unit of Bronner Slosberg Humphrey, confirmed this from his experience:

There's no such thing as maturity in this business. The closest thing to it, as far as I can see, is that clients can now talk a little more intelligently. They understand better the opportunity. They realize they have no choice but to have a presence on the Web.

Given that the Web technology is in flux, I found that more revealing than the interviewees' lists of marketing or technological wizardry were the processes they used to understand the Web and to learn from their successes and failures. Learning themes included technology development, Web team design, organizational mental models, and customers' or channel partners' responses to their Web experimentation. The learning mechanisms proved to be as important as the specific lessons learned. In the following three chapters, I will discuss these processes in more detail, before proposing some implications for organizational alignment around use of the Web.

III. What is the World Wide Web?

In this chapter, I describe research participants' struggle to articulate their Web effort to themselves, their customers, and their partners. I found that organizations in which different groups hold different perspectives on the purpose of the Web tend to experience conflict around issues such as:

- What should be communicated on the Web?
- Where should management of the Web site reside in the organization?
- How should Web site dollars be spent?

In this chapter I illustrate how research participants develop -- or fail to develop -- a common understanding of the purpose and capabilities of the Web, and how a lack of clarity leads to conflict. I describe the five most common definitions of the Web, then, drawing from the work of Forrester Research, I discuss how Web site objectives translate into costs. Finally, I describe specific mechanisms through which Web organizations generate a common understanding of the Web.

Orienting the Conversation About the Web: "Naming the Elephant" or "Calling the Pitch"?

There's nothing so useful in the creative process as knowing what you are trying to create.

Peter Senge, Director, MIT Center for Organizational Learning, states it nicely.¹ The creative process must start with a collective vision. Clouding the collective vision in Web merchant organizations is the lack of clarity around the Web's actual and potential role in the corporation. Depending on their technical perspective and their functional roles, interviewees had varying perceptions of the role of the Web. Interviewees with Marketing backgrounds defined the Web using time-worn concepts drawn from marketing science: "promotional vehicle," "product enhancement," "distribution channel," and "interactive research tool." Interviewees with IS backgrounds used concepts drawn from communications fields: "graphical email," "distributed servers," or "wide-area connectivity." Meanwhile, IS and Corporate Communications groups observed that the internal Web, or *Intranet* can play all of these roles within the corporate boundaries. People who struggle individually to generate analogies between the Web and familiar media get caught in "media traps." Scott Kearne, Lead Content Developer for USCity.com, described this struggle:

There's nothing in this medium that you can get at with a simple metaphor. If I were a brand manager at USH, I'd be having one hell of a time figuring out what medium I'm displacing by putting money into the Web. With the Web you can emulate all of the media. And you can't even talk about costs per thousand the way you do with other media. A thousand [impressions] on the Web means something very different than a thousand [impressions] in TV, where passive viewers simply have their TV sets on.

Several research participants claimed that describing the Web technology today seems much like the old fable about the four blind men trying to identify the elephant. The first feels the trunk and calls the elephant a "snake." The second grabs onto the tail and calls it a "zebra." The third kicks a hoof and calls it a horse. The fourth strokes the side and calls it an "alligator." If the four men could communicate, they would determine that this is an elephant. However, if something obstructs their communication, either the lack of a shared vocabulary or the fear of losing power with the sharing of

¹Peter Senge, speaking to Professor Bill Isaacs' *Dialogue, Learning and Consulting Practice* class, 4/5/96.

information, then they may operate quite independently, never realizing that the elephant could carry all four of them.

Such an analogy captures the nature that functional orientations and media traps can obstruct information flow about the Web. Yet understanding the Web is even more complex. Unlike the elephant, which needs to be “discovered,” the Web is being both “discovered” and “created” at the same time. The potential of the Web applications is being *generated* by the very organizations that struggle to define it. More fitting than the “Naming the Elephant” fable, then, is the allegorical tale of the three baseball umpires who disagree about the task of calling balls and strikes (Weick, 1979, p. 1):

The first one said, “I calls them as they is.”

The second one said, “I calls them as I sees them.”

The third and cleverest umpire said, “They ain’t nothin’ till I calls them.”

I found that this tale, “Calling the Pitch,” better reflects the experience of research participants reflecting on the Web’s emergence. Those organizations who were best aligning their Web infrastructure, processes, and strategy were those who acknowledged the Web’s ambiguous nature, and recognized that understanding the Web requires a continuous conversation grounded in data. Fundco’s Senior Executive, David Torke, echoed the baseball analogy as he expressed this:

I truly believe that no one really understands this medium. No one has gone to the customer and asked “How do you really learn [on the Web]?” Someone needs to ask them, “How do you digest this?” The point is that it’s not like direct mail, or advertising, or even interactive TV. It’s a whole new ball game.

To achieve such a conversation, research participants endeavored to generate within their own organizations a shared vocabulary about the Web technology and their Web effort. They found that the shared definition of the Web is a critical success factor for organizational alignment, as it is a first step in establishing goal congruence among stakeholders. Without this, the Web effort is localized, learning fails to propagate through the organization, and consistency in customer communications across channels is lost. In Chapter VI and VII I argue that a successful definition of the Web is one that is generated in a dialogue within a multi-functional, multi-perspective team, which stimulates and tests that dialogue in the marketplace.

Motivating the Web Process

In the interview discussion, I began by asking interviewees to describe, in their own words, what motivated them to initiate a Web program. Specifically, I asked how their organization viewed the Web technology and what role it saw the Web having in the corporation’s product, marketing, communication and research efforts.² Interviewees responded with Web definitions which fell into five categories:

1. A venue for reaching a new or existing customer segment (“Promotion”).
2. A product enhancement, such as adding interactive, information-rich services (“Product”).
3. A logistics enhancement, such as on-line ordering or support (“Distribution”).

²In my discussions I stimulated interviewees’ thinking by proposing only three site types: promotional, content and transactional, based upon the Forrester Research model (described below). In the Hoffman et al. (1995) topology are six types of Web sites: 1. Online Storefront, 2. Internet Presence (flat ad, image and information), 3. Content (fee-based, sponsored, searchable database, e.g., DowVision, Pathfinder), 4. Mall (e.g., Internet Mall), 5. Incentive Site (e.g., As the Web Turns), 6. Search Agent (e.g., InfoSeek, Yahoo!).

4. A means for communicating with and monitoring customer needs ("Discussion").
5. A learning technology ("Discovery").

These definitions are discussed below and are illustrated in Figure 1 later in this chapter.

"Promotion" Web Definition

"Promotion" was the most common description of a Web program. Generally the objective here was to communicate with an attractive, techno-savvy customer segment. Participants saw a Web site as imperative for creating a high-tech image. Andrew Olive, Web Manager of TechFuture Research, recounted the pioneering tale of his company's Web effort, a tale typical of early Web programs:

We felt we had to be out there to maintain our brand image as a knowledgeable IT researcher. The initial campaign stagnated for a year. Not without a purpose, though. Our goals were simple. There were two main objectives: 1. Show that we were "out there" and maintain our image as being the most technologically knowledgeable, and 2. Publish an on-line directory of our [products] to generate leads.

As the Web demographics have become more mainstream, the high-tech image of the Web has faded, and Web merchants have gone on-line to attract segments that represent a customer more affluent and information-hungry than techno-phillic. In the quotation above, Olive also conveys another common motivation for on-line promotion -- competitor preemption. Many early Web initiatives sought a first-mover advantage. Registering a domain name, associating one's site with topical search engines like Yahoo!, and buying a presence on a "cybermall," were all motivations for the "promotional" Web site.

"Product" Web Definition

Several organizations perceived the Web as primarily "product" or product enhancement, such as adding interactive, information-rich services. WH, USCity.com, and Fundco considered the Web as enhancing a product or creating a new product with services which utilize the interactive searching and database accessing features of the Web technology. These companies observed that, from the customer's perspective, the product's value proposition encompasses the ease of accessing information *during* and *after* the purchase process. As a result, lines between "content" and "context" become blurred in the customer's mind.

Several respondents who perceived the Web primarily as "product" thought that defining the Web as a buying context, or "channel," was too limiting. The word "channel" connotes distribution -- the logistics of getting information or materials from point A to point B. It fails to capture the information-rich property of the Web. Fundco's Marketing Communications Senior Manager, Anne Vigiles, expressed frustration with this limited definition:

[A Sister Company] looks at this as a new "channel." They think that investors will have preference for this channel over traditional face-to-face or over-the-phone selling. This mindset evolved out of their retail mentality. [...] We [in our division] think that this is a whole new communication medium. [...] Nonetheless, even within our division we've found some people had a very narrow view of the Web. Strategic Marketing still thought of this as a channel -- they, too, initially didn't see that this could be something with greater functionality.

The "channel," as opposed to "product," definition of the Web also connotes a sense of substitution for, rather than complementarity with, traditional channels. In practice, participants felt that the Web enhances the relationship with channel intermediaries by providing them access to important service-enhancing collateral. Fundco's Vigiles again:

We want to "own the broker" and we will service and inform via all media that are available.

Another important implementation of Web as "product" is the *Intranet*. Sun Microsystems reports that Intranet Web installations exceed external Web sites by a multiple of 10 to 1. Pharmaceutical company UnionDrug is a good example of a company using Web technology to achieve all the product and promotional benefits of the Web within the corporate walls. UnionDrug has no externally-focused Web campaign at present. By building its Intranet using the standard HTML and the TCP/IP protocol, UnionDrug is able to take advantage of the external Internet's resources as well as its interactive, hypertext features. The company is creating its own agents to retrieve useful information from the external Web, and is keeping a repository of categorized information in the UnionDrug "Clearinghouse." The Clearinghouse is managed by a full-time librarian hired expressly for this purpose.

"Distribution" Web Definition

For software or information content vendors, like WH, the Web provides a cheap "distribution" channel. Combined with the interactive features which contribute to "product" value, distributing an information product electronically can be a win-win situation for vendor and customer alike. In fact, for many content developers, the equation is pointing increasingly from print to electronic publishing, and the business model from multi-tiered book selling to software distribution. WH CEO, Joe Estonia, stated that his company saw a compelling economic argument for the Web as a distribution channel:

We had several "touch downs" that brought us this realization. For example, we sold [our CD-ROM product] to schools and libraries at price points between \$795 and \$10K. But selling for even \$600 in the retail channel to consumers is laughable. When we looked at the businesses software model we realized we couldn't compete. Microsoft's Encarta, for example, started at \$395. Today it sells for \$39.95. They've been able to support that 90% decrease in price by bundling the product with OEM sales. The CD-ROM businesses is tough to make a dollar in.

This economic motive was echoed by WH Editor-in-Chief, Bob McCalaster:

We had to change our business model completely when we recognized that the world was moving to electronic publishing. [...] Some say [printing] is the cost of the craft, and, if a customer wants something like an encyclopedia, he has to pay for it. I like calligraphy and parchment, but knowing we've seen Guttenberg Bibles, I wouldn't want to go back to manuscript.

The standard concern in distribution channel technology is disintermediation -- the bypassing of channel partners as the manufacturer uses information technology to communicate directly with the customer. The Web is not immune to such criticism. None of the research participants that considered the Web to be a distribution channel escaped from channel tensions. For example,

- Fundco's partner-brokers are worried about end-customers jumping to the Fundco Retail channel.
- USCity Newspaper development managers are worried about advertisers' dollars shifting to USCity.com.
- TechFuture Research's Sales group is worried about leads "slipping through the system."

Two factors are retarding the rate of disintermediation at present. One is technological complexity, and the other is lack of security. Fundco's Web Manager, Wendy Turner, argues that because Web technology is still too complex for the average retail investor, financial institutions will continue to

play a "technology translation" role in addition to their financial advising functions. At the same time, she notes that fears of encryption failure are holding back full disintermediation for many products for which the purchase decision is made on-line.³

"Discussion" Web Definition

Intimately tied to the "promotional" role of the Web is the "discussion" role.⁴ I distinguish "discussion" from "promotion" along two dimensions: the level of fact versus abstraction in the nature of the communication,⁵ and the level of control over information access in the hands of the site visitor. For example, I consider messages profiling product features selectively or "selling the company line" to be "promotion." In contrast, I consider a general database of product specifications that can be searched by the site visitor to be "discussion." Data access by site visitors is only part of discussion, however. Discussion involves a bi-directional communication, where information about the organization is exchanged for incoming information about the site visitor. Fundco is a prototypical example of an organization using the Web for discussion. In her November 1995, written report, "Marketing Communications Technology Agenda," Marketing Communication Director, Mary Ellen Lillian, included:

Revolutionizing how we communicate with our multiple audiences; Streamlining our business and reengineering for increased added value, financial and human resources efficiencies; Improving the speed with which we get information to the field and to our customers. [In sum] moving us beyond the 90's from a marketing communications perspective.

The attraction of the Web as a discussion tool is that it centrally "broadcasts" the outgoing messages to many constituents. While this represents an efficiency gain in producing and distributing communication, participants pointed out that it also represents a risk, as multiple audiences may require different messages, and those messages, in turn, must correspond to messages conveyed in preexisting communication channels. Lillian's Fundco colleague, and Marketing Communications Senior Manager, Anne Vigiles, commented:

There are many audiences involved: the institution, the investment professionals, the back office (the customer service reps), the mutual fund coordinators and, most importantly, the investors. In fact, with 9 channels and 5 types of customer, we have essentially 45 audiences. When you include our own Intranet audiences -- Sales, Internal Production, etc. -- we have even more.

The "incoming" element of discussion excites and inspires participants in the Web effort, including those individuals who have historically had no experience with market research. USCity.com's Content Manager, Scott Coburn, expressed this excitement:

[W]e've found that the Web allows us to expand beyond the traditional boundaries of Print. Before it was a big pipe out and a small pipe in. Now we have a big pipe out, and a big pipe in.

Organizations are just beginning to explore the potential of on-line marketing research. On-line surveys, "hit monitoring" and "surfing logs" all represent fertile material for better understanding the customer. With the pure electronic response (as opposed to interview or written data collection) the Web represents a more quantifiable market research technology, as noted by Fundco's Vigiles:

³For more on Web security, see Violino (1996).

⁴The term "discussion" is used here to distinguish it from "dialogue," a term I use in Chapter VI to describe "collective inquiry in an environment of suspended biases."

⁵The distinction is captured in Chris Argyris' (1988) "Ladder of Inference," in which communications which are higher on the ladder are at higher levels of abstraction, assumption and contain implicit cultural meaning.

We can quantify directly the impact of our communications via the Web. We really can't get that kind of information about all the direct mail that goes out of here due to our intermediary relationships.

However, research participants acknowledge that organizations must use Web market research with caution. The market research methodology must be constructed in a manner that is sensitive to the site visitor's interaction with the technology, their affect and attention span, and their expectations for interactivity. Chapter IV describes attributes of the Web technology and the Web site visitor's experience that should be taken into consideration during the design of market research programs.

"Discovery" Web Definition

A final definition that emerged as research participants described their Web programs is "discovery." This is discovery both about the new technology, and discovery about competitive, partner, and customer Web developments. As discussed below in Chapter IV, many organizations "put up a shingle" on the Web primarily to expose themselves to the potential of this new medium. WH's Online Product Manager, Anne Levitt, expressed this experimental approach to the Web:

We built the site before we did the research on it. It was a leap of faith. Management knew that this would be the wave of the future.

Many research participants argued that only once they were on-line could they do concept testing, explore their organizations' on-line image, and benchmark their communications against competition and against Web merchants in other industries.

In Figure 1 I have categorized the participants' various motivations for going onto the Web, and the Web definitions that correspond to those motivations. In general, the more motivated organizations were to use the Web to enhance customer value, the more likely they were to describe the Web as product, distribution channel or a discussion forum (Quadrants 2 and 4). On the other hand, organizations which were motivated to learn about the customer or the technology tended to see the Web as a discussion or discovery tool (Quadrants 1 and 2). Organizations that were content to "broadcast" their product, brand, or technical competence without aiming to enhance the customer's value or their learning experience tended to define the Web as promotion (Quadrant 3). Of course, any Web program may include several definitions simultaneously.

Figure 1: Strategic Definitions of the Web – Promotion, Product, Distribution, Discussion or Discovery

Desired level of learning	High	<p>1. "Discovery" <i>(e.g., UnionDrug)</i></p>	<p>2. "Discussion" <i>(e.g., Fundco)</i></p>
	Low	<p>3. "Promotion" <i>(e.g., US Household)</i></p>	<p>4. "Product" or "Distribution" <i>(e.g., World Heritage)</i></p>
		Low	High

Desired customer benefits

Investing in the Web

Participants noted that Web investments are hard to manage, not simply because the technology is changing, and site visitors are demanding more multimedia, but because the participants' definitions of the Web are changing. Simply "broadcasting" a homepage on a non-interactive site may cost less than \$1,000 for a smart student with a PC. However, as desired learning and benefits to the customer increase, Web development costs increase exponentially. The primary cost drivers are unique for each site definition, as shown in Figure 2. "Promotion" definitions were more likely to be associated with multi-channel coordination investments, "Discovery" definitions with software development investments, "Discussion" definitions with creative and content investments, and "Product" or "distribution" definitions with fulfillment investments.

Figure 2: Activities and Investment Emphasis by Web Definition

Desired level of learning	High (increasing costs)	<p>Discovery <i>(Focus: SW Development)</i></p> <ul style="list-style-type: none"> • experimental multimedia • technology and creative benchmarking 	<p>Discussion <i>(Focus: Creative/Content)</i></p> <ul style="list-style-type: none"> • content or user interface on demand • surveys, giveaways
	Low	<p>Promotion <i>(Focus: Multi-Channel Coordination)</i></p> <ul style="list-style-type: none"> • interactive brochure • coordinated channels, coordinated links 	<p>Product/Distribution <i>(Focus: Fulfillment)</i></p> <ul style="list-style-type: none"> • on-line product and ordering information • database management • security
		Low	High

Desired customer benefits (increasing costs)

Figure 2 suggests that costs increase with both desired learning and desired customer benefits, as the Web merchant invests more heavily in multimedia and real-time interactivity. There are no Web cost research studies which use this precise classification. However Forrester Research uses a similar three-part classification scheme to correlate expenditures with site objective (Bernoff and Ott, 1995). In its report, entitled "What Web Sites Cost," Forrester estimates that Web costs will rise between 50 and 200 percent over the next two years. Forrester argues that such increases will be driven by on-line traffic, rising consumer expectations, increasing site development and maintenance, security, and pressure to invest in interactive technologies. Forrester estimates that, on average, Web merchants' initial (2-year) investments on Web programs currently range between \$300K and \$3.4M. Their findings are summarized in Table 3.⁶

Table 3: Forrester Research's Web Site Economics (1995)

	Promotional Site	Content Site	Transactional Site
Est. Costs	\$304K two-year cost	\$1.3M two-year cost	\$3.4M two-year cost
Motivation	Creates awareness, simulates demand into other channels. Non-transactional: main objective is marketing.	Entertains, informs, enlightens. New or repurchased material from magazines, newspapers, TV, etc. Up to 2,000 pages of content, updated daily.	Uses on-line transactions to sell product, conduct financial business, provide customer service. Users connect directly to databases which deliver information about products, prices, delivery. Pages composed dynamically in response to viewer requests, with pricing generated from back-end database.
Cost Drivers	78% of costs are in content and services, 17% in platform, 5% in marketing (traffic-driving). Typical site hires outside Web service agency to create, develop, and manage (2/3 of budget goes to agency).	Revenue source is advertising, content distribution fees. 62% of costs in content and services, 19% in platform, 19% in marketing. Payroll drives budget, even while content sites buy their own hardware. High up-front investment in content, marketing.	57% of costs in content and services, 20% in platform, 23% in marketing. High up-front investment in servers, lines; high ongoing maintenance (82% in year post-launch). Large and varied staffing requirements: content staff, CSRs, vendor relations staff, designers, programmers, marketers, administrators. (61% of budget in People costs.) High marketing costs for links from directories.
Examples	Major brand sites, like Gatorade, Toyota, Ragu.	ESPNNet, SportZone, Boston Globe's Boston.com, Discovery Channel Online.	Internet Shopping Network, Federal Express, Voyager.

Source: Forrester Research, 1995.

As with the five definitions suggested above, many sites attempt to meet several objectives simultaneously. Even Forrester's site categories are not mutually exclusive. For example:

⁶ Forrester interviewed 50 Web site managers seeking profit on the Internet. They focused on sites launched in 1995 that attract over 1,000 visitors month. Excluded were navigation sites (Yahoo!) pilot sites, or megasites (e.g., Microsoft or Pathfinder). Included food, healthcare, clothing, financial services, electronics, publishing, TV, lodging, travel and retail. Also interviewed the following Web product vendors: BBN Planet, Howie Green Design, Internet Direct, Modem Media, Navisoft, Netscape, Open Market, Organic Online, Poppe.com, PSINet, and UUNET.

- “Promotional” sites often involve data exchange both before and after purchase, thereby taking on attributes of what Forrester would call a “transactional” site. Increasingly, Web merchants are adjusting their promotional material in real-time to respond to a customer profile generated from transactional exchanges.
- Many Web merchants have found that sites with continuous informal polls attract repeat traffic, thereby playing both “promotional” and “transactional” roles. For example, TechFuture Research’s “You Make the Call” feature allows site visitors to quiz themselves on IT industry trends and compare their responses to those of other site visitors.⁷
- “Content” sites, as Forrester defines them, perform an embedded “promotional” function when they contain advertising material from partner sites.

During the interview process, I asked participants to classify their sites in terms of the Forrester categories. Many had difficulty defining their sites as exclusively promotion, content or transactional. Table 4 shows how elements of the participants’ actual site executions cross the Forrester classifications.

⁷Forrester excludes the pure “research site,” a site whose primary function is data collection, processing, and dissemination. Examples include Web demographers, such as Pitkow/Project Hermes and Stanford Research Institute, who frequently set up on-line survey sites to generate continuous respondent profiles.

Table 4: Research Participants' Web Site Profiles (Site focus highlighted N/A = not available)

Company	General Site Profile	Promotion	Content	Transactional
USCity.com (Industry: Journalism)	On-line "zine" with content from a variety of USCity Area public and private operations. Provides Web site development services to partners.	Promotes "partners" by displaying ads from sponsors in rotation. Drives traffic with local media (e.g., print, billboards).	Features combine content into themes. Linked to partners' and advertisers' sites.	On-line surveys. Proposed: ticketing using credit cards. Fee-based services, e.g., access to USCity Newspaper's archives.
World Heritage (WH) (Industry: Reference Publishing)	On-line and CD-ROM, hypertext-searchable Encyclopedia accessed with password.	Publicly accessed material describes on-line product, promotes free trial by site visitor.	Registered customers search and download content in real-time. Links to complementary sites.	On-line registration for trial using credit cards.
Fundco (Industry: Financial Services)	General corporate and product information to end customers and specific financial databases and account access for channel partners.	Proposed: Display company mutual fund offerings, promotes channel partners.	Proposed: Access on-line financial databases, commentaries from fund managers	Proposed: Downloadable collateral. Future: Support for secure money transactions.
TechFuture Research (industry: Market Research)	General corporate and product promotion for prospective customers, including interactive survey.	Promotes TechFuture Research with current research insights, lists of publications.	Weekly "You Make the Call" survey allows site visitors to compare their content knowledge to TechFuture and other survey respondents.	No on-line transactions. Prospects enter personal data for direct sales to follow-up.
UnionDrug (Industry: Pharmaceuticals)	Corporate Intranet (based on HTML and TCP/IP standards) with company, market, regulatory, competitive and channel information. Accessed/supported on two continents.	Some promotion of internal department activity, job postings, etc.	Company "Clearinghouse" content contributed by employees, paid outside researchers, complementary Web sites obtained with Web agents.	Corporate software distribution, file transactions, no money transactions.
SoloDrug (Industry: Pharmaceuticals)	Dial-up service providing drug and regulatory info to physicians. Proposed: Web-based promotion, to patients and the field, linked to Associations' sites.	Existing: Promotion of company drugs. Proposed: promotion of corporate health orientation	Provide drug and regulatory information to physicians. Proposed Web site to contain disease, health management and research information	Proposed: Information pamphlet downloads, no money transactions. Refers site visitor to 800-number.
US Household (Industry: Consumer Products)	Proposed: Brand promotion, product information, recipes, couponing, surveys.	Proposed: Brand promotion, product information.	Proposed: product information/entertainment, recipes.	Proposed: couponing, surveys.

Process of Discovering the New Medium

Forrester's data show that Web merchants' definitions of the medium can have substantial cost implications, ranging from computer hardware to content developed specifically for the Web. Do Web merchants just invest blindly in the Web, or do they agree upon a definition before investing? I found that participants expended considerable resources learning about the Web technology. In addition to spending a great deal of time reading about new products and Web infrastructure developments, a universal source of information was experimentation. In this section I discuss four sources of Web merchants' "research" data and conclude that those organizations that effectively capture learning from experimentation are most effective at generating consistent communications, streamlining their technology investments, and coordinating Web team contributions. This section foreshadows Chapter VI, where I argue that systematic learning of this type at the *corporate level* is the key ingredient to organizational alignment.

Skunkworks

In the overwhelming majority of participant organizations, the Web effort was driven by a "skunkworks" -- an individual or small team of IS professionals who "nailed up the shingle" on the Web out of technological curiosity. More recently, as Web development applications have become more available, skunkworks operations have also emerged from within the marketing function. The dominant characteristic of the skunkworks effort is isolation. Often a great deal of learning and communication with the customers occur without the awareness -- or direction -- of senior management. Noted research participant Andrew Olive, Web Manager, TechFuture Research:

We first went up there in July/August '94. [...] The motivation for our early efforts was kind of a guerrilla tactic -- which, I've learned, is not uncommon for early web efforts at organizations. A colleague [in IS] decided we needed to be there. He registered our URL with InterNIC and just started making stuff up and putting it out there. He worked with the director of marketing. We all believed it was the right thing to do, even though, at the time, our president hadn't even heard of the World Wide Web.

There are two major hazards of letting Web experimentation occur in a skunkworks' operation. The first is that the communication on the Web site may often conflict with the strategic objectives of Senior Management.⁸ Not surprisingly, it was the cyberagencies who were hired in by Senior Management "to clean up the operation" who first recognized this phenomenon. Andrea Spertus, Design Shark with Utopia Inc. remarked:

Originally our clients were the kind of "lone wolf" types -- the guys within the organization who said, "Hey, we should look into this." They were loose cannons, and no one at their companies was really interested in what they were doing. These first pages were really an effort to put out an outpost. Once the companies were out there they said, "Wow, this is really getting big!" and then the rest of the organization wanted to get involved. Today the CEOs are taking interest in the Web.

The second hazard of the skunkworks operation is the "opportunistic" nature of learning that results from its isolation. TechFuture's Web Manager, Andy Olive commented:

The concept of a Web Master originated because typically the Web site was a kind of skunkworks: only one person initially knows what's going on. Early on it's in the hands of the guy in the black jeans and the turtleneck.

⁸ A result is that the corporate "personality" may be misrepresented. I refer to this phenomenon as "brand mutation," and discuss it at length in Chapter IV.

Dan Kim of the MIT Sloan School of Management Center for Organizational Learning contends that opportunistic learning is problematic because it fails to propagate through the organization (Kim, 1993). As the publicity around the Web grows, and the organization decides to reinforce its Web effort, "skunkworkers" may never develop a process for communicating their knowledge to a broader, more diverse Web team. Skunkworkers tend to develop a localized vocabulary and often unformalized intuition for such things as what Web page elements draw repeat traffic, what HTML formats reduce downloading time, what traffic levels compromise response time, etc. Such tacit knowledge, while useful within the skunkworks, is not organizationally valuable unless it can be translated into generalized learning -- a process made difficult by the isolation of the skunkworkers.

Public Information

Web technology is advancing so quickly that once complex, labor-intensive multimedia effects are now available as add-in objects in off-the-shelf software packages. Keeping track of such money-saving and quality-enhancing developments is a time-consuming effort. Few reputable sources exist for evaluating new Web technology developments. Moreover, the typical IS publications suffer from sensationalism and from overly zealous endorsements of products that are unstable or simply "vaporware." USCity.com's Director of Development, Bill Bern⁹ expressed this concern with public reviews of Web technology:

Newspapers have the Pulitzer Prize -- an independent, JD Powers-type evaluation of their product. Nobody understands this stuff today enough to have something like that. Besides, what looks sensational today is going to be a yawn in a few months.

USCity.com's response to the paucity of reliable public information was to allocate a part of a senior staff member's time to "scoping" and "surfing." Although not a software expert by training, USCity.com's Scott Kearne is performing an important filtering function for the organization. In fact, Scott's combined technology, editorial and marketing expertise make him uniquely qualified to sieve through the journalism hype. Scott notes that placing this "scoping" role in an editorial function was serendipity. USCity.com developers were too preoccupied with execution tasks to perform this function.

Converging Media, Converging Industries

Another form of learning about the Web is cross-pollination. This results from the diversity of industries represented on the Web, each of which brings its dominant media orientation and communication style. Increasingly, as more and more companies advance their Web development efforts, Web pages are taking on a unique eclecticism in tone, content, and format. Two early sources of cross-pollination were printed brochures and software graphical user interfaces ("GUIs"). More than half of the participants launched their programs by creating electronic versions of their annual reports, product specification sheets, or other printed matter. Many participants described their early Web sites as "electronic brochures." At this early stage, the only interactive element they offered was text search.

Early Web sites also borrowed elements from GUIs, like buttons, pull-down menus, and dialogue boxes. The "navigation bar" which originated in Mac and UNIX development circles, is standard fare for Web sites universally. For example, most participants' sites had navigation bars with "Who is...?", "Your comments," and "What's New?" buttons. The paucity of information that can be conveyed with navigation bar labels is forcing organizations to be more precise than they might have been in their "electronic brochures."

⁹Bill Bern has since left USCity.com.

More recently organizations with their roots in newspaper editorial, such as USCity.com, have brought to the Web the "headline" motif. This motif, coupled with special interest "teasers," renders an enticing link to remote content.¹⁰ Similarly, encyclopedia producer WH found that its little-used "SuperIndex," a highly detailed printed classification of the content in the Encyclopedia, has translated nicely into the Web's hypertext format forming an intelligent search tool for on-line readers.

Several research participants remarked that cross-pollination of media goes in the other direction. For example, TV advertisers are increasingly using Web motifs and hypertext-looking dynamics to guide viewers through their messages. Similarly, people are using phrases like, "double clicking on this concept" in casual language. Print is taking on Web motifs, as remarked Fundco's Marketing Communications Senior Manager, Anne Vigiles:

This will impact how we approach our traditional marketing media. We're already seeing changes in the print collateral. For example, you see techno-motifs, like arrows, and the terminology is very "Web-ish" like "double click into something" means to go into greater depth.

Josh Bernoff of Forrester Research notes that consumer products companies, who historically were more sophisticated than other industries in capturing consumers' attention with short, intense radio sound bytes and TV ads, are better equipped to deal with the shortened attention span of Web surfers. In his report, "Brands on the Web," he argues that the emergence of consumer product companies has raised the bar for site animation and visual content across the board (Bernoff, Eichler and Ott, 1995). Consumer products companies also have greater experience with the consumer research process. Not surprisingly, as more of the major brands introduce on-line research programs, non-traditional researchers are learning new "tricks of the trade." For example, Utopia Cyberspace Architects implemented a political polling system for Virtual Entertainment (virtent.com) called VoteAmerica. On its server Utopia hosts Virtual Entertainment's database and processes the "Political IQ" test in real-time, generating charts and graphs that show respondents' scores.

Creating a Spirit of Inquiry

Organizations that tolerate experimentation are learning the "language of the Web" -- the technology, culture, and customer demographics -- more quickly than organizations that do not. Yet experimentation brings with it risk. Risk increases with the potential for compromising customer goodwill by disappointing or alienating them on-line, and thereby tarnishing the brand. In addition, risk increases with the cost of disrupting organizational processes and power distributions when Web programs are introduced.¹¹

In several cases, organizations have spun off their experimental divisions, explicitly to "unleash" those groups from the traditional processes and structures of the parent company, and, implicitly, to reduce the risk. Both USCity Newspaper's USCity.com and WH's TechHeritage Encyclopedia were spun off from their respective publishing powerhouse parents so that they would not be hindered by the traditional print journalism process. The USCity.com site, separated from the USCity Newspaper parent, is free to experiment, according to Content Manager, Scott Coburn:

We have a lot of freedom in what we do. We assume we're going to make the mistakes. There are basically two types of mistakes -- above the water line, and below the water line. Those above the waterline, such as some fouled-up graphic, are not too much to worry about. Those below the water line -- well, we learn from these mistakes. We don't pretend to have the answers.

¹⁰ Other renditions of this have included "click-able" sign posts (for example, the LL Bean site) or other eye-catching icons (for example, the refrigerator on the Zima site).

¹¹ Implications of the Web for brand identity and organizational processes are discussed in Chapter IV.

In contrast, for organizations facing regulatory scrutiny, such as SoloDrug and UnionDrug in the pharmaceutical industry, the cost of miscommunication can be more than lost customer goodwill, or temporary brand tarnishing. Such organizations risk jeopardizing the regulatory approval process for all drugs in the pipeline. In addition, the risk of compromising customer goodwill is high for organizations which execute contractual relationships with customers on the Web (in my classification, "distribution" and "product" sites). Two examples are Web-based customer service and Web-based information content subscription. In the latter category, WH Director of Product Development, Lee Koste, recognized that his company's contractual obligations limit its ability to experiment on-line:

Other sites do it because they are free. Experimentation is OK when you're not accountable to paying subscribers. Most of the experimenters have an audience that is technical enough to tolerate a little technical "snafu" here and there. While their community is willing to close down their browsers and reboot their machines, our customers are usually new to the WWW and they get derailed when the screen freezes or something.

Nonetheless, WH invests substantially in technology experimentation behind the scenes. The dilemma between fulfilling the organization's obligation to paying customers and being technologically progressive creates tension between different divisions at WH. Indicated Anne Levitt, Online Product Manager, WH:

We get access to the new technologies early, when the beta version is available. [Our technology researchers] get really excited about new stuff and we have to tell them to slow down because we can't support it, or we're afraid the product (or the developer) isn't stable. They are eager. They want to get onto the next thing.

In our interview, Josh Bernoff of Forrester Research pointed out that high tech companies are the fastest Web technology learners. He posited that this is because Web experimenters are more able to garner the attention and financial support of upper management in high-tech companies than in their non-tech industry counterparts. Bernoff claims that this is because Marketing and IS staff members in high tech companies generally speak a common language. US Household's Pete Busby went further to argue that high tech companies are not only more likely to share a common language across functions, but they also tend to have liberal attitudes toward information ownership:

The success of this technology rests a great deal on the corporate culture. Specifically, you'd ask who's in charge of the technology. In the high tech companies, the learning percolates to the top because the fluidity of information. [...] Certain institutions captured the media readily, whereas in our organization, we're just testing the waters.

In Chapter IV, I posit that this fluidity, or "democratization" of information is, in fact, an essential driver of Web development creativity, and that power-centers in traditional, functionally-compartmentalized organizations experience anxiety as information democratization is begins to occur.

Fundco and UnionDrug are both facing the "democratization" challenge head-on by experimenting in Web technology across the whole organization without spinning off an experimental technology unit. Their objectives are clearly both practical¹² and experimental. By installing a corporate Intranet, both Fundco and UnionDrug Web managers are allowing non-technical executives to explore the Web's hypertext qualities, its graphical interface, its linkages to internal and external databases, and its

¹²The internal information benefits to Fundco from its corporate Intranet are substantial, as described in an internal memorandum, "1996 Technology Agenda." These benefits include on-line libraries of collateral, educational materials, performance literature, and human resource information.

kinetic, fluid nature. Wendy Turner, Marketing Operations Manager in charge of the Web at Fundco, noted that with the Intranet her company aims to both propagate corporate information internally, and to teach the organization about the Web's potential as a multifaceted communication technology:

We want to put information onto an Intranet first to get our constituencies to know what this technology may offer. We want to help people learn how to navigate the Web themselves. In fact, we're using our own people as research contributors that way.

In parallel, Fundco is documenting the costs and user benefits of each incremental Intranet program investment, including database design, infrastructure purchases, specialized Web content development, and management time spent in interdepartmental coordination activities.

"A spirit of inquiry" is important for more than just building a reservoir of knowledge about Web technology. It also leads members of an organization to engage in dialogue about how they individually define the Web, about how the Web affects the organization's processes, and about how new Web-centric processes affect the organization's mental models. That dialogue process is a key ingredient in *organizational learning*. My observations about how the "spirit of inquiry" led to dialogue at the research participant organizations have fueled the model described in Chapter VI called the "Dynamic Learning Cycle."

Summary

In this chapter I showed that motivations for going onto the Web reflected the organizations' working definitions of the Web program. Depending on their desire to enhance customer value or to enhance the organization's understanding of the Web technology, research participants' definitions of the Web could be classified as "promotion" (low customer benefits, low learning), "product" or "distribution" (high customer benefits, low learning), "discussion" (high customer benefits, high learning), or "discovery" (low customer benefits, high learning). Web program costs increase with increasing customer value or learning intensity, as these dimensions correspond with increasing investments in software development and creative or content development. Such labor-intensive activities are all the more costly when they must be performed on a continuous, interactive, real-time basis.

Given the ambiguity of the Web definition, and the prospective high price tag for Web programs, organizations are motivated to increase their knowledge about Web technology. The "spirit of inquiry" in organizations is modulated by the perceived risk. Risk grows with the potential to tarnish the reputation of the company or brand, and with the potential disruption that the Web program will bring to the organizational processes. This drives many organizations to spin off or isolate their experimental Web programs. Nonetheless, some are discovering that "safe" experimentation with the Web technology can be found in the Intranet, and that such organizations can achieve remarkable internal communication benefits at the same time.

Having discussed the "perceptual" challenge in the research participant organizations' Web stories, I will describe in the next chapter, Chapter IV, how Web technology has triggered changes in those organizations' relationships with their customers, while, at the same time, it has impacted their own culture and business processes. How these organizations confront this tripartite challenge -- in perception, relationship management, and organizational structure -- will then be addressed in Chapter V with a discussion of the Web team.

IV. The Web as a Catalyst for Cultural and Operational Change

As discussed in Chapter III participants perceive the Web as nebulous; it cannot be neatly defined as a promotional vehicle, a product enhancement, a distribution channel, or an interactive research tool. In this chapter I approach the Web not from a perceptual perspective, but from an *impact* perspective. First I look at how the unique attributes of Web technology influence the relationship with the customer. Then, I discuss how the production and management of the Web technology affects the organization itself. I explore how the Web destabilizes corporate cultures, changing routinized operations and intra-organizational patterns of interaction.

Web Technology Changes Customer Relationships

Consider the Web definitions presented in Chapter III. From a Web merchant perspective, the Web as a “promotion,” “distribution,” or “discussion” technology blends attributes of many different communications media -- print, TV, radio, video animation, and telephony -- even electronic data interchange, or EDI. From a customer perspective the Web is at once *sensual, accessible, dynamic, direct, and interactive*. These five characteristics are captured in Table 4, which compares print to the Web site. The table also describes the site visitor’s mental “frame” when interacting with the medium.

Table 5: Comparison of Promotional Media: Print Medium and Web Site

Attribute	Print	Web Site
“Sensual”	Appealing to sight and touch: 2-D, flat, linear (Photography or line art), tactile.	Appealing to multiple senses: 3-D, depth-creating, substantive (photography or line art plus holograms, audiofiles, animation).
“Accessible”	Cover (“entry”) and organization of content controlled by producer.	“Entry” at any URL-level, not necessarily “top” page, controlled by site visitor.
“Dynamic”	Static, frozen in time, enduring.	Continuously changing and evolving, fleeting.
“Direct”	Printed brochures are general, direct mail “database-customized,” yet still impersonal.	Site visitor initiates direct link to company Web site. Electronic responses can be one-to-one.
“Interactive”	Navigation is largely controlled by printer’s page layout.	Navigation is controlled by visitor’s free-form, hypertext-based searches.
Media Constraints	Limited by space constraint; standard page size. Context controlled by producer (inks, texture, folds).	Limited by budget, not space; continuous page scroll. Context not controlled by site developer (variability in screen size, colors, and resolution; modem speed; browser-supported features).
Passive User “frame”	Reader is moderately attentive; receive publication with “junk mail.”	“Surfer” perceives site as part of surfing “journey,” with very spontaneous, non-linear trajectory to site.
Active User “frame”	Active, attentive; seeking specific product information; “effort justification” increases general attentiveness.	“Seeker” is active, attentive; “comparative shopping” increases attentiveness for specific product information.

Source: Interviews with Web merchants and cyberagencies.

Customer Perception 1: Sensual

As Table 5 illustrates, the Web visuals can be more *sensual* than print -- more substantive, depth-creating, and kinetic. Creative Web site producers are increasingly introducing downloadable video

clips and soundbytes, even live feeds from current events. For example, during a January 1996 blizzard, Boston Online (<http://ftp.std.com/NE/boston.html>) had downloadable video of the storm updated every 1.5 seconds with audiofiles reporting snow accumulation.

Organizations bound to a static brand image can now generate a new “personality” that combines sound, animation, and greater information about the corporation and its culture. For example, at many sites visitors need only click on the company logo to render an image of corporate headquarters, or the corporate moniker, to play a company jingle, or link to a corporate homepage. Andrea Spertus, Design Shark with Utopia Inc., described the challenge of reinterpreting the corporate identity for the Web:

Some [brand identity change] will just have to happen because everything has been designed for print. For example, with [our client] they have something that's very cute, but it's very flat. I mean they had nice graphics, but they had no depth. [...] These companies would never be advertising on TV. Now they have to create an “on-screen” look.

Fortunately, Web video and sound technology are becoming cheaper (with more off-the-shelf applications), less space- and CPU-consuming (with enhanced compression technology), and more accessible to organizations which did not have an “on-screen” look before. However, the technology is limited today by a lack of standards in both development and user display environments. For users, this can manifest itself in “scrambled” or “hung” sites.

Customer Perception 2: Accessible

A second important attribute of Web technology contributing to the customer experience is *accessibility*. Because any organization that hosts a site and registers its URL can build a Web presence, small and large organizations alike can reach a current or prospective customer on the Web. USCity.com's Content Manager, Scott Coburn, commented on the accessibility of the Web:

What's cool is how democratic the Web is. My presence on the Internet is as big as IBM's. My site's presence is just as large as a multi-billion dollar company's.

The advantage of this “democracy” is that, with proper registration in a search engine, like Yahoo, any site can be accessed by any customer. The disadvantage is that editorial investments or research data are hard to protect when text can be emailed across the nation in nanoseconds. For organizations like USCity.com, WH, whose identities are tied to their ideas, the Web threatens their source of customer value. Such organizations are now recognizing a shift in their customers' perceptions of value from editorial content and bookshelf “trophies,” to the combination of *speed and intuitiveness of access, currency of ideas, and editorial integrity*.

Giving the customer the opportunity to choose the information to be displayed reduces the “editing” task of the Web content producer. In effect, this shifts the constraint from *space limit* to *technology budget*, as WH's Designer, Jeannine Dormer pointed out:

In the on-line world, the new constraint is budget. Technology is really expensive. For example, audio takes up so much space -- something like 3MB for 10 seconds. That requires a lot of storage and bandwidth to work with. I ask “Is it worth it?” It may not even sound good, if users don't have a high-quality sound card and high fidelity speakers.

Bob Atkins, V.P. of Mercer Management Consulting, posited that certain aspects of accessibility can be a hazard. For example, other Web sites can link to a site's secondary URLs, or repeat visitors to a site can “book mark” secondary URLs to bypass the “top” homepage. By missing the corporate message, such visitors may potentially receive an incomplete or inaccurate picture of the company and its offerings.

Atkins argued that this dilemma underscores the need to maintain continuity regardless of initial entry into the site. USCity.com maintains partial continuity by placing the corporate logo (the "USCity.com whirl") on all pages and all linked-partners' pages. However, in a multi-divisional, decentralized organization, such as participants Fundco, USH, or SoloDrug, the hazard remains.

Customer Perception 3: *Dynamic*

Some research participants contended that Web content should not simply be a "transcription" of a message from traditional marketing media. Most argued this by pointing to the *dynamic* nature of the Web. This third attribute of the Web technology stems both from the "live" back-end (the site server), and from the participative role of the site visitor. As illustrated in Table 5, the site visitor is likely to have a profile and an affect quite different from the reader of print media. Correspondingly, this dynamic forum calls for communications that inspire, enlighten, or otherwise draw in the site visitor.

Participants concurred that the Web is about being "nimble," being clever, and rendering images and content that capture the attention of a Web visitor. The dynamic nature of the Web represents both an opportunity and an obstacle. Web merchants have the opportunity to rapidly adjust the Web program to correspond to the changing (known) customer needs or to changing (prospective) Web demographics. It gives the Web merchant the freedom to dynamically manage experiences of the site visitors. Noted Jeannine Dormer, Designer with WH:

The print medium has a "static" quality. You know it will be there for a long time. You ask yourself, "Will this style date this?" You don't think of the mass-market fads. You think in terms of an indelible impression you must make with your reader. In the on-line version, by contrast, you think about the user in the immediacy of this moment. Their impression will change continuously with each new representation you make.

On the other hand, the dynamic nature of the Web raises the site visitor's expectations for refreshing content, indeed the "entertainment" characteristics of the site. Fundco's Marketing Communications Senior Manager, Anne Vigiles, underscored the importance of real-time content management:

Nothing is static -- the technology and the customer are constantly changing. This is very different from traditional media. With print collateral an important objective is to create an identity. Fundco has an image of stability. [...] Print collateral becomes templated, somewhat predictable, consistent. Something you keep onto your shelf as a selling tool. With the Web, it's a daily edition. It has to be enticing. It must be updated regularly. It must not be perceived as a "newsletter."

Participants in the pharmaceutical industry struggle with the user expectations of content management. The pace of change in pharmaceuticals is very much "hurry up and wait." Any nimbleness and creativity of a Web team could get caught up in regulatory review. As discussed in Chapter III, the legal risk of miscommunication is costly. Seconds of response time for a non-pharmaceutical firm translates to months of response time for SoloDrug, as noted by Rich Lunde, Director of Internet Research, SoloDrug U.S. Pharmaceuticals Group:

Pharmaceutical companies are in a paradoxical situation. We have to convince the regulators that there are analogies between what we're proposing to do and what we've already done. We have to make them believe this is just like print content so that they'll approve it. But, from a marketing strategy point of view, the issue is to say that this is a new context, and, necessarily, content takes on a new meaning. So, on the one hand, we have to underscore that there are the same legal restrictions and controls as with print, while on the other hand, we want to stress that the Web provides a new, easy access to information for the customer.

Customer Perception 4: *Direct*

The fourth important attribute of Web technology that affects the relationship with the customer is that it is *direct*. For many organizations this is a liberating experience, especially for those who have communicated with their end-customer only indirectly through intermediaries, or for whom customer communication has been limited to certain functions such as Customer Service or Sales. Anne Levitt, Online Product Manager for WH commented:

We were coming from a very traditional environment. We had a direct sales background. This has given us an additional challenge with this new market channel. Historically our customer had been our Sales Force. [...] Now we had to look at a different customer -- the one out there surfing the web. It was totally new.

On the other hand, some organizations experience a rude awakening when they discover a demanding, sometimes angry, customer that wants to be heard. Participants have found a need to establish boundaries for communication with customers. The democratization of data on the Internet may raise the site visitor's expectations so high that visitors get annoyed when site managers delay in responding to inquiries. Both USCity.com and WH noted that their site visitors request archival research and are disappointed when they are referred to a librarian or a fee-based service. Lead Content Developer, Scott Kearne, was wistful as he recounted USCity.com's realization that direct access to the customer was a disappointment:

Originally we were so excited about how going on-line would give us access to the customer directly. Now we're closing that door because we get too much mail. [...] At first we responded to every email. We don't answer all of them anymore. It just takes too much time. We've effectively become the customer service for the Newspaper. The Newspaper doesn't publish email addresses, but ours are right out there. We get these inane emails, like "I went to highschool with [a well-known columnist]. Please can you say "hi" to him for me?" Our feedback system is held together with duct tape and bailing wire. We're putting in a routing system now that's going to cover some of the standard questions. Now we'll have pull-down menus so that there can be some specialization of feedback, but we'll use a bin of standard, pre-formulated responses.

Clearly, Web marketing organizations have a lot to learn from customer service organizations. If they do not set boundaries, their people -- and systems -- will be exhausted.¹

Customer Perception 5: *Interactive*

As discussed in Chapter III, a substantial motivation for going onto the Web is to learn about the customer -- to conduct a bi-directional "discussion." The interactive quality of the Web technology attracts visitors to sites as it supports both self-service information collection and entertainment. Meanwhile, this is a particularly attractive feature for Web market researchers. As Anne Levitt, Online Product Manager with WH, observed:

Our ability to do customer research is going to grow exponentially. We can have a one-to-one correspondence with our customers because they have to have a domain name and password access. We are database marketers traditionally. We'll use some of this as we research into our Web customer's characteristics.

¹Bittersweet kudos to Ragu Web site manager for setting boundaries with a Sloan Masters student. In response to my email request for an interview, I received the following electronic reply from Alicia Rockmore, Associate Brand Manager with Ragu Pasta Sauces: "Unfortunately due to the volume of requests received, we cannot respond to this request personally. My apologies."

We are database marketers traditionally. We'll use some of this as we research into our Web customer's characteristics.

Nonetheless, there are risks to interactivity. The first is coordination. Professor N. Venkatraman with Boston University School of Management argues that the level of inter-departmental interdependency increases with customers' need for unstructured data. As the amount of unstructured information required for making a purchase decision (or receiving service) on-line increases, so too will the involvement of multiple functions "behind" the Web site increase. In addition, the more forums for "inbound discussion" (Web site, retail or VAR channel, customer service, R&D, concept testing programs, etc.), the more critical will be the coordination of these different data sources in the preparation of messages in multiple media. More importantly, the more forums for "outbound discussion," the greater the need to align mixed-media communications.

Participants from the pharmaceutical companies noted that both "in-bound" and "out-bound" interactivity are risky for their industry. For example, Rich Lunde, Director of Internet Research for SoloDrug U.S. Pharmaceuticals Group, commented:

We do very limited things interactively. The guiding force for SoloDrug is regulation. You don't want to jeopardize the pipeline with some Web communication. The FDA might start asking questions and hold up your entire drug pipeline while they are investigating you. They might hold you under greater scrutiny if you were carelessly putting up information on your site. We have billions of dollars at stake. That's a risk we just cannot take.

The second risk of interactivity is the invasion of privacy. Many pundits claim that debates over the invasion of privacy or "netiquette" constitute nothing more than a passing phase in the adoption of this new media. Internet aficionados meanwhile, claim that failure to acknowledge the 20-year cultural establishment of the Internet will spell failure for would-be marketers. The jury is still out. Can we simply adopt the Internet as a cheap form of direct mail? Will unsolicited email be simply "flamed," or regulated by a legislative body or by a grass roots group?

Web Technology Destabilizes Process, Personality and Power

In this section I discuss how Web technology, its production, and its management affect the organization itself. I explore how the Web destabilizes the organization by challenging operations ("process"), control of the brand ("personality"), and information-based power structures ("power"). Participants pointed out that this effect of the Web on the organization can have an impact as potent as reengineering or a financial crisis. As a result, the Web may prove to be a catalyst of change for strategy, structure, and culture.

Process: Operating to a Real-Time Rhythm

Deborah Ancona (Ancona and Chong, 1996) defines the term "entrainment," as the organization of activities around an artificial structure, such as a budgeting or financial reporting cycle.² In most organizations, technology plays an important role in locking entrainment processes into place, and creating a rhythm for an organization's processes. A very powerful illustration of technology-generated entrainment is the printing process at WH. The press deadlines, the space constraints, the visual formatting guidelines -- all this contributed to a rigid operational procedure. With the introduction of a real-time electronic publishing medium like the Web, this structure suddenly vanishes, according to WH Editor-in-Chief, Bob McCalaster:

²Monitor Company Director, Roger Martin, calls these "Steering Mechanisms." Steering mechanisms, as described in Chapter VI, are formal, face-to-face, and cultural structures that are designed to align the organization to act upon its strategic vision, yet may, unwittingly, blind the strategic vision to changes in the competitive environment.

One of the oddities we face is the length of the manuscript. In print you care a lot about this. Any new article must fit into the same space as the article which it replaces. If something changes we spent a lot of money resetting the type. It's changing to direct-to-plate technology, but that, too, is very expensive. The printing process minimizes the changes that go into new pages. Our whole budgeting and planning process is based on page counts. All of a sudden the page limit is not a restriction anymore. This had been a discipline for us, but now the discipline is gone. We are not creating a book-length biography... We have to artificially retain some of the old discipline until we can find something that comes naturally from the new media.

The implications for organizations like WH and the USCity Newspaper are quite profound. The rhythm of deadlines is supplanted by real-time, daily site updates. The space constraints are replaced by technology budget constraints. Change happens quickly and individuals are forced to accept greater accountability. Anne Levitt, Online Product Manager, and Lee Koste, Product Development Director, described how Web technology completely changed their organization's product creation processes:

AL: People are used to very restrictive parameters of their jobs. They are used to a strict chain of command. This kind of operating structure doesn't work on the Web, where it's so experimental, that you have to sort of "throw it up and see if it works." Even though we don't want to lose the professional image of WH, we still need to just get some flexibility and be able to make changes on the fly. We draw in people from the traditional side who aren't used to being empowered. They want someone to do the decision-making for them.

KP: How have you dealt with this so far?

AL: I'll give you an example. I bring in Copy Editors, and when they try to operate in this fast-paced, experimental environment, they get very anxious. They go to their supervisors and say, "This is chaos!" I try to calm them. I say "This is just a different pace, here at [the on-line product program]." Some are getting really excited about it -- even though they are scared about how fast it's moving.

LK: They wanted this empowerment. Some need rigid definitions, of course, but I think most want -- and need -- that freedom to do their jobs in this fast-moving environment.

AL: People who remain uncomfortable will drop along the wayside.

LK: A number of people who are transitioning over to the electronic side of the house are experiencing an increase in responsibility. There's always a tension between what they can do and what they're allowed to do. It can be very stressful when you have come from an environment where you were confined to limited operating parameters, and you had a lot of clarity around your job function. Certain personalities handle the transition well. A lot depends on the process we provide them to take on the new responsibility.

AL: Some common sense rules apply. Either you make a decision, and keep the process moving, or you get consensus when the risk is too great to act independently.

This new, real-time rhythm affects more than content site developers with backgrounds in print production. Among my participants, it also significantly affects:

- Transactional site developer, Fundco IIS, which will have to synchronize Web-accessible databases and fund performance databases daily as it unrolls its Web site. This is raising the bar for the company's interdepartmental coordination.

- Content site developers, SoloDrug and UnionDrug, which will have to refresh their site content regularly with information such as regulatory developments and corporate financial market performance as they unroll their Web sites. This necessitates better coordination between partner cyberagencies and corporate regulatory departments.
- Promotional site developer, US Household, which will have to coordinate price or other promotions at its Web site with brand management program changes and retail merchandising programs. This will raise the frequency of communication between site designers, Brand Managers, and ad agencies building parallel communications in other media.

Of my participants, the USCity.com organization has settled into the real-time rhythm with the least transitional disruption. This apparently stems from the organization's journalistic roots. At an operational level, the company has guarded its hundred-year-old appreciation for the ephemeral nature of news information. At a cultural level, however, the USCity.com organization departs from past tradition. Recognizing that the Web-based company would be stifled by the departmental "silos" in traditional print journalism, the USCity Newspaper parent moved USCity.com to a separate physical location, and allowed it to establish a physical layout and reporting structure that would encourage personal initiative and information-sharing.

Personality: Establishing the Brand in Real-Time

As discussed above, because of the interactive, dynamic nature of the Web technology, the organization has the opportunity -- and obligation -- to create a fresh, dynamic Web "personality." Professor N. Venkatraman of Boston University argues that the process of building brand identity on the Web is quite unlike that with traditional media. With traditional media, he argues, brand equity is part of a reinforcing cycle: high-quality brands, supported by mass media advertising, allow firms to charge a premium, which, in turn, fuels further mass media spending. This positively reinforcing cycle constitutes a "producer push" form of brand establishment. Only after market research and significant delay does the brand, indirectly, reflect the evolving customer.

With the Web, on the other hand, you have "customer pull" brand establishment. On the Web, the objective is to create a new set of positive feedback loops. Consequently, brand-building is process-focused, rather than product-focused. With the "discussion" attribute of the Web, described in Chapter III, the customer sets the system into motion by asking for more information. The "customer pull" form of brand establishment contributes to what I call *brand mutation*, or what Meta Media Design Principal, Rob Haimes calls *brand creep*. Andy Olive, Web Manager with TechFuture Research, related a story about brand mutation caused by "customer pull" at TechFuture Research early in the company's Web development process:

Before we rebuilt the Web around the [new] concept, it was just me. I came up with new terms just because I wasn't familiar with some of our practices. For example, we had to respond to inquiries about getting reports. I had to communicate to the site visitors that TechFuture has a policy not to sell single reports. I didn't know exactly how to phrase it, so I invented the term "membership." I knew we had to put an answer out there, but I didn't have anyone looking over my shoulder. Then, when we brought in the consultant to talk to us, she pointed out to me that nowhere in the TechFuture literature is the term "membership."

The site visitor may request information about the product or company that can only be provided through dialogue with a department outside the brand management group. Where the staff managing electronic communications has unclear guidelines for responding to such requests, they could potentially reveal confidential or compromising facts.

Another contributor to brand mutation is third-party sites' embedded links to one's site, or "transclusion." This keeps many Web program managers up at night stylizing disclaimers and investing in path detection technology. Curt Peakock, Manager, Systems and Marketing Research, SoloDrug U.S. Pharmaceuticals Group, voiced his company's fear of unwanted links:

We have been approached by groups that want us to sponsor their site. It's really risky because you can't control the content of their site. What if the view is contrary to our own? Ironically, any sales rep from SoloDrug could give a physician a grant for his or her research. Even there we may not sanction the results. I saw one Web site a few weeks ago which had SoloDrug listed as a sponsor. It was some obscure group in Canada, and the claims of the sponsored company were not too controversial. But who would have known?

In my research I observed that brand mutation stems from a combination of characteristic of Web technology and Web program management. Table 6 summarizes four drivers of "brand mutation" -- new representation, interactivity, multiple contributors, and site manager isolation.

Table 6: Drivers of "Brand Mutation"

1. New Media Representation	Brand that is flat, static, silent in traditional media is now in a medium which is 3-D, interactive, kinetic, audible.
2. Interactivity	Customer asks for and receives real-time information.
3. Multiple Contributors	Diverse channel, function, or department constituencies generate brand identity in different communication forums and at different times. Also, public chat areas and site links contribute to image.
4. Site Manager Isolation	Localized Web site manager lacks brand information or the skills or vocabulary to communicate that information.

Research participants observed that brand mutation represents a loss of control in the traditional power centers of the organization. When the brand mutates in real-time, via on-line communications, the traditional centers of brand management can get severed from the informal brand development process. In principle, all the departments which have some impact on the customer's perception of the product or company will contribute to the "personality" of the brand. In Venkatraman's words, "The weakest link could destroy the brand equity." Therefore, brand mutation raises the bar for the coordination of messages in different channels and contexts, such as customer service or in-store promotions. On the other hand, brand mutation may represent an opportunity. WH CEO Joe Estonia embraced the concept of brand mutation:

The WH brand is "mutating," as you put it. I have spent quite a bit of time reflecting on the concept of the brand. Brands are often thought of as monuments. Think about Aunt Jemimah. Over all these years she's only barely changed. Marketers can't deal with the idea that investment in a concept, a symbol, an image, is diminished in value when you put the message out into the interactive space. This monumentalism is standard for the major U.S. brands. I prefer to think of the fluidity of the brand. I call this Emersonianism. Emerson wrote about the fluidity of existence. That is reflected in the evolution of the image generated out there in the various marketing media. People naturally tend to give inanimate products animate qualities. With the Web, we've been able to "breath life into the [company's] brand."

Boston University's Venkatraman, claims that this "mutation potential" offers fertile ground for new or second-tier brands to rapidly create a presence in the minds of the consumer. The very fact that the brand image evolves so quickly may, in itself, be perceived by customers as an attraction for an on-line

product or service. On the other hand, continuous brand mutation will lower switching costs for consumers whose “brand attention spans” are decreasing. As Professor N. Venkatraman indicated,

Secondary brands may suddenly galvanize into the market with the Web because they ride less on the mass-media-generated brand image. Their marketing organizations may be more decentralized, and less politically motivated. First tier brands will be slower to respond because they have been so successful in traditional formats.

Power: Democratized Data

The Web tends to “democratize” information outside and inside the organization. As noted above, outside the organization democratization shifts value from the information itself to the context in which it is propagated. With the Web companies which formerly differentiated themselves on their ability to research and articulate information must now compete on dimensions of speed, accessibility, timeliness, and format. Content developers realize that truly protecting information that is stored electronically is infeasible. Some site managers try to deter the propagation of their proprietary content through registration and passwording. Others have tried substituting bit maps for downloadable ASCII text (for example, the New York Times on-line). Still others threaten prosecution of copyright violations. Most have resigned themselves to the fact that information is not copy-safe, and charge a premium to the first recipients of time-sensitive data.

Inside the organization, the Web contributes to the democratization of data both directly and indirectly:

- *Directly*, the Web presents a new point of contact with the customer. This point of contact is often managed by an individual or individuals who formerly had no access to such information. At the same time, individuals in various functions within the organization can go onto the Web, either at the office, or at home, and can look at competitors’, partners’, or analysts’ sites, accessing information formerly only available to a select few marketing research staff members. More generally, when information is readily accessible at a low cost, people can access information which was once the exclusive “property” of their superiors.
- *Indirectly*, the real-time nature of communication on the Web and pace of change of the Web technology together raise the bar for internal coordination of the Web team. Many organizations have responded to this need by introducing email or groupware, and localizing decision-making. Noted Lee Koste and Anne Levitt, WH, the presence of electronic workgroups challenges traditional organizational power structures. Although the two participants welcomed the contributions from heretofore unheard voices, at the same time, they found that the democratic nature of email discussions can result, not in consensus, but chaos:

LK: Email at WH doesn't necessarily mean "better" communication, it means "more" communication. Sometimes it can exacerbate problems, rather than solving them. It can escalate something that can be easily resolved off-line. Email debates can degrade into "grandstanding." People feel as if their disembodied message gives them a certain immunity to public scrutiny. Even despite this, with email, we're moving faster.

AL: People on the fringes who aren't being informed can get really bent out of shape. They think email is an entitlement to all the information that is circling around here. It raises a different set of expectations: "I should be entitled to read all of what is communicated on everything that might be related to my job --even tangentially." It changes the structure of the organization when the guy in the mailroom has access to the president. We're asking ourselves, "What does this mean for jobs? for responsibility?"

Combined, these direct and indirect information-democratizing attributes of the Web all contribute to a shift in power centers inside and outside the organization. Power is shifted from the provider to the customer, from the *organizational* hierarchy to the *informational* hierarchy, and in many Web merchant organizations, from the marketing strategy designer to the technocrat. Noted US Household's Assistant Brand Manager, Pete Busby, for some organizations that have been caught in a hierarchical information flow, the "democratization" of information is destabilizing.

When a large company allows Web access [...] it can create disarray in the organization. It turns the political structure upside down. I'm only an assistant brand manager and I receive information from people at all levels in the organization because of my interest in Web technology.

Summary

In this chapter I described how the Web technology triggers changes in the relationship with the customer, as well as within the organization itself. The customer perceives the Web as a medium which is at once *sensual, accessible, dynamic, direct* and *interactive*. The challenge will be for organizations to leverage these attributes for their customers while making the best of the potentially *destabilizing* nature of the Web. The Web can threaten comfortable routines, "mutate" the brand or corporate "personality," and challenge historical power allocations. In effect, the Web disrupts both the rhythm which characterizes how work is done, and the rhythm which characterizes how individuals and the organization establish and maintain their identities. In Chapter V, I discuss the processes participant organizations have developed to deal with such disruptions, specifically structures and role definitions they have introduced to harness diversity amid instability.

V. Harnessing Diversity Amid Instability

In its November 1995 issue, *Web Week* surveyed Webmasters across a broad variety of industries on their roles in their organizations and their Web management responsibilities (Gardner, 1995). Two important observations may be made from the survey. First, Webmasters come from many different functional groups -- 44% from non-IT functions, such as Sales, Marketing, Public Relations, Strategic Planning, Legal, Desktop Publishing, Customer Support, and Editorial Services. The second observation is that many respondents bristled at the concept of the solitary Webmaster. Noted one respondent, "This isn't a one-person job. There are many people involved, and labeling one as special over the others diminishes their work" (Gardner, 1995, p. 47). Andy Olive, Web Manager for TechFuture Research, echoed this sentiment in my interview with him:

We've always had a concept of a "Web team." I think the solitary Web Master is not an appropriate model when you really care about the Web site. [...] This is definitely a teamwork effort. That's why I call myself a Web Manager and not a Web Master.

Web programs at participant organizations, having graduated from "skunkworks," are operated by teams of varying sizes and skill profiles, and with varying levels of individual engagement. In this chapter I explore the skill make-up of participants' Web teams, their business processes, and their relationships with the greater organization. Later, in Chapter VII, I will derive a framework for building an effective Web team in the context of the Learning Organization's objectives described in Chapter VI.

The Web is Both a Technical and an Adaptive Problem

In *Leadership Without Easy Answers*, organizational researcher Ron Heifetz (1994) describes two types of problems, *technical* and *adaptive*. "Technical" problems are "clear-cut"; they can be solved with knowledge and technical expertise, or what Heifetz calls "mastery and ingenuity." He goes on to write (1994, p. 71): "These problems are technical because the necessary knowledge about them already has been digested and put into the form of a legitimized set of known organizational procedures guiding what to do and role authorizations guiding who should do it."

"Adaptive" problems, by contrast, are hard to define and have no clear-cut answers. Instead, these problems require learning from, and evolving with, an uncertain environment, even changing the underlying mental models that have historically guided technical solutions. Often such mental models prove dysfunctional in dealing with adaptive problems because they are the very source of such problems.

Typically we think of a multi-functional team as being comprised of people from different functions within the organization, bringing with them their specific expertise in dealing with a technical¹ problem. I have found that effective Web teams combine -- and reward -- not only technical competencies, but also organizational or interpersonal competencies. I suggest that this is because the process of designing and executing a Web program today is both a technical and an adaptive problem. As a *technology and marketing* challenge, it requires technical competency (technical problem). Yet, as I argued in Chapter IV, the Web threatens the organization's power structure, the operational processes, and the brand identity. Thus, as a *coordination and cultural* challenge, the Web program necessarily involves organizational change (adaptive problem). In my research, I similarly observed that skill contributions on Web teams could not be classified exclusively by technical definitions, such as marketing, IS or Product Fulfillment. Rather, Web teams also harnessed skills that could be

¹In this context, the term "technical skills" refers to skills which are associated with a function or discipline, which can be either technical in the traditional sense (IT, database programming) or skills such as marketing and product development.

classified as “adaptive,” such as interfacing between projects or between groups, coordinating diverse technical contributions, or inquiring into the technology and its impact on strategy. Thus the Web team is a composite of both technical and adaptive skills. These two skill types are discussed in turn.

Web Teams Combine Diverse Technical Skills

In Chapter III I argued that the World Wide Web is eclectic in the greatest sense of the word. From a strategic point of view, the Web is at once a means to communicate, to promote, to research, to distribute and to create new customer value. At the same time, from a technological point of view the Web combines characteristics of print, television, radio, video, direct mail, email, and EDI. This inherent “eclecticism” of the Web requires a correspondingly eclectic Web team composition.

Pushing the Limits of Technical Competency

Several research participants noted that the pace of change and lack of standards associated with the Web technology -- in both development and user display environments -- are raising the bar for technical competency among Web designers. For example, Andrea Spertus, Design Shark with Utopia Inc., observed:

The graphic design firms don't know what I'm talking about. They're used to the print world -- issues like color separation. In print, you have precise control. You know how big the page will be, and how the colors will look. With the Web site, you have no idea what browser the visitor will have -- Mosaic or AOL, Netscape, or Lynx. You don't know what colors they'll have or what size is their monitor. I explain to the designers that they have to be flexible.

Staying on top of the technology is what keeps cyber-agencies like Utopia in business today. Their Web merchant clients, like WH designer Jeannine Dormer, concurred that the complexity and multi-dimensionality of the technology is currently so overwhelming that there is a need for a “renaissance figure” to manage the site development.

Cyber-agencies recognize that as the Web technology becomes standardized, over time they can only continue to add value by playing a strategic and “synthesizing,” rather than a technical, role. Ruben Pinchanski, Director of the Strategic Interactive Group unit of Bronner Slosberg Humphrey, recognized the necessity of building an artistic and strategic competency:

We do a lot of strategy work, covering the whole value chain -- from customer response through the Web execution. We perform very strategic analysis for our clients, which puts us in direct competition with [the major strategy consulting firms].

Choreographing an “Ecumenical Encounter”

Anne Levitt, Online Product Manager with WH, expressed a sentiment shared by many participants as she described her company’s struggle to integrate diverse contributors into the Web team:

This is not a linear process. It seems to grow in all directions -- in Marketing, Development, Editorial. It's challenging to get it all to mesh.

In the participant organizations I studied, Web programs were somewhat of an “ecumenical encounter,” as they required the cooperation of myriad players, such as:

- Marketing and advertising program managers
- Product strategy planners

- Network managers
- Systems designers and developers
- Database managers
- Order fulfillment managers
- Production planners

Each of these players contributed different functional or “technical” skills. These are skills that are specific to a functional discipline, such as “network infrastructure planning” is specific to a Network Manager. Figure 3 illustrates the combination of activities and corresponding technical skills that were found in participants’ Web programs, and characterizes them in terms of five main classifications: Marketing Strategy, Product Development, Creative Services, IT/Database Management, and Logistics. Each activity entails an array of skills (suggested here as receding rectangles). These activities fall into different functional titles within the organization and its partners. To a greater or lesser degree, all five activities were represented in the current or planned program of the organizations I studied.

Figure 3: "Functional" or "Technical" Skills Contributing to Web Team

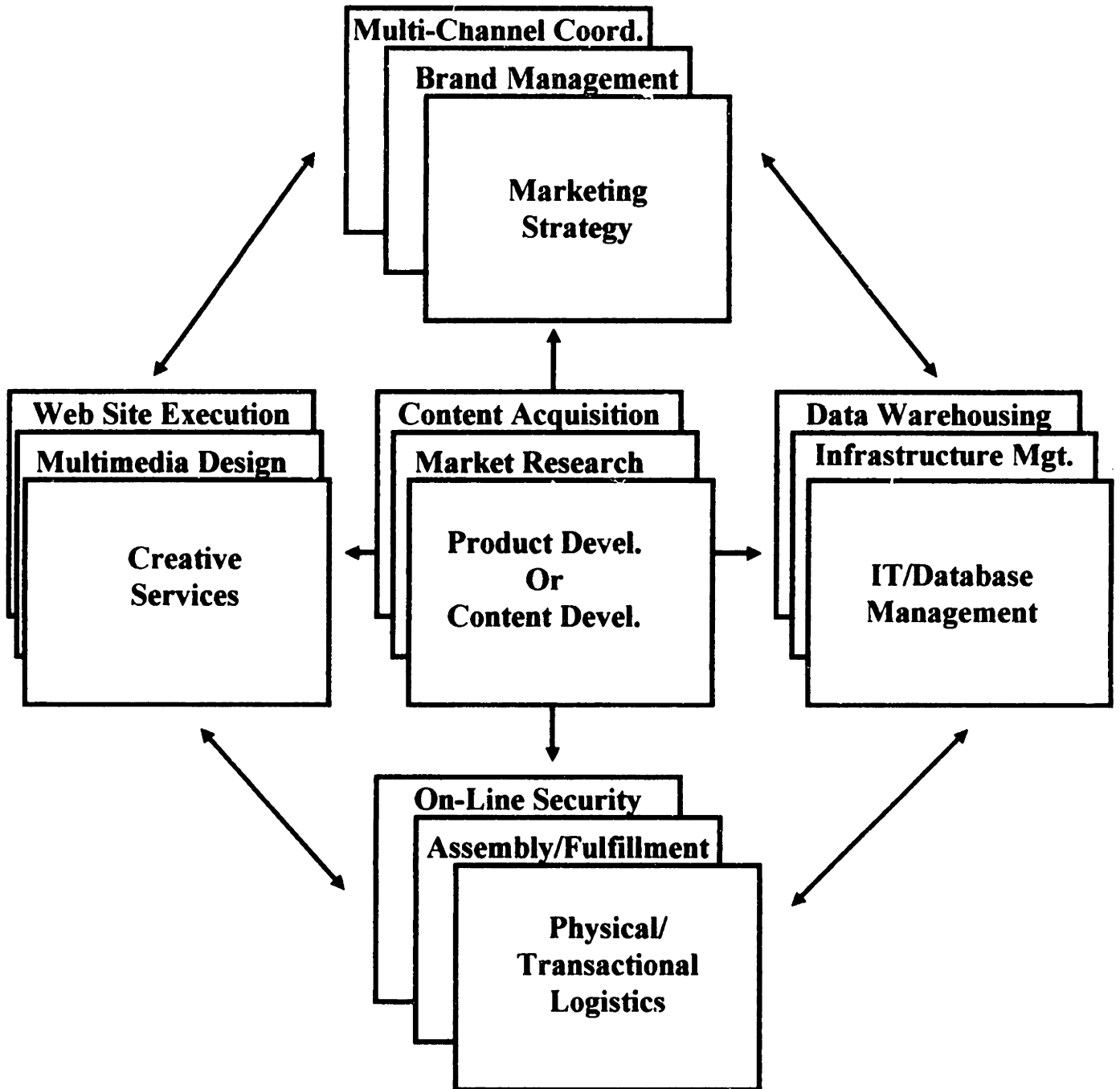


Table 7 summarizes the general composition of research participants' Web teams from a technical skills perspective. The director included in the third column, is generally a senior manager who gives authorization and corporate-level validation to the Web effort. The diversity of the Web team composition is quite remarkable, as is the level at which the Web program penetrates the reporting and functional hierarchies. For example, for those sites classified as "content" in Chapter III (Table 4), senior level Product Development Managers are key contributors.

Table 7: Functional Representation on Research Participants' Web Teams

Company	Functional or Technical Skills in Web Program	Web Program Director
USCity.com (<i>Industry: Journalism</i>)	Content Managers, Graphic Designers, Site Developers, Development (ad sales) Managers.	Senior Management (Editorial) dedicated 100% to Web program.
World Heritage (<i>Industry: Reference Publishing</i>)	Editorial, Art Department, A Separate New Technology Development Group, IS/Database Management, dedicated Product Manager.	Senior Management (Editorial) approximately 10% of time.
Fundco (<i>Industry: Financial Services</i>)	Marketing Communications, Sales, Internal And External IS, Editorial/Creative, Client Services, Risk Management, Legal.	Senior Management (Marketing Communications) spending less than 10% time. Steering Committee representing multiple sister companies.
TechFuture Research (<i>Industry: Market Research</i>)	Editorial, Content Manager/Coordinator, Development, IS, Marketing, Ad Agencies.	Senior Management (Editorial Research Staff) spending 15% time.
UnionDrug (<i>Industry: Pharmaceuticals</i>)	<i>Intranet</i> : Market Research, Full-Time Librarian, IS Staff	Senior IT Executive spending over 20% time.
SoloDrug (<i>Industry: Pharmaceuticals</i>)	IS, Market Research, And Marketing Representatives From Each Disease Team, IS Staff.	Director/Coordinator: Senior Management (Systems and Market Research) spending 50% time.
US Household (<i>Industry: Consumer Products</i>)	Not available	Not available

Blurring the Lines Between Functions

Research participants noted that a challenge associated with diversity of technical skills is the blurring of lines of responsibility between different functions. For example, HTML programmers are increasingly venturing into design, and designers must learn about the capabilities and limitations of multimedia technology on the Web. Many research participants found that anxiety can ride high where the demarcation of technical roles is ambiguous. Noted Jeannine Dormer, Graphic Design Manager for WH:

Designers are in a funny position. This new technology has been thrust upon them. The design organization seems now more in the hands of the technicians. Communication is based on the language of the medium more so now than ever before. [...] The Internet started with computer "geeks," not designers. Original Web pioneers were just creating HTML pages, but now they're

getting into design. Design as an "Art Department function" seems to have gone out the window. We [art directors] have to keep fighting for our final say.

Collaborating Across Functions

Technology, design, strategy, and communication all converge in the Web. As such, survival for the Web team means multifunctional *collaboration*. However, departmental functions or technical disciplines bring with them disparate cultures, economic incentives, competencies in technology and artistry, and perspectives on the relationship with the customer. This, too can be cause for tension, as Jeannine Dormer of WH expressed:

Designers are becoming more technically oriented. For example, they are learning the programming of HTML. Meanwhile, programmers are having to learn key elements of design. Frankly, I don't think ever the twain will meet. It will be rare for people to be good in each area. It's impossible to keep up with both; the technology is moving too fast. [...] When print technology got more complicated -- such as eliminating the mechanical step and going from electronic files directly to plate -- designers learned to adapt. But now because the [information] technology is so complicated -- with networking and browsers and different types of monitors -- we need a more collaborative environment with the technicians. It used to be that the designer would have to talk to the printer about managing a 5-6 color job. [...] It's an analogous situation here, only we [the Art Directors and the technology people] are still learning a lot from each other because the lines between our responsibilities have become blurred. Maybe with time, as the technology stabilizes, this will be the same kind of partnership as the Art Director and the Print Manager.

In this quotation Dormer also makes another important point: the relationship across functions is dynamic and delicate. Participants observed that right now there is a lot of pressure for Web designers to be "renaissance" people, possessing skills in many different artistic disciplines (3-D graphics, music, animation), as well as networking and hardware technology. Over time, technological change forces de-specialization as the new technologies that emerge fall in the gray area between functions. Then, technology maturation and commoditization results in re-specialization. WH's Dormer anticipated this re-specialization on the Web:

It may, in fact, shake out later. This need for someone to be a renaissance figure -- knowing all the art disciplines -- may be due to the fact that this is such a new medium. People have not developed specialized expertises yet. Ten years down the road it will sift out again. You'll have a designer for just the Internet who will hire out the specific skills needed to accomplish each element of the Web design -- for example, animation, sound bytes, ShockWave-like effects. By then the skills will be better understood. It's like shifting from designing a magazine to designing a comic book. You have to reduce the size of the image, reduce the palette. A small core of people really know how to do this.

Historically, as traditional media technology matured and specialization followed, organizations became more fragmented, more "compartmentalized." The effect was a reduced ability to weather new technology introductions, as processes and power structures crystallize around technology (Ancona and Chong, 1996). Responsiveness to technological change -- "nimbleness" -- thus requires a consistent dialogue between diverse functions. This creates a double bind. On the one hand, the blurring of the lines between functions is disruptive from an organizational standpoint (as it causes uncomfortable shifts in processes and power). Yet on the other hand, from a strategic standpoint, the nimbleness that comes with breadth can be a source of competitive advantage.

Getting Visibility in the Organization

Teams with the level of diversity displayed in Table 7 often face the challenge of getting visibility for an effort that is not "owned" by any one department. Below, in my discussion about "Interfacing" adaptive skills, I contend that visibility, or internal marketing, is the responsibility of more than just the designated "owner" of the Web program budget. Nevertheless, in most organizations, especially hierarchical organizations, Senior Management is best positioned to communicate across functions. As stated above, all the research participants who described their Web team composition have Senior Management oversight. However, of those organizations which use multiple media channels (i.e., all but USCity.com), in only one organization, TechFuture Research, did a Senior Executive spend more than 10% of his or her time on the Web program. TechFuture's Web Manager Andy Olive remarked that only after trial and error did TechFuture recognize the critical nature of Senior Management involvement:

We found early on that the most critical member of the team was the senior management. In our first attempt at executing the "idea factory" concept, we hired this new person who would be responsible for creating the Web-specific content. He was charged with getting an original "Brief" into the "What's your take?" page. We tried to come to a consensus on the content by getting 17 people into a room for 45 minutes every week and have them vote on the content, and then to have that new guy take the ideas to the Web. It was a disaster. He just didn't have enough clout or experience. There are only about six people at TechFuture who have a high-level understanding of the industry and how TechFuture really works. I jokingly call them "The Cabal." When you think about it, it's not surprising that only six really "get it." You'd have to understand the IT industry, the background and context, business strategy -- and how to communicate ideas in TechFuture's direct and pithy style. A new person couldn't really do this. It's hard enough to get these guys' time to stop and talk about the content, let alone translate that into something appropriate for the Web. After a couple of months we knew this wasn't working. We realigned the groups and had a senior manager take over the role of content design. [That Senior Manager] works with me on production, but he's responsible for the concept and the copy. Ideally we'd have the president do this, but he just doesn't have time.

The research participants were quick to point out that, for Web pioneers, Senior Management is rarely involved at the outset. As I suggested in Chapters III and IV, the result is localized learning, and often the program is often under-funded and fragmented, if not misleading, in the image it creates. The risk, as discussed in Chapter IV, is that, without this involvement, the Web strategy may fail to be aligned with corporate strategy. Research participants applauded the prospect of Senior Management involvement in the day-to-day operations of the Web team as this helps the appointed (or self-appointed) day-to-day manager to bring together contributions from departments that are often in separate venues, both literally and figuratively.

As I discuss below in Chapter VII, title level is not synonymous with ability to lead. In fact, my "Framework for a Healthy Web Team" in Chapter VII suggests that Web teams can cultivate adaptive skills which produce, over time, the same Interfacing and Coordination effects that are achieved by "borrowing" Senior Management time. In fact, internally generated skills of this type yield leaders more organically and with more of a "community builder" profile. Of course the challenge rests in an obscure grassroots leader's ability to commandeer resources. "Senior Management ownership" is thus a stop-gap solution to the Web team's visibility problem.

Web Teams Combine Diverse "Adaptive" Skills

In my research I observed that contributions to the Web program extend beyond our common definitions of functional proficiency. Research participants indicated that technical skills -- such as computer graphic design, database programming expertise, and brand management -- are necessary, but not

sufficient for Web team effectiveness. In addition to these skills, Web team members also have a high degree of organizational or interpersonal skills. These so-called “adaptive skills” include the ability to manage resources, the ability to coordinate tasks, the ability to innovate and inspire innovation, and finally, the ability to manage the team’s learning by synthesizing ideas and innovations inside and outside the Web team. I divide these adaptive skills into four types: “Resource management,” “Inquiry,” “Interfacing,” and “Coordination.”² I consider these skills to be orthogonal to technical skills, yet critical to Web team effectiveness. In Chapter VII below, I conclude that they are also fundamental to Web team learning, leadership, and knowledge-sharing with the greater organization.

Resource Management Skills

Resource management skills are the ability to identify and allocate resources, not only Web program development costs (creative or technology development time, hardware and software outlays, etc.), but also Web program benefits (the customer franchise). These skills are the ability to create, track, and communicate metrics for Web program effectiveness. Participants struggle to define such metrics, as generally the typical effectiveness measures used in advertising (“frequency,” “reach,” or “impressions”) or those used in direct marketing (“response per thousand”) fail to capture the unique value of the Web customer and the Web site visit. Consequently, many Web teams are on the defensive, as they are compelled to document return on investment, and they can only document costs. Fundco is an example, as Anne Vigiles, Marketing Communications Senior Manager, explained:

It is not obvious that this will be a strain on existing resources. Most people think the Web is simply another way of delivering a marketing message via the Internet. It is taking a lot of time and effort to explain this new medium and how we’re using it initially. The Web adds a whole new level of complexity -- hypertext, database linkages, maintenance of the site. We’re documenting everything so that we can show what it is costing us. What’s more difficult will be measuring the business generated by the Web program.

In my Framework for a Healthy Web team discussed in Chapter VII below, I propose some metrics for measuring Web program benefits, in the context of program objectives and Web team design.

Inquiry Skills

The two adaptive skill types on the Web team most fundamental to organizational learning are *Inquiry* and *Interfacing*. Inquiry skills are an individual’s or group’s ability -- and motivation -- to explore, innovate and experiment with the Web program. This requires stepping “outside of the box,” suspending one’s preexisting mental models about technology, conceptualization of customer, company, and competitive environment. Individual inquiry takes initiative and personal risk. This often means stepping out of one’s job description and technology “comfort level.” For example, WH’s Jeannine Dormer and USCity.com’s Kearne noted, respectively:

My background is in photography and illustration. I started learning computers in the mid-1980s. I was doing computer graphics really early on. By 1986 I had an Omega of my own. I never became a 3-D or video artist, but I did tend to move completely away from traditional media to computer media.

We use our programmers to create animations, manage the servers. [As a Content Developer] I go out and find all the bells and whistles, like ShockWave, RealAudio, and Voting applications and bring it back to them. We don’t have enough technology people to let them take time “off” to surf the Web.

²This skill typology is an extension of one developed in partnership with Nick Pudar, General Motors Corporation Decision Support Center and Jane Jenkins, Harvard University Department of Social Psychology.

Inquiry can also happen at a group level. Group inquiry skills are the ability to facilitate others' thinking "outside the box" by encouraging investigation of the Web technology, infrastructure, and customer demographics. As I argue in Chapter VI, inquiry skills are the foundation of dialogue which leads to organizational learning.

As discussed in Chapter III, several of the research participant organizations encourage inquiry at a structural level, for example, by spinning off a separate interactive technology division, or by funding and assigning individuals to an experimental Intranet program. Additionally, group inquiry may be facilitated by designated individuals. For example, Aeron Hornes, Graphic Designer of USCity.com suggested:

When we disagree or don't see the big picture, we go to Gary, the Production Czar. He has good all-around knowledge. He can pick out the basic technology and explain it. The technology is changing every day, like encapsulated programs, ShockWave, and Director. Gary would delegate to whom he wants to learn this.

Interfacing Skills

The second adaptive skill type most fundamental to organizational learning is *Interfacing*. Interfacing skills are the ability to transfer learning between contexts -- from program to program, from medium to medium, from competitor to self. At the same time, interfacing skills are the ability to bridge functional, departmental, divisional or corporate cultures, languages, and orientations. The interfacing mission is therefore two-fold: internal "marketing" and propagating learning throughout the organization.

Approaches to dealing with role ambiguity using "interfacing" and "inquiring" are superior to what WH's Dormer calls "fighting" above: the parties are more likely to view the overlap in their skills as a *learning* and *leveraging* opportunity, rather than a loss of control. Organizational design researchers support this premise. Fred and Merrelyn Emery (1990) discuss a democratic organizational design in which group members define, monitor, and take responsibility not only their own tasks, but the interdependencies of their tasks. The researchers found that in this context "job enrichment" stemmed from the group members' sense of accountability and community.

The Web teams' interfacing activity in the participant organizations occurred on four primary levels:

1. *At the individual level (face-to-face)* between Web team contributors from different functions and with different technical skills.
2. *At the group level (group-to-group)*, between the Web team and other functional or cross-functional teams within the organization.
3. *At the business unit level (business unit-to-business unit)*, between complementary Web teams in separate business units of a single company.
4. *At the company level (partner-to-partner)*, between partnering Web teams in separate companies sharing links or other cooperative marketing activities.

These four levels differ in their *objectives*, *level of formality*, and *depth of technical conversation*. I describe each level in turn.

1. *Face-to-face Interfacing*. In all the organizations I studied, interfacing occurred to some degree on the individual level as Web team contributors from different functions collaborate by sharing technical knowledge. In the participant organizations, face-to-face interfacing is performed

informally by Web team members on a day-to-day basis. Of all the interfacing levels, the depth of technical conversation is highest at the face-to-face level. In the early stages of Web development, individuals struggled to create a common language, but, because face-to-face interfacing communications were informal, little of the learning was captured in a format that could be shared with the whole organization. Graphic Designer Jeannine Dormer described the ad hoc nature of the face-to-face interfacing role she has played at WH:

I serve as a sort of go-between for the artists and the Web technology. I've learned HTML by teaching myself. Other artists don't think in terms of HTML. They'll do a page in Quark as a comp and then they'll want that moved to HTML. There's no way to physically get that into HTML. You have to do some "kludging," for example, using tables and image maps. [...] We're in the process of rewriting my job description. I am officially a "photo editor" but haven't done photo-editing in two years. Basically I'm a program manager with some design responsibilities. I end up being a project manager 60-70% of my time. The rest of the time I do design work. For example, I create the buttons in the [Web] pages. I also help others out with computer problems. I'm one of the few people in my department with a lot of computer knowledge.

WH, Fundco, TechFuture, and SoloDrug have all formalized the interfacing function by appointing a manager who performs interfacing primarily on a day-to-day basis. WH has two people who perform this role, one who provides a technical perspective and one who provides a product management perspective. Technology Research Director, Keltie, described his role this way:

Take, for example, this concept of "transclusion." [Corporate] had their own ideas about how this should be executed. We used an email group to talk over the issues. I consider it my job to manage the discussions, to keep the discussion on track and manage the threads. In this example, [employees] in Springfield, IL, along with others from Texas, would all participate in our discussions. We'd hash it out over email.

It is interesting to note that the face-to-face interfacing role is being recognized as vital to productive outsourcing relationships. Utopia's Design Shark, Andrea Spertus, noted that Web merchants are now budgeting for face-to-face interfacing activity between the interactive program developer, the designers, and the client:

[The client's creative staff] come up with the graphics, but I'm the designer. I've never worked in a print context, so sometimes we don't understand each other. I'm their personal web tutor. It can be a real pain. With one designer we wasted too much time teaching them how to use the medium. I'd constantly be explaining over the phone. We used to lose money on that. Now the clients have a larger budget and the client pays for us to do that. Consultation is standard now.

As the level of technical conversation is highest in face-to-face interfacing, it is not surprising that individuals in the participant organizations who take on this role have a broad skillset. For example, TechFuture's Web Manager, Andy Olive, has experience in both research and IT, and Fundco's Turner has experience in both marketing management and software programming. In a recent *InformationWeek* article subtitled "Identity Crisis" Kate Maddox quoted Timeline on-line products manager, and instructor of HTML programming who concurred that it takes a "new breed of maverick" to play this interfacing role (Maddox, 1996):

There are two classes of Webmasters. You've got people who were programmers before and who understand HTML, but have no marketing experience. Then you've got marketing people who

don't understand the technology. Finding people who understand both programming and marketing is very rare.

2. **Group-to-Group Interfacing.** The second interfacing level is between the Web team and the other functional or cross-functional groups within the organization. The important function of group-to-group interfacing is to create a shared understanding of the Web program objectives, and the role of the Web in the marketing mix. As internal networking, this interfacing function is critical to the Web team's effectiveness. Increased visibility (and comprehension) of the Web program are necessary for the Web team to access resources and coordinate messages in alternate media channels. WH's Online Product Manager, Anne Levitt, noted that this type of interfacing is hardly stress-free, especially when different groups perceive they are fighting for the same customer or budget dollar:

Everything we put out today has the URL on it, even print products. That was a challenge to get that included. The selling organization felt threatened. They really feared cannibalization. With the CD-ROM product it was different. That was very expensive, and it didn't seem too threatening.

In most organizations I studied, this inter-group interfacing role is performed informally by Senior Management. At WH this role is performed by a Steering Committee which arbitrates interdepartmental discussions of the Web program. At Fundco, inter-departmental interfacing of this type is the responsibility of the entire Web team, as indicated in an internal memo on the "Internet/Intranet Solution":

Fundco Marketing Communications is currently working on an Internet solution that will meet the needs of our internal associates as well as targeted partners. As a central clearinghouse for Fundco, we see our role as developing and organizing the content for the Web as it funnels through the organization, working with senior management to set content guidelines, and linking with Fundco Systems to build the infrastructure to support our Internet solution.

At TechFuture, the interfacing role is less "marketing" of the Web program than ensuring mutual learning. The TechFuture Web team benefits from the fact that other departments at TechFuture are "in the field," researching information technology. With the current dominance of the Web in TechFuture clients' minds, this means that some individuals outside the Web team may know as much about the Web technology as those members formally on the Web team.³ TechFuture believes that this dialogue between researchers and practitioners informs its Web strategy.

In the organizations I studied, the nature of group-to-group interfacing was more formal than face-to-face, as the conversation between groups was more often at a strategic level. As such, it is not surprising that individuals who manage this type of interfacing combine business acumen with their technical skills. For example, both SoloDrug's Lunde and Fundco's Mary Ellen Lillian, have business degrees and experience in management, systems and market research.

3. **Business Unit-to-Business Unit Interfacing.** The third level of interfacing, business-to-business, is between complementary Web teams in separate business units within a single organization. The primary motivation for this interaction is to coordinate shared infrastructure, Web technology knowledge, and common messages. Fundco has established a "Cross-Company Steering Committee" to serve this purpose.⁴ The Committee meets monthly to discuss parallel Web program

³ Moreover, Andy Olive, Web Manager, was part of the research team that explored the Web's role in Major Brands' marketing mixes.

⁴ "Fundco Electronic Agência" (3/11/96) identifies members of the Cross-Company Steering Committee representing a diverse cross-section of businesses. The Committee fosters data-sharing across businesses, for example electronic data

developments in the Fundco sister companies. Marketing Communications Senior Manager, Anne Vigiles, remarked:

The Cross-Company Steering Committee consists of individuals who have either Web projects in development or they are already on-line. The Committee's mission is to understand how we can explore and exploit this new technology to our common advantage, with limited shared resources.

4. **Partner-to-partner Interfacing.** The fourth level of interfacing, partner to partner, is between partnering Web teams in separate companies sharing links or other cooperative marketing activities. The purpose of this type of interfacing is to communicate partners' marketing program objectives, identify characteristics of common target customer, and manage cooperative marketing activities such as inter-page links. Sample partnering activities are described in Chapter VII.

Cultivating interfacing skills is critical to the Web team's long term survival. For one, it is unwise to rely on Senior Management as the chief source of visibility for the Web team's efforts. Senior Management provides an organization-level perspective, yet, their attention (and budget) are often divided along departmental, product, or customer segment lines. Consequently, the Web team must build awareness and comprehension for the Web campaign from both the bottom up and from the top down. Note that visibility is only a part of the interfacing story. Equally, if not more, important is the knowledge transfer component of interfacing.

Coordination Skills

Coordination skills comprise the ability to assemble and coordinate the team. This entails locating the precise mix of technical, resource management, inquiry, and interfacing skills that are required to meet the Web program objectives. Then, on a continuous basis, this entails managing the general activities of planning, communicating, designing, and executing a Web campaign. Coordination skills along with resource management skills are generally associated with *program management*. One participant pointed out that program management skills can be quite complex, and that otherwise technically-skilled organizations may choose to outsource to agencies or buy multi-million dollar automated program management applications expressly for this purpose. Outsourcing and software automation, however may rob the Web team of the opportunity to define and manage Web program performance metrics, an activity that leads to learning. At the same time, outsourcing program management may result in Web team members' participating in a process that is incongruent with the corporate culture. On the other hand, this may be the most effective means of breaking out of the dysfunctional processes, or "entrainment," described in Chapter IV.

Combining Adaptive Skills

Table 8 summarizes the definitions of the adaptive skill types, their contribution to the general Web program development, and their contribution to Web team effectiveness. (Technical skills from Figures 2 and 3 are not listed, as their contribution to Web team effectiveness is contingent on Web program objectives.) The speed with which technical skills related to Web technology and strategy are *acquired*, however, may depend on the four adaptive skills.

Table 8: "Adaptive" Skill Types Contributing to Web Team Effectiveness

Skill Type	General Contribution to Web Program Development	Contribution to Web Team Effectiveness
Resource Management	Identify, allocate, measure, and continuously manage resources.	Create and communicate common metrics for resource measurement and management.
Inquiry	Explore and innovate, using out-of-the-box thinking. Ask: "What is the Web? How can it increase our competitiveness?"	Encourage inquiry process in others, i.e., testing of assumptions, explicit reasoning, exploration of mental models.
Interfacing	Transfer learning between contexts, gather information about complementary marketing activity.	Synthesize learning in different functions, departments, divisions, company partners.
Coordination	Assemble and coordinate the team, manage schedules.	Communicate program objectives, coordinate across functional lines, risk new processes that break "entrainment."

Summary

The complexity of the Web technology, coupled with the challenge of integrating the Web into a multi-channel marketing mix, destabilizes many organizations. Web teams are, by necessity, multi-disciplinary, as grappling with this complexity requires myriad talents from multiple functions in the organizations -- marketing, product planning, database management, network management, and logistics, to name a few. The diversity of the Web team, however, can cause disruptions in familiar processes, task ambiguity, isolation of the Web team, and uncomfortable shifts in power.

In this chapter I illustrated how Web teams respond to these factors by assembling a blend of technical and adaptive skills. *Technical* skills are those that are associated with the *functional activity*, such as Marketing and Software Programming. Participants observed that the lines blurred between distinct functional roles, and that the resulting ambiguity meant that Web team members had to struggle to achieve visibility within the organization. *Adaptive* skills are those that are associated with *organizational process*, such as resource management, coordination, the ability to innovate and inspire innovation, and finally, the ability to synthesize ideas and innovations inside and outside the Web team. Participants observed that such skills are critical for containing the ambiguity associated with the new media which requires such an "ecumenical" operating team.

It is not enough to assemble skill types into a Web team and assume the team will realize sustained creativity, productivity, and alignment with the organization's strategic objectives. Using interfacing skills, team members must bring the greater organization into the Web team's exploration of the Web. Such "collective inquiry" requires an organizational commitment at all levels to learning about the Web. Such a commitment is the topic of Chapter VI, *The Dynamic Learning Cycle*.

VI. The Dynamic Learning Cycle

In Chapters III through V I showed that Web merchants are grappling with something that is at once *enabling* and *destabilizing*. Research participants struggle to generate strategic definitions for the Web, even while the Web fundamentally changes their relationship with the customer, its processes and its culture. Web teams struggle to build functional “bridges” and to gain recognition for their efforts in the greater organization.

The Web technology, by its very nature, challenges our existing paradigms about how we communicate, and about how to align ourselves to achieve that communication. Moreover, the manner in which the Web challenges us is constantly changing -- as our processes define, and are defined by, this emergent technology. My research suggests that in such an environment, those companies most fit to survive are consciously engaged in *organizational learning*. In this chapter I describe the cycle of organizational learning -- a feedback loop of collective inquiry, Strategic Dialogue, action, and reflection. Then, in Chapter VII, I propose a framework for organizing the Web team, or “action infrastructure.” This framework will integrate skills and resources inside and outside the organization to serve as the primary driver of this organizational learning process.

Why seek alignment through organizational learning, and not “borrowing best practices”? First of all, in my research I recognized that no organization could objectively be labeled as having the “model” alignment. Each was exploring the potential of the Web technology, and struggling to translate that learning into alignment choices that worked within their own cultural and strategic context. Moreover, it became clear that the fastest learners, those who cultivated a “spirit of inquiry,” as described in Chapter III, were the ones to watch. The strongest indicators of healthy alignment decision-making were the stories describing how the Web triggered conversations about organizational dynamics. Through inquiry, such companies transformed organizational instability into a learning opportunity.

What is Organizational Learning?

Researchers and business executives alike are recognizing today that sustaining competitiveness in a volatile environment takes more than strategic planning and mechanistic execution. Instead, it takes *nimbleness* for the organization to shift course as the competitive environment evolves. Notes Michael Scott-Morton of the MIT Sloan School research project “Inventing the Organization of the Twenty-First Century,” those organizations that can continuously size up their environment and their competencies and shift their course of action more efficiently than the competition will be the twenty-first century leaders (Scott-Morton, 1995).

Nimbleness, in turn, requires a feedback loop of inquiry, change in perception, and re-crafting of strategy. Inquiry, recall from Chapter V, is a probing into the factors that affect the relationship with the environment, the enabling technologies, and the organization’s actions. Perceptual change is a changing of the frame, or mental model, which drives action. The process by which inquiry leads to a reframing is what Argyris and Shön (1978) call *organizational learning*. Argyris and Shön define organizational learning as having occurred when the organization experiences a change in “theory-in-use” -- in the values, assumptions and action strategies implicit in the performance of action. According to the authors, learning occurs only when lessons drawn from inquiry cause a change in behavior (1978, p. 16):

Organizational learning occurs when individuals within an organization experience a problematic situation and inquire into it on the organization’s behalf. They experience a surprising mismatch between expected and actual result of action and respond to that mismatch through a process of thought and further action that leads them to modify their images of organization or their understandings of organizational phenomena and to restructure their activities so as to bring

outcomes and expectations into line, thereby changing organizational theory-in-use. In order to become organizational, the learning that results from organizational inquiry must become embedded in the images of organization held in its members' minds and/or the epistemological artifacts (the maps, memories, and programs) embedded in the organizational environment.

The organizational learning *cycle*, therefore, is a process at the organizational level that generates this type of learning -- a cycle of collective inquiry, reframing, and action. In the *Fifth Discipline Fieldbook*, Senge (1994) describes such a cycle. He expands on Argyris and Shön by proposing that an organizational learning program requires operating in two complementary domains: the "Domain of Enduring Change" and the "Domain of Action." In the Domain of Enduring Change is the cycle that constitutes the deep learning process. This cycle involves building awareness, reframing, and honing learning skills, such as reflection and conversation. The Domain of Action is the organizational architecture (which includes theories, methods and tools), innovations in infrastructure, and ideas which guide action. Senge asserts that the organization learns only when the two domains are both operative and interacting. The one informs, sustains, reinforces, and regenerates the other.

Using Senge's model, it would appear that for organizations to compete in the turbulent Web environment, they must focus simultaneously on their organizational architecture *and* their organizational learning processes. In other words, sustained competitiveness requires not only strategic actions -- planning, allocating resources, and program development -- but also deliberate organizational learning -- sustaining a continuous process of inquiry, reflection, and re-conceptualization of the Web. This idea of parallel activity in both thinking and acting domains is reflected in the primarily "thinking" and "acting" themes of Chapter VI and VII.

What Obstructs Organizational Learning?

If organizational learning is such an appropriate answer to a turbulent environment, then why only now, in the 1990s, are companies trying to achieve it? The reason is that many companies have cultural, formal, and behavioral systems which obstruct learning. Monitor Company Director, Roger Martin, names four principle sources of learning obstruction: Founder's Vision, Steering Mechanisms, Feedback Disruption and Organizational Defensive Routines (Martin, 1993). I will discuss each in turn.

Learning Obstruction 1: *Founder's Vision*

In the words of Daniel Kim, individual mental models are a "clustering or an aggregation of data that prescribes a viewpoint or a course of action" (Kim, 1993, p. 45). "Organizational" mental models contain the organization's "frames," or "world-views," and they prescribe the routines or "theories-in-use" which reinforce the organization's underlying frames. According to Roger Martin, the Founder's Vision is essentially the organization's mental model of the product, the market, and the firm's critical success factors, "that story of the organization individuals implicitly or explicitly tell themselves about their heritage and their purpose." Jim Clark described the inertia of the Founder's Vision in his March 1996 speech to the MIT Community:

Companies plant their taproot and it's very difficult to do something else. At SGI it was impossible to be another type of company. It doesn't take silicon to build high-end products. It takes silicon to build low-end products.

In the case of the Web merchant, the Founder's Vision may be expressed in the product or brand concept, which, in turn, is projected in (and often inseparable from) traditional marketing media. For example, for the journalism and reference publishing participants, USCity.com and WH, the Founder's Vision was tightly tied to the printed word and the paper underneath it.

The Founder's Vision obstructs learning when it blinds individuals to changes in the environment. They may see competitive events through a lens that may not reflect current customer requirements, technology options, or cultural change. This is not to say that elements of the Founder's Vision cannot, in fact, prove learning-adaptive in the Web environment. For example, Fundco's Marketing Communications Senior Manager, Anne Vigiles, noted that she senses her organization is returning to the core values of the company's founder, that is, values which support knowledge transfer between business units:

We've come back to basic values. I felt that we'd become very competitive with our sister companies. I really think we're now coming back to something more core, more holistic.

Learning Obstruction 2: Steering Mechanisms

Steering mechanisms are processes that support and reinforce ("hard-wire") the Founder's Vision or the organization's mental models. According to Bill Isaacs of the MIT Organizational Learning Center, Steering Mechanisms can be divided into three primary structures, "formal," "face-to-face," and "cultural" (Isaacs, 1996):

- *Formal structures* are systems expressly designed to achieve the organization's goals, such as an organization chart, a formal customer feedback program, and employee stock options plan designed to promote loyalty. Formal structures like financial reporting cycles, may be reinforced by technologies such as batch processing that limit real-time data communications.
- *Face-to-face structures* are theories-in-use that govern how individuals interact. Examples include blind deference to colleagues with longer tenure (theory-in-use: "tenure equates with wisdom or power"), and the attribution of low technical competence to non-technical functional departments (theory-in-use: "only technology functions have aptitude in technical matters").
- *Cultural structures* are shared myths, assumptions and norms, along with cognitive maps of the world and the individual or group's role in it. Examples include cultural stereotypes, such as the demonstrative nature of a European manager's management style, and a software engineer's preference for an 3 p.m. to 2 a.m. workday.

In a changing competitive environment, where the Founder's Vision has outlived its relevance, steering mechanisms will prove dysfunctional. These then become what strategy researcher Dorothy Leonard-Barton calls "core rigidities" (Leonard-Barton, 1992). For the research participant organizations, examples of dysfunctional Steering Mechanisms include:

- "Media traps" which prevent the organization from generating a collective definition of the Web, and crafting Web-unique communications, as was discussed in Chapter III. (Result: Exclusively assuming print-like or TV-like characteristics for the Web, or, alternatively, failing to share learning arrived at in non-electronic media programs. Also, looking for general Nielson-like ratings as site effectiveness measures, despite site diversity)
- "Process traps," or what was described in Chapter IV as "entrainment," for example, a process rhythm built around press release, brochure creation technologies or deadlines. (Result: Missing opportunity for opening the process to new techniques, new technologies, or the input of new disciplines)
- "Functional traps" which cause Web team members to feel anxious as lines between functions become blurred, as was discussed in Chapter V. (Result: Fear of shifts in power, information-hoarding, and isolated, opportunistic learning)

Learning Obstruction 3: *Feedback Obstruction*

Steering Mechanisms may implicitly or explicitly include data collection and interpretation methods that tend to confirm and reinforce the strategy, obstructing feedback that could invalidate the strategy. For example, cultural stereotypes that result in discounting Customer Service Reps' feedback may result in missing emergent customer needs.

The organizations I studied went to the Web to *remove* the feedback obstruction that results from the traditional channels' "filtering" information about customers. However, Steering Mechanisms, such as media traps, may present their own feedback obstruction. An example is survey design. Market researchers often post written or phone survey formats on the Web without accounting for the non-linear, hypertext mindset of survey respondents. Negative feedback may also be obstructed, as it comes in unexpected forms. An example is the Web site visitors' bypassing the top homepage by entering the site by using a secondary URL. This bypassing may indicate that visitors deem top page content to be irrelevant or annoying.

Learning Obstruction 4: *Organizational Defensive Routines*

Organizational Defensive Routines are individuals' denial of the gap between the espoused theory (the stated strategy) and the theory-in-use (the organization's values implicit in their actions) (Argyris, 1990). An example of this gap is a Web merchant's publicly touting its Web strategy, yet underfunding its Web program implementation. This gap often results in cynicism about leadership.

Roger Martin of Monitor Company refers to two common Organizational Defensive routines: *glorification of the past*, and *idealization of sunk assets*. For several participant organizations, especially those with a "product" definition of the Web, the "glorified past" is the content -- the proprietary ideas which now are threatened by the democratization of data. Harold Keltie, Technology Research Director for WH, described the company's realization that it was glorifying the past in a world moving to electronic publishing:

The old value proposition with print was four-fold: ownership of a print set, art object, a sort of intellectual life insurance, and the information itself. Our studies indicate that people undervalue the information itself. So when you move to an electronic distribution and format, the first three elements of the value proposition go to essentially zero. So what's left?

"Sunk assets" can include the channel infrastructure (for example a "deified" sales force), the brand identity, and an expertise in a certain technology. WH's Keltie went on to describe such a sunk asset for his organization:

The sense that they don't have control stems from the fact that the market terrain is rapidly changing. The types of people who are effective in an environment when the terrain is changing daily is very different from the types of people who are effective in a mature terrain. When the terrain moves very quickly and people don't understand where it is going, people panic. They cling to the old ways of thinking: "We're in the publishing business. This is printed matter." The people who thrive in the rapidly changing terrain are more flexible, more resilient, more willing to redefine what we're doing. We've had managers who had a certain prejudice against the Internet. They were caught in the print publishing model and lacked a sensitivity to what works in this new environment. It's hard for them to understand.

The Dynamic Learning Cycle

Overcoming learning obstruction involves both the generation of new mental models or "frames," and the implementation of a new process of discovery. In this section I describe the Dynamic Learning

Cycle, my own framework for organizational learning that adopts elements of models being developed at the MIT Center for Organizational Learning, and targets them specifically to Web merchants. This four-step learning process should be introduced initially by a Process Consultant to a "Learning Leadership Team," comprised of Senior Management from several functions, such as Logistics, IS, Marketing, and Legal. After the initial process is rolled out at the Senior Management level, it should be repeated for departmental and interdepartmental teams spanning the organizational hierarchy. Secondary process leaders should be recruited from the original Learning Leadership Team.¹

What is Dialogue?

The Dynamic Learning Cycle should be preceded by an introduction to the concept of dialogue, which serves as a sort of electric current powering the four steps which follow. The word "dialogue" comes from the two Greek roots, *dia* and *logos*, meaning literally, "meaning flowing through." Under the direction of Bill Isaacs, researchers and practitioners in the Center for Organizational Learning's Dialogue Project, are studying the development of dialogue processes in organizations. Isaacs and his team define dialogue as a process by which groups of individuals with diverse perspectives, motivations and learning styles come together and generate a "sustained, collective inquiry into the processes, assumptions, and certainties that compose everyday experiences" (Isaacs, 1993).

Dialogue, distinct from "discussion" or "debate," seeks not to separate right from wrong or winners from losers, but rather to engage in a common quest of exploration and discovery. In dialogue, people learn to suspend their defensive routines and to "become conscious of the very process by which they form tacit assumptions and beliefs." Table 9 summarizes the elements of dialogue.²

Table 9: Elements of Dialogue

Element of Dialogue	Function for the Learning Organization
Structural changes in conversation. (Requires setting new ground rules, including <i>accepting</i> temporary ambiguities or decision "voids.")	Develops awareness of link between conversation habits and learning obstruction.
Individual and collective use of explicit reasoning processes.	Promotes awareness of collective habits of thought and attention.
Individual and collective willingness to identify positions and inquire about them.	Serves as catalyst for altering deeply ingrained, sometimes polarized, mental models.
Collective commitment to find and frame problems as they surface.	Frames become windows into deeper meanings.
Recognition of thought as a <i>system</i> .	Develops sensitivity to causal feedbacks in thought patterns.
"Learning infrastructure" made explicit. (Requires shifts in organizational architecture, removal of obsolete Steering Mechanisms.)	Becomes base for coordinated action, and the implementation of dialogue-inspired change.

Dialogue requires first establishing a "container," an environment and set of ground rules that allow the individuals in the group to safely hold their frames and biases at bay so that they may individually and collectively admit ignorance without being judged. It is within this container that the group goes through the four stages of dialogue evolution, illustrated in Figure 4.

¹Of course, this process will need to match the resources and culture of the learning organization in question.

²This is modified from Bill Isaacs' "Dialogue and Dialogic Inquiry" model (Isaacs, 1993).

Figure 4: Process of Dialogue

Inquiry into the "field" of underlying possibilities; Listening for the options; Hearing words and the music; seeking the "common sense" of a group

Internal listening without resistance; watching through accepting differences

Suspend → Dialogue

Basic choice point; personal evaluation of options

Conversation → Deliberation

"Particle based" inquiry grounded in data, reasoning made explicit.

Dialectic
Exploring oppositions

Skillful Discussion

Unproductive Discussion

Debate

Resolve by logic and beating down

Advocacy, competing

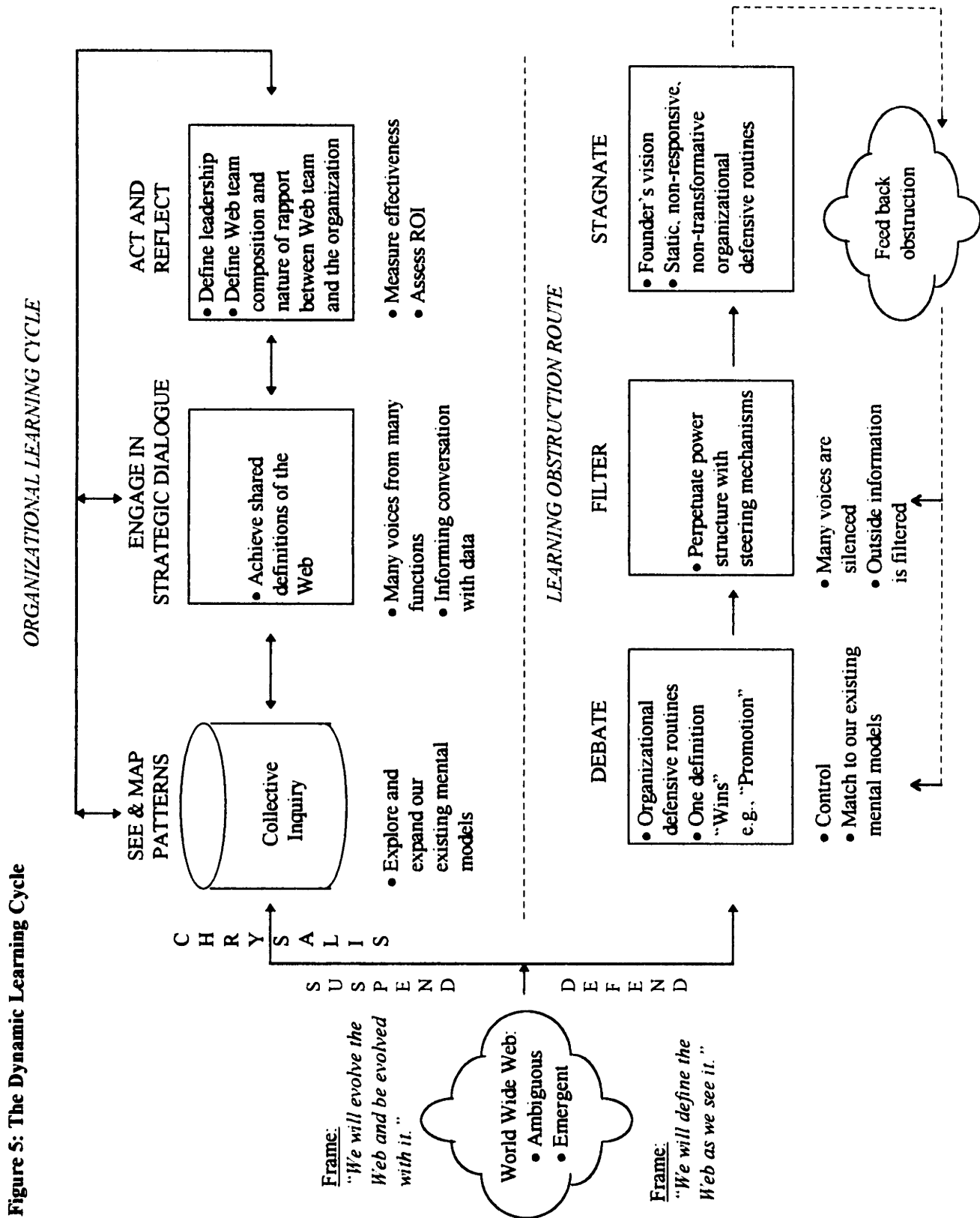
Protect against

This figure, developed by Bill Isaacs, illustrates two initial steps of the dialogue process, "conversation" and "deliberation," followed by a decision point, during which individuals in the group either "suspend," or "defend" their mental models. Defending moves the interchange into skillful discussion (which can generate a dialectic), or unproductive discussion (which can result in debate). Suspending opens the opportunity for dialogue. In dialogue, the group collectively explores unconventional ideas and learns to see patterns of meaning and systems of thought -- the sources of both learning obstruction and creation.

Having dialogue be the electric current of the Dynamic Learning Cycle takes the participants' informal "spirit of inquiry" in Chapter III a step further. Dialogue offers a more formal structure, or container, for not just asking questions about the Web technology, but for proposing and effecting changes in mental models about the Web. Powered by the dialogue process, the four steps of the Dynamic Learning Cycle are:

1. *Chrysalis*. Naming and acknowledging the past;
2. *Seeing and Mapping*. Exposing the organization's theories-in-use and defensive routines;
3. *Strategic Dialogue*. Evaluating the environment through the lens of this self-awareness; and
4. *Action and Reflection*. Taking action that is motivated by the dual goals of achieving results and promoting learning.

These four steps are illustrated in Figure 5. It juxtaposes the regenerative Dynamic Learning Cycle with the "Learning Obstruction" route, a linear process of "debate," "filter," and "stagnate."



Learning Cycle Step 1: *Chrysalis*

Just as dialogue requires a “container” for suspending frames and biases, so the organizational learning process requires a psychological “container.” During the “Chrysalis” step, the group acknowledges openly its past successes and failures. This act of introversion, or “organizational emotional work,” can be likened to entering a cocoon, or the chrysalis phase of metamorphosis. The primary motivation for this stage is to elicit a spirit of *empathy*, both between leadership team members, and between team members and the process facilitator(s). During Chrysalis, the process facilitator sets ground rules that guarantee a controlled, non-judgmental, dialogue environment as described above.

Monitory Company’s Martin calls this phase “catharsis,” meaning literally an “outpouring of grief.” Repressed grieving takes great emotional energy and robs an organization of its creativity. However, grieving without recognition of past successes may engender despair. For that reason, I recommend that during the Chrysalis phase the group should recount both good and bad history. At the same time it should postpone the “whys” and the “whos” until the formal learning model is introduced in the second through fourth steps.

For organizations that are introducing the Web marketing channel, the Chrysalis step is an opportunity to salute those technical, operational, and artistic skills that brought success to the organization (and the brand) in the past. At the same time, this is an opportunity to experience emotions of fear, doubt, and consternation about the new technology which threatens processes, role definitions, power structures and the brand identity, as discussed in Chapter V.

Learning Cycle Step 2: *Seeing and Mapping*

In Seeing and Mapping, the objective is to make the organization’s mental models explicit. Martin (1993) describes this as “Reverse engineering the Steering Mechanisms.” In Daniel Kim’s words, seeing means tracing backward from the standard operating procedures to the world-view that prescribes them (Kim, 1993). Seeing is a critical step for double loop learning to occur, but it evokes learning only when coupled with an active process of drawing connections back from world-view to action. This is where mapping enters. By formally drawing connections between mental models, context, behavior, and consequences, mapping helps uncover psycho-dynamics in action -- culture, institutions, behavioral response, and outcomes. Maps may take many forms. Maps such as causal loop diagrams used in the field of system dynamics unveil consequences of actions that may run counter to our intentions, and be manifest only after a time delay that lasts longer than the attention span of the actors.

The mapping exercise needs to be facilitated carefully to avoid participants’ engaging in finger-pointing or cover-up or other organizational defensive routines. The facilitator must use (and teach) *inquiry* skills, as defined in Chapter V, and encourage out-of-the box thinking, testing of assumptions, and exploration of mental models. Specifically, this requires group members to base their statements on observable data, communicate with explicit reasoning, and to use a balance of advocacy and inquiry.

Several participant organizations held the espoused theory “the Web team must be diverse and directed by consensus,” while they continued to hold organizational silo constructs (“There are castes still today, with Editorial on top, IS on the bottom”). Assuming IS to be order-takers, Creatives and Content Developers in such organizations made promises for Web site features without consulting the IS organization. (“Isn’t this just an IT thing? Can’t they just pull off another miracle?”) In a data-rich mapping exercise, such a dynamic can be made explicit, graphic, and discussible.

In the Seeing and Mapping step, the Web merchant organization can use the tools presented in this thesis as a guide to collective inquiry:

- ***Inquiry into the definition of the Web*** using the framework introduced in Chapter III. This entails both observing the Web's current possibilities ("Naming the Elephant"), and exploring scenarios for its emergence ("Calling the Pitch"). Then, it involves generating a shared vocabulary for the Web program, by mapping the current Web definition into a commonly-understood framework (i.e., "Promotion," "Product," "Distribution," "Discussion," and "Discovery" in Figure 1).
- ***Inquiry into the Web demographics and the Web's impact on the customer's perception of the company***, using the framework introduced in Chapter IV. This entails asking hard questions about how the Web is *not* like media familiar to us (i.e., "Sensual," "Accessible," "Dynamic," "Direct" and "Interactive" in Table 5).
- ***Inquiry into the Web's impact on the organizational culture***, using the framework introduced in Chapter IV ("Process," "Personality," "Power"), and how the Web team is be formed and led, using the technical functions named in Figure 3 and the skill types introduced in Chapter V ("Technical" and "Adaptive").

TechFuture Research's Web Manager, Andy Olive, described the transformation that his company underwent after its own "Seeing" process. TechFuture discovered that this new medium would require a new approach to representing the corporate message:

We realized we had a content "re-purposing" problem. Trying to translate what we know about the print medium into this new medium was totally missing the mark. [...] We found that you have to "think up content fresh" for this new medium. [...] We went back to the top of the organization to talk to people who really understand the "DNA" of this company. The Web is about being "nimble," being clever -- translating into this new medium the very essence of the organization. In many companies there are many different functions independently translating that DNA into the old media, freezing it into a static form.

[TechFuture CEO's] concept of TechFuture Research is an "idea factory." Each of our reports are a sort of encapsulation of a small idea, based on our understanding of current market developments. [...] We want to build the Web content around the CEO's concept -- in a sort of idea-centric manner.

In order to do this we've kept our structure very loose. The basic page layout is very traditional, with a Navigation Bar at the bottom, containing only about 7 buttons. Most buttons are similar to most sites, such as "what's new?" and "Comments," and the "TechFuture Research" background buttons. The nice thing about the standardization of the buttons is that because these buttons are so generic, they do not force us to put in specific content. We have far more flexibility that way.

The only non-standard button is interactive. It's called "What's your take?" Clicking on this gets you into a screen that contains only about three bullets on information. It's very direct, very "in your face." The graphics echo this -- they are very sparse, with little text. No scrolling, and few links to anything else. This is very clear, very concise. The concepts are based upon a TechFuture brief published recently.

The whole site encapsulates the TechFuture philosophy: very direct, very decisive, very no-nonsense. For example, a user never has to go more than two levels down to get to the interactive part. In the site TechFuture presents a point of view. You, as the user, can take a "pro" or "con" position on the facts presented. Then, you can see how you stack up against other viewers, and against the TechFuture opinion. TechFuture's opinion is supported by a few pithy phrases.

Companies that look inward, identifying what Olive calls the "DNA" of the organization -- independently of how that has been historically captured in print or other media -- are better able to represent the corporation's brand identity in a kinetic, interactive form. In fact, many research participants have concluded that brand identity created on the Web is no longer a static "image" but a kind of anthropomorphic personality.

Learning Cycle Step 3: *Strategic Dialogue*

The mapping illustration may reveal quite explicitly that espoused theories and theories-in-use differ substantially. Martin (1993) argues that the proper arbitrator of this discrepancy is a scientific probing into the reality of the marketplace. Such is the motivation for the third re-alignment step, Strategic Dialogue. In Strategic Dialogue the organization tests espoused theory and theory-in-use against hard data drawn from the environment. In Martin's model, the recipe for Strategic Dialogue has three critical ingredients: *learning content*, *learning tools*, and *terms of engagement*.

- **The learning content of Strategic Dialogue** is what Martin calls the "strategic curriculum." The organization must first agree on what data will be necessary to explain the discrepancies between the theory-in-use and the espoused theory -- to validate one, the other, or neither. This is not simply a massive data gathering exercise. Circumscribed by the self-awareness achieved in the Chrysalis step, it is a strategic focus on that which will better inform the organization's alignment decisions.
- **The learning tools of the Strategic Dialogue** are formal methods of inquiry (data capture), systems for assimilation or analysis (computer modeling),³ and methods for communication (language that translates "data" back into concepts congruent with the *Chrysalis* and *Seeing and Mapping* phases). These tools make the organizational mental models explicit, and facilitate transferring learning from the individual level to the organizational level. For example, WH and USCity.com had explicit learning programs, "EarlyExplorer" and "IncuBeta," respectively, which played the role of test environment.
- **Terms of engagement for the Strategic Dialogue** include roles and boundaries (e.g., what functions, divisions, or partners will participate), rules of conduct (e.g., between team members and between teams), and disciplines for reflection (e.g., unraveling observable data from frames or mental models). Terms should also include clearly-defined rewards to individuals who use dialogue-congruent, learningful behavior.

For organizations introducing the Web channel, seeing and mapping may reveal that their espoused theory, "Respond to the evolving customer," is inconsistent with their theory-in-use "Respond to the customer we know best." Given that the Web demographic profile has so radically changed over the last six months, hard data can be quite an eye-opener, both for technology companies which have had a long-term courtship with techno-phile Web surfers, and companies which have only recently begun to plan web strategies. In the Strategic Dialogue process, the organization has the opportunity to revisit and inform its alignment with the evolving customer.

Customer Centricity as the Basis of Strategic Dialogue

Web merchants claim that the Web technology and the customer are changing so quickly that the data collected in a research program will be obsolete before they are even synthesized. Some even toss out the idea of setting a strategy, such as Jim Clark, CEO of Netscape:

³ At Monitor Company, where Martin is a Director, assimilation methods range from basic buyer economic value analyses (EVAs) to multi-million dollar industry "flight simulators."

I don't spend a lot of time trying to predict precisely what Netscape will be like in 10 years. This technology and market are moving too quickly. You start out on course and the customer says they want something different. This adds an element of randomness. You can set out some direction and go after it with a team. Then it mutates slightly. When the market doubles every eight months, 70% of users are different from those you had at the beginning of the year. We've had four shifts in our business plan already. You can't possibly predict what it will be like in two years.

Nonetheless, a data-rich Strategic Dialogue is critical for grounding the organization's mental models, and for creating consensus during the (revisited) Seeing and Mapping phase. Motivating the Strategic Dialogue should be a common inquiry into the emergent customer. For example, to orient the performance metrics in Chapter VII using a customer-centric Strategic Dialogue, the organization will want to translate "meeting a customer need" into performance metrics that use language from the Web program definitions in Figure 1 in Chapter III. These, in turn, should translate into specific decision-nodes or landmarks in the Web program, which correspond to specific cost activities or management time investments.

Learning Cycle Step 4: Action and Reflection

The final step of this Organizational Learning model is integrating learning with action, and action with reflection. Like the Domain of Action in Senge's Organizational Learning Model, this phase has three components: communicating the ideas which guide action, designing the organizational architecture (theories, methods and tools), and innovating an action infrastructure (Senge, 1994).

- **Ideas which guide action** are the theories-in-use described by Argyris and Shön. These are the organization's perception of itself and its world view, which, in the Dynamic Learning Cycle, are continuously informed and regenerated by the Seeing and Mapping and Strategic Dialogue phases. Such ideas are translated into a vision and critical success factors for the Web strategy.
- **Theories, methods and tools** for each Web merchant organization will be specific to the definition of the Web they choose. For example, selection of tools -- such as Java or ShockWave, raw HTML or Adobe PageMill -- along with implementation methods, such as Rapid Application Development (RAD), will be highly specific to the program objectives.
- In **innovating an action infrastructure** the Web merchant defines the strategic planning process, as well as the network of internal and external relationships through which the Web strategy is executed. Once the organization agrees on a working definition of the Web, and an understanding of current learning obstructions, it staffs the Web team with the proper complement of technical and adaptive skills. Innovations in the action infrastructure are the subject of Chapter VII.

Over time, the organization observes the impact of actions. In reflecting upon the discrepancy between the expected result of a strategic activity and the actual result, the organization captures more data for Strategic Dialogue, as well as for a revisiting of the Seeing and Mapping phase. When the data re-informs organizational mental models, and finally action, this is when we realize what Argyris calls "double-loop learning" (Argyris, 1990).

Through formalizing reflection, the organization avoids the situational and opportunistic learning of the "skunkworks" operation, as discussed in Chapter III. To move from opportunistic learning to Organizational Learning requires making the knowledge of this group explicit, such as with a regular "lessons learned" discussion, a Lotus Notes database, or an electronic newsletter. Types of useful "lessons learned" named by participants included data about technology, process, and strategy. For example:

- “What Web page elements draw repeat traffic?”
- “What HTML formats reduce downloading time?”
- “When should technical experts be brought into the creative discussion?”
- “Which cyberagencies understand our industry?”

The Learning Cycle as a Dynamic Feedback Loop

Although I describe these four phases of organizational learning as discrete events, they must constantly feed back upon one another, as an integrated, ongoing process. Figure 5 uses arrows to show this feedback in the Dynamic Learning Cycle. Continuous learning requires that the Strategic Dialogue constantly inform the design of the action infrastructure, unlocking Steering Mechanisms that have trapped and been trapped by the organization’s mental models. At the same time, the Seeing and Mapping processes should continuously bridge the inward-looking Chrysalis activity with the outward-looking Strategic Dialogue and action design.

Summary

For an organization to re-align Web program strategy, Web technology potential, Web team composition, and program development processes it must experience a process of unfreezing and change. This is what Harold Keltie, Technology Research Director at WH, called “metamorphosis”:

We’re transforming this company like a caterpillar transforming into a butterfly. When the butterfly emerges from the chrysalis, the rules for butterflies are a lot different from the rules for caterpillars. I knew that each individual in the company would have to go through this metamorphosis. The threat to their way of life was clear. But there will be casualties, no doubt. It’s like putting a highway in that provides an alternate route through a town. The stores on Main Street go out of business.

In this chapter I contend that generating a common understanding of the Web, of the Web customer, of the Web’s impact on culture, and finally, what skills must be brought to bear in a Web team can only result in a “static” configuration of resources, mental models, and attitudes. In that context, individuals in the organization, like Keltie’s Main Street shopkeepers, may never embrace the technology change nor gain the resilience to weather future change. Truly embracing the Web technology, and achieving *dynamic* alignment, requires a Dynamic Learning Cycle. Powered and contained by the dialogue process, this involves four iterative stages, Chrysalis, a phase of storytelling and catharsis; Seeing and Mapping, a phase of inquiry; Strategic Dialogue, a phase of testing and analysis; and Action and Reflection, a phase of implementation and observation.

Just as the Domain of Action is integral Senge’s Organizational Learning model (Senge, 1994), so the Dynamic Learning Cycle discussion is incomplete without a full description of the action infrastructure that contributes to it. It is within the Action and Reflection phase that alignment is designed and implemented. Chapter VII, the final chapter, discusses three central action themes -- the strategic planning process, the creation of leadership, and the building of the Web team.

VII. The Action Infrastructure

Organizational Alignment is the *dynamic integration of the organization's operations, structures, reward systems, culture, and information infrastructure with its corporate strategy*. The words "dynamic" and "integration" are operative here:

- "Integration" suggests a unification or a harmonization of a system of parts (strategy, operations, structure and infrastructure, reward systems, and culture) which are interrelated, and mutually-informed, yet not ranked.
- "Dynamic" suggests an ongoing process by which corporate strategy continuously informs the decision about Web programs and is informed by the evolving potential of the Web.

Referring to the Dynamic Learning Cycle in Chapter VI, alignment decisions are part of the Action and Reflection phase, specifically, *innovations in the action infrastructure*. As discussed in Chapter VI, such innovations necessarily incorporate the organization's mental models of the environment and of its historical patterns of action, models which, in turn, are being dynamically informed by the Strategic Dialogue and Seeing and Mapping phases of the Dynamic Learning Cycle. In this chapter I focus on the three innovations in infrastructure most central to alignment: the strategic planning process, the creation of leadership, and the building of the Web team.

Generating Web Strategy

In "Strategies for Optimizing the World Wide Web Investment." Pugh and Troost (1995) outlined a formal process for assessing the prospective return on investment for a Web program, given anticipated changes in margins associated with industry-wide shifts to electronic distribution channels. Pugh and Troost did not, however, discuss how individuals in the organization "craft" the Web strategy, especially in an environment when the Web demographics, the Web infrastructure, the technology development environment, and the organization's knowledge are evolving constantly. Given these conditions, an appropriate strategy development process can be best characterized as "emergent" or "improvisational." Orlikowski and Hofman (1996) liken this process to the performance of a jazz band:

[T]he performance works because all members are playing within the same rhythmic structure, and have a shared understanding of the rules of this musical genre. What they are doing is improvising -- enacting an ongoing series of local innovations which embellish the original structure, respond to spontaneous departures and unexpected opportunities, and iterate and build on each other over time. [...]the jazz musicians are engaging in an anticipated, opportunistic, and emergent action during the course of their performance to create an effective and creative response to local conditions.

Orlikowski and Hofman are writing about strategic change around the use of groupware technology. Their premise holds equally true for the Web. Research participants used words to describe their strategies like "emergent," "dynamic," or "evolutionary." As I discussed in Chapter VI, it is the organization's commitment to the dialogue process -- a process which thrives on this improvisatory quality -- that powers organizational learning.

A second characteristic of the Web strategy development process also illustrated in the quotation, is its collective nature. In Chapter V, I classified Web teams skills in the participant organizations into two types, *technical* and *alignment*. In looking across skill types, I found no single technical or adaptive skill that could be classified as "strategic thinking." Although the Web teams had individuals with titles which are often associated with strategy formation, such as "Product Planner" or "Marketing Manager," these individuals rarely performed a strategy development function single-handedly.

Instead, strategy development was most often a synthesis of contributions from individuals with diverse technical and adaptive skillsets who were "improvising" locally.

The collective strategy development process was facilitated by a team leader that was using all four adaptive skills -- *inquiry* into the various perspectives within and without the firm, *interfacing* between Web planning processes and corporate planning processes, *coordinating* the various contributions into a single vision, and *resource management*, estimating costs and benefits of the program, given vision and industry scenarios. The leader's role was then to continuously *articulate* the strategy arrived at collectively.

Defining and Evolving Leadership

Knowing what leaders *do* is not enough to define leadership. We also need to know what leaders *are*. The observations in Chapter V of skills-in-action in the participant organizations, can only partially help. By suggesting that skills we customarily associate with leadership -- *inquiry*, *interfacing*, *resource management* and *coordination* -- can be held by any team member, the skill model of leadership fails us. I propose that a better model combines *skill* and *motivation*.

In *Leadership Without Easy Answers*, Heifetz (1994) argues that with adaptive problems, the role of the leader is to facilitate the change in others, not to "solve the problem." Solving an adaptive problem requires not just applying technical skills, but also facilitating or "motivating" development in others. I have argued that the Web program task is indeed an adaptive problem, as the Web threatens the organization's power structure, its operational processes, and its brand identity. In the participant organizations, effective leaders were individuals who were facilitators. They motivated organizational learning and encouraged competency in individual Web team members. This required the leader to have *all* of the adaptive skills, along with a proficiency in one or more of the technical skills.¹

The substance that lies behind that ability to motivate is feeling, specifically *passion* and *compassion*. I define "passion" as vision plus the drive to realize that vision. I define "compassion" as the desire to understand and build the competency of team members. The leader's *passion* must underpin his or her resource management and coordination skills, and the leader's *compassion* must underpin his or her inquiry and interfacing skills. This is not to say that non-leaders cannot have passion and compassion. Indeed a degree of motivation and commitment to the team is essential in all members. Through his or her own passion and compassion, a leader shapes and sustains the motivation and commitment of team members.

Passion in Leadership

Undoubtedly, great leaders must have great vision. Yet vision alone does not achieve greatness; that requires action. Said Alan Kay, a research scientist at Xerox Park in the 1970s and co-designer of the personal computer, "What matters with vision is not what it is, but what it does."² Vision enlightens and inspires. Passion, on the other hand, is infectious. Leaders will need that passion as they lobby for resources and take risks on behalf of the Web team in introducing the new interactive technology and new content. Moreover, leaders will need that passion as they serve as spokespersons for the Web effort.

¹The function from which the Web program Leader emerges, and the specific technical skills required of the leader is likely to emanate from the definition of the Web program and the power allocation within the firm.

²Recounted by Peter Senge, speaking to Bill Isaacs' Dialogue, Learning and Consulting Practice class, April 5, 1996.

Compassion in Leadership

Leaders need not be knowers; yet they are catalysts of knowledge. Leaders may not “know” the myriad creative and technical processes that have to come together in a multi-channel campaign. Instead, they have to listen attentively, learn and encourage learning across distinct functions inside and outside the organization. This takes compassion. It entails seeing and acknowledging the experiences, capabilities, and aspirations of all constituencies -- regardless of their title or affiliation. Engaging in the planning process with compassion may mean setting aside a personal vision in favor of an actionable one.

Designing a Healthy Web Team

Using the two skill dimensions discussed in Chapter V, coupled with the motivational dimension associated with leadership, I propose a framework for a “healthy” Web team. The MIT Sloan School of Management *Project Team*³ defines seven elements of team “health”: speed of response to environment, ability to manage internal and external resources, speed of integration of enabling technologies, ability to communicate, capacity to learn, motivation, team commitment, and ability to manage team boundaries. Table 10 translates these generic elements into the language of the Web team:

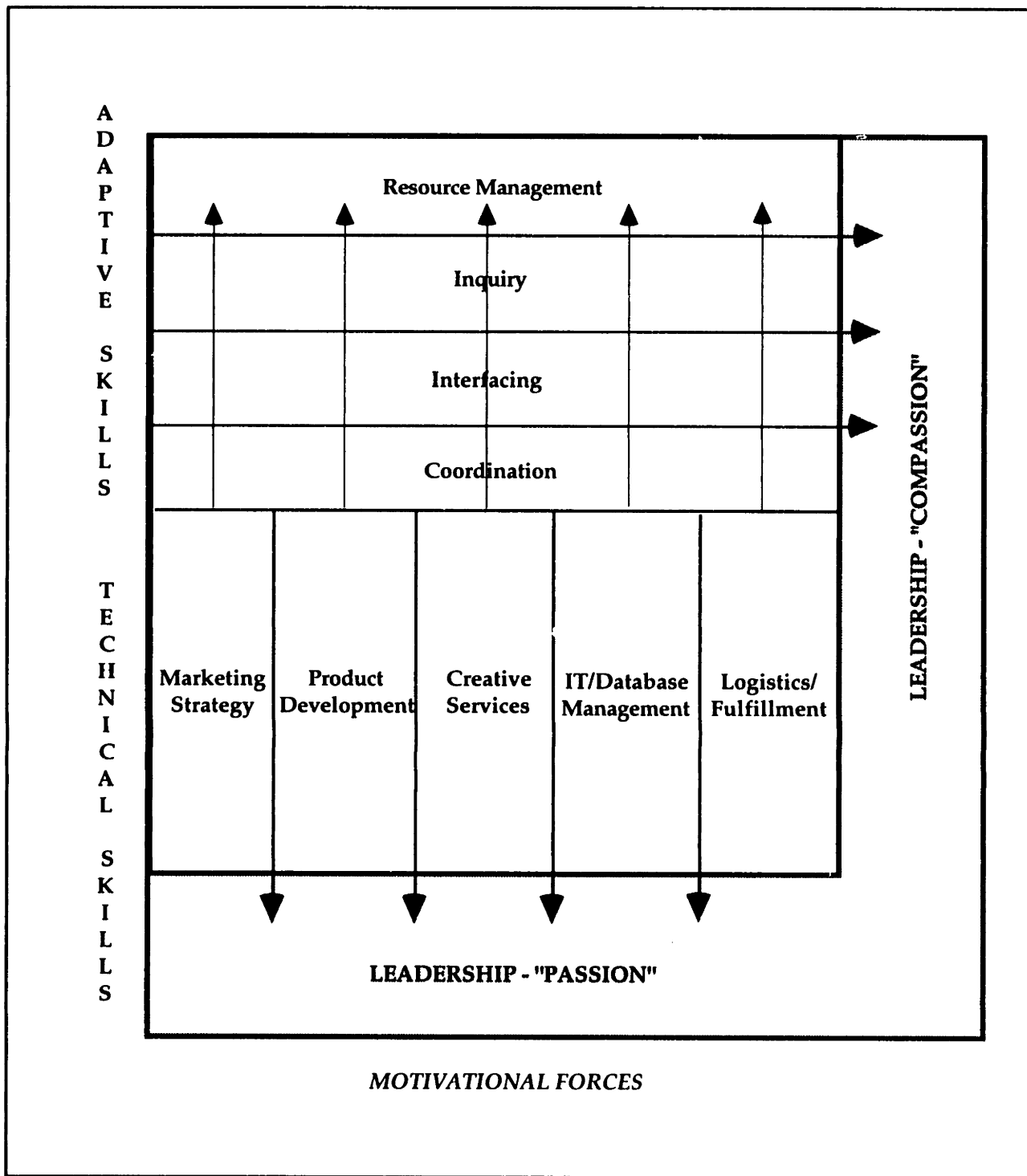
Table 10: Dimensions of Web Team “Health”

Dimension of Team Health	Characteristic of Web Team
Speed of Response to Environment	Generating Web strategies responsive to changing competition, changing Web demographics, and evolving customer base.
Ability to Manage Internal and External Resources	Coordinating activities, negotiating, managing, and measuring resource use. Selecting and coordinating complementary channels and marketing media.
Speed of Integrating Enabling Technologies	Selecting and deploying appropriate technologies for Web site, customer communication, database marketing, and project collaboration.
Ability to Communicate	Sustaining highly-effective inter- and intra-organizational communication, by sharing a common language. Gaining and maintaining visibility for the Web program.
Capacity to Learn	Gleaning from experiences with Web technology and other media technology. Gleaning from experiences with Web program management process, and Web team composition. Systematically disseminating “lessons learned” to Web team members and the larger organization.
Motivation and Team Commitment	Accepting accountability for risk-taking and experimenting with Web technology and program content. Committing to fellow team-members.
Managing Team Boundaries	Systematically informing the larger organization of the team’s objectives and process. Integrating the corporate strategy into the Web strategy. Maintaining “champions” outside the team boundaries.

This table is a good summary, but it is hardly actionable, as it doesn’t translate into Web team composition. Based upon the two skill types, technical and adaptive, I propose a Framework for organizing a healthy Web team. Figure 6 combines the two skill types -- technical skills, named after the activities in Figure 3 and associated here with the vertical “pillars,” and adaptive skills, named for the skills in Table 8 and associated here with the horizontal “stays.” Wrapping around the framework is Leadership, which contains both skill types, plus the motivational attributes of leadership described above -- passion and compassion.

³Project Team is a student-run organization at the MIT Sloan School that conducts workshops for students in teamwork skills.

Figure 6: Framework for a Healthy Web Team



There are several ideas worth highlighting in Figure 6. The graphic illustrates skill combinations, not individual roles. Individual roles will represent a combination of technical and adaptive skills. The dotted arrows emanating from the technical skills to the adaptive skills suggest that individuals with functional expertise must also contribute adaptive skills. The representation of the adaptive skills as horizontal stays symbolizes the fact that these skills bridge the different technical activities.

Finally, it is important to recall that "Leadership," is not synonymous with the adaptive skills "resource management" or "coordination." Rather, the individual or individuals who perform the leadership role are competent in one or more technical arena and possess all adaptive skill types (or, more appropriately, *possess* and *reinforce* adaptive skills in team members). To these skills the leader adds passion and compassion, as discussed above.⁴

Measuring Web Team Effectiveness

Quantifying the return on the Web investment is not easy. With this new technology it is important to measure both costs and benefits. In Chapter III, I pointed out that cost categories include not only up-front development and hardware costs, but also, substantial "people costs": day-to-day site operations, software and hardware development and maintenance, Web-specific logistics, customer franchise management, and program strategy. Value chain analysis, as shown in Figure 7, can help identify activities and their associated costs for a particular Web program. Estimates of long-term investment can be attained by identifying those cost activities that will grow with the site's long-term objectives.

Quantifying benefits is more elusive. USCity.com is in a unique position that it sells ad space on its site to electronic partners and can quantify ad dollars received. Yet USCity.com has to quantify for its advertiser the value of USCity.com's product -- site visitor "eyeballs." Bill Bern, Director of Development for USCity.com notes that his company does this by generating an Economic Value Analysis. This is an estimate of site features translated into leads for the advertisers. (The advertiser, itself, is left to quantify its *net* benefit by assessing its own costs, such as other-media cannibalism, program management, etc.).

Quantifying and qualifying leads that are generated directly from the Web site is easy when the site visitors are "registered," i.e., they enter the site by self-identification and passwording. For most Web merchants sites lack registration, and leads can only be quantified with active surveys, either on the site or in other media.

Leads are relevant performance metrics for the three types of Web sites defined in Chapter III -- "Promotion," "Product," and "Distribution." However, lead volume tells only indirectly whether the Web team is *learning* ("Discovery" definition). Two other measures of Web program effectiveness which approximate this objective are cycle time, a "lessons learned" database, and the Web team's self-reported evaluations of Inquiry and Interfacing skills. Given the Web program objectives, these performance metrics should drive incentive compensation for the Web team members. Table 11 summarizes some performance metrics for Web teams, given the Web program definitions:

⁴In *Participative Design*, Fred and Marrelyn Emery (1990) observe that in democratic team structures, another important characteristic of leadership is that it can move around the team. My framework supports this. In suggesting that adaptive skills should be present in several individuals, not just the Web team leader, and, inasmuch as these are considered leadership traits in the Emerys' model, leadership activities can be shared by multiple Web team members. However, what distinguishes leadership skills and leadership in my model is the addition of the emotive attributes, passion and compassion, which underlie the leaders' use of the adaptive skills.

Figure 7: Basic Value Chain for Web Marketing Program

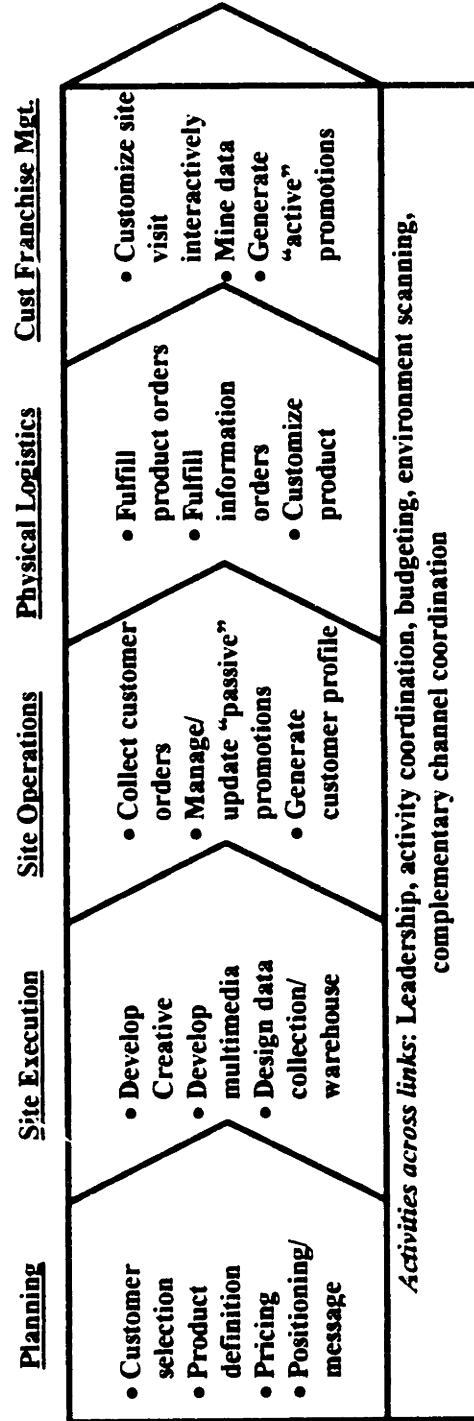


Table 11: Performance Metrics for Web Teams

Web Program Definition	Performance Metric for Web Team
Promotion	Hit "volume," mentions of site in non-electronic survey, total qualified leads
Product	Product/feature ratings (for Web merchant and cooperative marketing partners) in customer survey, customer retention, new customer volume, time to market with new Web-based products or features
Distribution	Logistics cost savings (fulfillment speed, delivery times, accuracy, savings on commissions)
Discussion	Volume/completeness of relevant customer information, customer support savings (reduction in 800-number inquiries covered by self-serve on-line systems)
Discovery	Reduction in cycle time, reduction in time to introduce new Web technologies, extensiveness of "lessons learned" database, self-reported evaluations of team members' adaptive skills

Forming a Team to Meet Objectives and Maximize Organizational Learning

Team composition based upon technical and adaptive skill types should correspond to the Web program objectives and the prospective organizational "disruption" (or, stated more positively, required organizational adaptation) that the Web technology may bring. The balance of *technical* skills should be determined by the Web strategy. As discussed in Chapter III, this strategy is represented as a balance of two motivations: *desired customer benefits* and *level of desired learning*. For example, if the organization's objective is product enhancement or electronic distribution, such as with Fundco, then the primary kinds of technical skills required are Product Development, IT/Database Management, and Logistics.

The balance of *adaptive* skills should be determined by the degree to which the Web potentially disrupts the organization, using the three dimensions presented in Chapter IV -- Process, Personality and Power. Recall that Process disruption entails disrupting entrainment or "steering mechanisms." Personality disruption entails challenging the brand's stability as it is moved into an interactive, real-time, dynamic context. Power disruption entails challenging the organization's reporting hierarchy or power distribution. Disruption threats can be partially countered with adaptive skills:

- Where Process disruption is high, as with WH, *coordination* and *interfacing* adaptive skills add stability (facilitating the development of a new, Web technology-driven "rhythm" through program management and intense inter-functional activity coordination).
- Where Personality disruption is high, as with SoloDrug, *inquiry* and *interfacing* adaptive skills add stability (inquiring into the "DNA" of the brand, aligning brand image across media and product).
- Where Power disruption is high, as with US Household, *resource management* and *interfacing* adaptive skills add stability (systematically measuring and communicating Web program effectiveness across diverse stakeholder groups, and integrating Web team non-members into the planning process).

Expanding the Boundaries of the Web Team

Evidence from the participant organizations suggests that this Web team framework is viable in practice. First, Web teams which strive to achieve the balance of technical and adaptive skills are

likely to learn faster and to more quickly overcome the types of "learning obstructions" described in Chapter VI. These organizations have a reduced "cycle time" in terms of time to effect changes in Web site content, to adopt new Web technology, and to align fulfillment or logistics activities with the Web program.

This framework suggests several questions. Can a Web team have contributors who have only technical skills? Unlikely. The lack of inquiry skills in any team member could handicap a team. As discussed in Chapter VI, without inquiry, one's views of the Web and of the organization's business processes can stagnate. On the other hand, interfacing and coordination skills can be concentrated in a small number of team members.

Can a Web team have members who only contribute adaptive skills? Possibly. Such individuals would have difficulty gaining credibility and the confidence of their technical peers. A notable exception is the process facilitator. These individuals have been known to get organizations "unstuck" by using interfacing and inquiry skills without technical or content knowledge (Schein, 1988). Their ability to manage a process which helps other team members to deepen their own understanding is a fundamental skill in the learning organization. On the other hand, a team that has *no* technical skills -- which chooses, for example, to outsource Web marketing strategy, database programming, and infrastructure management -- will miss substantial learning opportunities and may become "locked-in" to its outsourcing partner(s). Moreover, coordination costs will increase, as the Web marketing program requires synchronization with other channel programs.

With this in mind, I contend that partnering, not outsourcing, is the appropriate approach to creating a healthy Web team in a learning organization. In fact, in my research Web teams that spanned corporate boundaries lent greater credibility to the Framework for a Healthy Web Team in practice. Participant organizations selected Web partners to fill in technical and adaptive skills which they lacked.

Partnering to Fill Gaps in Technical Skills

When the organization recognizes that it does not have the technical skills or cannot generate them fast enough it will choose to outsource. Web page development partners may provide primarily programming and infrastructure services or both integrated marketing and development services. The latter category is becoming increasingly prevalent as mainstream ad agencies launch (and, in many cases, spin off) Web or multimedia marketing units. A typical example is Bronner Slosberg Humphrey's Strategic Interactive Group unit, as described by Director, Ruben Pinchanski:

We're a true interactive agency. We provide consulting in the area of interactive strategy and integrated marketing programs. The components of our business are:

- *Creative execution*
- *Infrastructure assessment*
- *Technology development (CD ROM development, all the way to the Internet)*
- *Systems integration functions*

In effect, we're a one-stop shop. We provide solutions for our clients. We are an integrator -- we provide electronic commerce solutions. You cannot separated the technology, from the creative, from the strategy.

Technical partnerships have two potential liabilities, interoperability and accountability. WH's Product Development Director, Lee Koste expressed the frustration that Web merchants face with the array of different vendors' technologies which must interoperate in a Web site:

There are so many pieces to the puzzle for someone going on the Web. When something goes wrong, they'll blame us because we're the paid provider. They'll even blame us because they can't print (that's usually their browser's fault), or they've mis-installed Windows 95. It's the same with the CD-ROM product. There was this guy who was trying to operate his mouse with his foot. [...] We've got to have an enormous variety of expertise when there are so many elements coming together -- technologies, partners, protocols.

Partnering to Fill Gaps in Adaptive skills

N. Venkatraman remarks that, in organizations that have been successful with traditional mass media, power has collected around the brand managers. With the new interactive media, control of the image and concept -- and the interactive context -- now must be shared. This is the "Power" disruption of the Web described in Chapter IV. Venkatraman hypothesizes that the organizational and cultural realignment required to internally support a multi-functional Web team would take too long, as cultures change slowly. Stated differently, changing the organization in response to (or in anticipation of) disruptions of Process, Personality and Power would require too much of what Heifetz calls "adaptive work." As a result, argues Venkatraman, such organizations are more likely to outsource, *not because they lack technical skills, but because they lack adaptive skills.*

I consider the use of outsourcing as a means to compensate for the lack of adaptive skills a perilous policy. It can result in dependency as it provides a crutch in the organization's adaptive learning processes. On the other hand, some partners who are hired to inject technical skills may provide and teach adaptive skills. For example, agencies have substantial expertise in ad program management, the basis of which is coordination and interfacing skills. In addition, one-time "outsourcing" to process consultants may also provide short term adaptive skills (generally, inquiry and interfacing skills). However, I contend that such skills must be cultivated independently by the Web team for it to maintain its health.

Partnering to Enhance Product/Distribution Offerings

Technology visionaries, such as Thomas Malone and Michael Scott Morton of the MIT initiative "Inventing the Organizations of the Twenty-First Century" have hypothesized that the Web is likely to emerge as a secure electronic data interchange (EDI) tool, lowering transactions costs and increasing the number of and variety of transactional or partnering relationships (Scott-Morton, 1995). Two consequences of this are particularly relevant for Web partnerships. First, the Web allows the organization to sell directly to the end customer, with fewer intermediaries, as discussed above. Second, the Web unleashes immense opportunities for cooperative marketing.

Opportunities for cooperative marketing with the Web abound. Some examples mentioned by research participant organizations included shared links between partners' Web sites, or "transclusion," and product packaging featuring partners' URLs. TechFuture's Web Manager Andy Olive voiced the research participants' general excitement around the "transclusion" concept:

[T]he cross marketing opportunities are explosive. In my research I learned about deals between companies no one ever even thought of as partners. For example, I heard that some Luxury car manufacturer got approached by a Caribbean vacation vendor because the travel agent thought they might have the same customer segment. It's wild.

Following are a few transclusion examples from the participants' Web programs:

- USCity.com's rotating ad teasers link directly to advertisers' homepages, and the latter pays for time on USCity.com's site.

- In WH's agreement with a megasite manager, the megasite points directly to free content on WH's site, and WH pays a finder's fee to the Megasite Manager for closed sales.
- SoloDrug's proposed site will link disease team communications to disease associations' pages.

Successful partnerships of this nature require both technical and adaptive skills. Technical skills are required to design complementary marketing messages, to manage the inter-partner monetary transactions, and (where appropriate) to populate and maintain the lead database. Adaptive skills are required to maintain an open conversation between partners that generates both fairness and learning.

Summary

The complexity of the Web technology, coupled with the challenge of integrating the Web into a multi-channel marketing mix, destabilizes many organizations. Web teams are, by necessity, multi-disciplinary, as grappling with this complexity requires myriad talents from multiple functions in the organizations -- marketing, product planning, database management, network management, and logistics, to name a few. The diversity of the Web team, however, can cause disruptions in familiar processes, task ambiguity, isolation of the Web team, and uncomfortable shifts in power. In chapter VI I proposed a method for Web merchants to respond to these factors by engaging in an organizational learning program. The four-phase Dynamic Learning Cycle described in Chapter VI entails interlocking processes in the domains of learning and action.

In this final chapter I "double clicked" on the Action and Reflection phase of the Dynamic Learning Cycle, and explored those elements of the "action infrastructure" most central to the learning organization's alignment decisions. These are the strategic planning process, the creation of leadership, and the formation of the Web team. Strategic planning in an environment where "change is the norm" is, by necessity, "deliberately emergent." This means not only that the Web strategy must be flexible, but the contributions to the strategic planning process must be as multifunctional as the Web is multifaceted. The Web team leadership must facilitate this eclectic planning process by synthesizing these diverse contributions and providing the motivation -- *passion* and *compassion* -- to sustain the Web team's effort.

Individual Web team members each bring to the team a combination of technical and adaptive skills. Technical skills in team members are those skills associated with the professional disciplines, such as Marketing, Graphic Design, and IS. In building the Web team, Web merchants assemble such skills from inside and outside the organization according to the Web program definition. Adaptive skills in team members are those skills associated with organizational processes and learning, such as inquiry and interfacing skills. In building the Web team, Web merchants assemble such skills from inside and outside the organization to meet the organization's need to manage disruptions that the Web causes or may potentially cause to the organization's processes, its brand identity, or its power hierarchy. Extending the Web team boundaries outside the organization may also enhance customer value through cooperative marketing.

Remarks

In this research I believe that I have sowed the soil of a fertile corner of the field of organizational behavior. I invite researchers, Web users and technology providers to cultivate their own learning as Web programs move from the skunkworks to the boardroom of today's corporation. In the short time it has taken me to complete this thesis it is likely that a whole new generation of Web technology has come and gone, bringing with it new challenges and options for organizational alignment.

As Web technology and Web teams mature, I hope future researchers will explore the concepts I have examined in this thesis. Specifically, I invite others to test the Dynamic Learning Cycle and Action Infrastructure frameworks in practice using a larger, more diverse set of participant organizations. Web merchants that apply these frameworks will be able to avoid obstructions to organizational learning such as the "steering mechanisms" that crystallize mental models and processes as the Web technology becomes more standardized and mainstream. History has shown that when it is no longer the Web disrupting organizational processes and structures, then it will be another business-transforming technology. With this in mind, I contend that survival in this volatile electronic "marketspace" depends on organizational learning. Those that inform their alignment decisions with a sustained dialogue about technology, the competitive environment, and their own mental models will be the most fit to compete in the future.

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APPENDIX INTERVIEW PROTOCOL FOR WEB MERCHANTS AND PARTNERS

Prologue

This interview protocol is just a guide to what I hope will be a lively and insightful discussion. The interviewee can discuss the topics of his or her interest/expertise in the order and format in which he or she feels most comfortable. Importantly, this should be a dialogue -- I would hope that this would be an opportunity for creative exploration of means to improve the effectiveness of Web campaign design and management.

Interview for Web Merchant

Opening Discussion:

- Please can you describe your Web campaign? What was your motivation for going on-line?
- How would you classify your site,¹ e.g.,
 - A promotional site (creates awareness, stimulates demand into other channels)?
 - A content site (entertains or informs using original material or material repurchased from journals, magazines, research reports)?
 - A transactional site (sells and/or distributes product, conducts financial business, provides customer service on-line)?
- Who originally drove the effort? Who drives it now?
- What plans do you have for expanding or changing your Web program?
- Are there certain landmarks or events that you consider noteworthy on your path from the original idea to today's execution?

Web Marketing Program Activities:

- What organizational functions/roles/capabilities are involved in the Web program?, e.g.,
 - Marketing (e.g., product /promotion strategy, and brand management)
 - IT (e.g., network infrastructure, security)
 - Database Management (e.g., data structure design, warehousing, and customer profiling)
 - Creative (e.g., copy, art work, motifs/logos)
 - Fulfillment (e.g., Assembly, shipping)
 - Channel Management (third-party distribution, retail management)
 - Finance (e.g., Billing, account verification)

(Your contributors may be called differently than these function names here.)

- What is the rough "division of labor" for the on-line channel across your organization and your partner organizations?
- What groups are involved in establishing the value proposition? How are they involved?
 - Selecting product (version, package, sku's) to be marketed on the Web
 - Making information about products and services available in timely manner and in a comprehensible format
 - Providing context-sensitive or customer-unique information

¹These classifications were suggested by Josh Bernoff of Forrester Research.

- Contributing to presentation and visual/interactive content (where customer gets value from the on-line interaction in addition to the purchase)
- Defining back-end fulfillment offerings/customizations
- What groups are involved in managing the technology? How are they involved?
 - selection of hardware, installing or outsourcing Internet access, storage capacity
 - specifying level of interactivity
 - use of 3-d images
 - video and sound
 - specifying links to other sites
 - database management system and reporting system
- What groups are involved in managing relationship marketing? How are they involved?
 - identification of data to collect
 - identification of dimensions of customer profiling
 - design of collection instrument
 - design of event triggers and timing of offers
 - linking of customer profile information to fulfillment (e.g., packaging, printed materials)
 - integration of customer profile information from multiple channels
- What groups are involved in managing the message in complementary distribution channels? How are they involved?
 - design and management of multi-channel campaigns with VARs
 - design and management of multi-channel campaigns with direct mail, print, TV, radio
 - brand image management for continuity
 - copy/offer management for continuity
- What synergies or challenges have you encountered as these different groups have all been tasked to contribute to an integrated campaign?
 - Did one group emerge as a clear driver of the entire campaign?
 - Did one group emerge as a clear driver of the creative design? Execution?
 - Did one group emerge as a clear driver of the relationship marketing?
 - Did one group emerge as a clear driver of the fulfillment?
- What program management methods for the on-line channel program do you feel worked well? Poorly?

[Administer following questions according to interviewee function:]

- [Marketing] How has this differed from designing other marketing programs with other media?
- [IT] How has this differed from managing other systems projects?
- [Database Management] How has this differed from conducting other relationship marketing campaigns?
- [Creative] How has this differed from designing other marketing media?
- [Fulfillment] How has this differed from fulfilling other relationship marketing campaigns?
- [Channel Management] How has this differed from managing other channels?
- [Finance] How has this differed from managing other relationship-based marketing payment systems? How have the execution costs differed from other media campaigns?

- What multi-channel campaigns have you executed with the on-line channel?
 - Did the web site drive traffic through other channels and/or receive it?
 - What communication or program management challenges did you encounter?
 - What data management challenges did you encounter?
 - What did you learn from the campaigns that you feel worked well? Poorly?

Interview for Agencies and Service Providers

Opening Discussion:

- Please can you describe your client's Web campaign? What was their motivation for going on-line?
- How would you classify your site,² e.g.,
 - A promotional site (creates awareness, stimulates demand into other channels)?
 - A content site (entertains or informs using original material or material repurchased from journals, magazines, research reports)?
 - A transactional site (sells and/or distributes product, conducts financial business, provides customer service on-line)?
- Who originally drove the effort? Who drives it now?

Web Marketing Program Activities:

- With which organizational functions/roles/capabilities at your client do you primarily work? Which group pays for your services?, e.g.,
 - Marketing (e.g., product /promotion strategy, and brand management)
 - IT (e.g., network infrastructure, security)
 - Database management (e.g., data structure design, warehousing, and customer profiling)
 - Creative (e.g., copy, art work, motifs/logos)
 - Fulfillment (e.g., Assembly, shipping)
 - Channel management (third-party distribution, retail management)
 - Finance (e.g., Billing, account verification)

(Your client's contributors may be called differently than these function names here.)

- What role do you play in helping your client to define the value proposition?
 - Selecting product (version, package, sku's) to be marketed on the Web
 - Making information about products and services available in timely manner and in a comprehensible format
 - Providing context-sensitive or customer-unique information
 - Contributing to presentation and visual/interactive content (where customer gets value from the on-line interaction in addition to the purchase)
 - Defining back-end fulfillment offerings/customizations
- What role do you play in helping your client to manage the technology?
 - selection (or outsourcing) of hardware, installing or outsourcing Internet access, storage capacity
 - specifying level of interactivity
 - use of 3-d images
 - video and sound
 - specifying links to other sites
 - database management system and reporting system

²These classifications were suggested by Josh Bernoff of Forrester Research.

- What role do you play in helping your client to manage relationship marketing?
 - identification of data to collect
 - identification of dimensions of customer profiling
 - design of collection instrument
 - design of event triggers and timing of offers
 - linking of customer profile information to fulfillment (e.g., packaging, printed materials)
 - integration of customer profile information from multiple channels
- What role do you play in helping your client to manage the message in complementary distribution channels?
 - design and management of multi-channel campaigns with VARs
 - design and management of multi-channel campaigns with direct mail, print, TV, radio
 - brand image management for continuity
 - copy/offer management for continuity
- What synergies or challenges have you encountered as you engaged with the client at multiple levels and interfaced with multiple client group?
 - Did you or one group at the client emerge as a clear driver of the entire campaign?
 - Did you or one group at the client emerge as a clear driver of the creative design? Execution?
 - Did you or one group at the client emerge as a clear driver of the relationship marketing?
 - Did you or one group at the client emerge as a clear driver of the fulfillment?
- What program management methods for the on-line channel program do you feel worked well? Poorly?

[Administer following questions according to third-party's function:]

- [Marketing] How has this differed from designing other marketing programs with other media?
 - [IT] How has this differed from managing other systems projects?
 - [Database Management] How has this differed from conducting other relationship marketing campaigns?
 - [Creative] How has this differed from designing other marketing media?
 - [Fulfillment] How has this differed from fulfilling other relationship marketing campaigns?
 - [Channel Management] How has this differed from managing other channels?
 - [Finance] How has this differed from managing other relationship-based marketing payment systems? How have the execution costs differed from other media campaigns?
- What multi-channel campaigns have you helped your client to execute concurrently with the Web channel?
 - Did the Web site drive traffic through other channels and/or receive it?
 - What communication or program management challenges did you encounter?
 - What data management challenges did you encounter?
 - What did you learn from the campaigns that you feel worked well? Poorly?