BUILDING CAPACITY FOR INNOVATION AS A SOURCE OF INDIVIDUAL AND ORGANIZATIONAL FULFILLMENT

by

JOY M. GREENWAY
B.S. Industrial Engineering, University of Illinois, 1982
M.S. Manufacturing Engineering, Syracuse University, 1990

and

JERULD P. WEILAND
B.S. Engineering Management, University of Missouri-Rolla, 1981
M.S. Engineering Management, University of Missouri-Rolla, 1983

Submitted to the Alfred P. Sloan School of Management
In Partial Fulfillment of the Requirements for the Degree of

MASTER OF BUSINESS ADMINISTRATION

at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

June 2000

© Joy M. Greenway and Jeruld P. Weiland. 2000. All Rights Reserved

The authors hereby grant to MIT permission to reproduce and to distribute publicly copies of this thesis document in whole or in part.

Signature of Author: ____________________________  Alfred P. Sloan School of Management
  May 8, 2000

Signature of Author: ____________________________  Alfred P. Sloan School of Management
  May 8, 2000

Certified by: ____________________________________  Peter M. Senge
              Senior Lecturer

Accepted by: ____________________________________  Toby W. Woll
              Director, Sloan Fellows Program
Building Capacity for Innovation as a Source of Individual and Organizational Fulfillment

by

Joy M. Greenway and Jeruld P. Weiland
Submitted to the Alfred P. Sloan School of Management on May 8, 2000
In Partial Fulfillment of the Requirements for the Degree of Master of Business Administration

Abstract

This thesis investigates the hypothesis “Building capacity for sustainable innovation, enabled by broader employee engagement and improved capabilities, increases both employee and organizational fulfillment”. A deep understanding is first built around the relationship between individual fulfillment, organizational fulfillment, and innovation. We then examine capacity building for innovation, both in the context of capability as well as broader engagement of employees in innovation. The intellectual bases of the thesis are literature surveys based upon the work of Peter Senge, in The Fifth Discipline and The Dance of Change; the work of Sumantra Ghoshal and Christopher Bartlett in The Individualized Corporation; the work of Gary Hamel and C.K. Prahlad in Competing for the Future; the work of Clayton Christensen in The Innovator’s Dilemma; as well as current professional journal publications from these authors, and other literature relevant to the topic. Further intellectual support comes from author conducted interviews with Peter Senge, Sumantra Ghoshal, and Clayton Christensen, and exchanges with Gary Hamel. Study missions to two companies who are implementing the practices described in this thesis in pockets of their organizations provide relevant and current insight into the practical aspects and challenges of innovation, capacity building, individual fulfillment, and organizational fulfillment.

Thesis Supervisor: Dr. Peter M. Senge
Title: Senior Lecturer
# Table of Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 1</td>
<td>Introduction</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>1.1 Motivation and Rationale</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>1.2 Hypothesis</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>1.3 Definitions, Scope, and Framework</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>1.4 Methodology</td>
<td>8</td>
</tr>
<tr>
<td>Chapter 2</td>
<td>Theoretical Assessment</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>2.1 A Systems Perspective</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>- Organizational Fulfillment</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>- Individual Fulfillment</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>- Innovation</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>2.2 Building Capacity for Innovation</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>- Relevance of Purpose</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>- Alignment of Intents</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>- Unbounded Imagination</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>- Entrepreneurship Inside</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>- Collective Activism</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>- Experimentation and Learning</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>- Autonomy of the Parts</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>- Integration of the Whole</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>- Nurturing Growth</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>- Embedding Capability</td>
<td>30</td>
</tr>
<tr>
<td>Chapter 3</td>
<td>Study Missions</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>3.1 Overview and Purpose of the Study Missions</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>3.2 The Center for IBM e-Business Innovation</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>3.3 GM Study Mission</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>- GM Vector Journey</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>- GM Discovery Center</td>
<td>46</td>
</tr>
<tr>
<td>Chapter 4</td>
<td>Summary and Conclusions</td>
<td>52</td>
</tr>
<tr>
<td>References</td>
<td></td>
<td>57</td>
</tr>
<tr>
<td>Appendix A</td>
<td>Interview with Peter Senge</td>
<td>61</td>
</tr>
<tr>
<td>Appendix B</td>
<td>Interview with Sumantra Ghoshal</td>
<td>79</td>
</tr>
<tr>
<td>Appendix C</td>
<td>Interview with Clayton Christensen</td>
<td>96</td>
</tr>
</tbody>
</table>
ACKNOWLEDGEMENTS

We are personally grateful to a number of people who patiently and enthusiastically shared with us the wealth of their experience, making it possible for us to accomplish our goal, which ultimately, as always is to learn. Perhaps the goal sounds simplistic, however we have come to realize, as amplified by our experience as Sloan Fellows, that what is learned is, as a rule, different from the expectation, and invariably richer from the relationships formed on the journey.

We are grateful to Peter Senge, our thesis advisor for his support, ideas, time, and patience. We are proud to have worked with the person who has contributed so much to field of the discipline of learning for individuals and for organizations.

We are also indebted to Clayton Christensen of the Harvard Business School, Sumantra Ghoshal of the London Business School, and Gary Hamel of the London Business School and Strategos Institute for sharing with us their time and their latest thinking around innovation and fulfillment.

We deeply thank those we visited with at General Motors, Dave Grossman, Dave Gonsalvez, Nancy Phillipart, Delph Dodge, Wendy Coles, Nick Pudar, Lucas Vander Aart, and Harry Pearce. We would also like to thank those on the Vector Journey, whose passion shows us the future.

We owe a similar debt of gratitude to our hosts at the IBM Atlanta Center for e-Business innovation—Mike Wittenstein, Jan Toler, and Chrissy Stokley, for the commitment of their time and considerable energy.

Thanks to Koji and Yoshi, who were there at the genesis of the summer carpool conversations that solidified our interest in this thesis topic.

The appreciation we feel for our families is very personal. However, without their continuing support and tolerance, it would have been virtually impossible to arrive at this point. Our affection and gratitude to Bill, Ariel, Ann, Chris and Barbara, Maureen, and Eric.

To those everywhere who seek to make a life, as well as a living, it is you who provided the inspiration.
1.1 MOTIVATION AND RATIONALE

Much has been written recently about innovation and its important contribution to the corporate objectives of profitability, growth, and wealth creation. Some have taken the proposition one step further, citing corporate renewal through innovation as a fundamental basis for the long-term sustainability of an enterprise. While these are worthy objectives and certainly form a basis for any business’s long-term existence, we believe that there is a more important message. The problem is this: businesses don’t innovate, only employees do. And the challenge is: how to successfully translate this from a corporate or business perspective to an individual level where the action really happens.

Suppose one was to define wealth creation as individual wealth in addition to just corporate shareholder value. And suppose individual wealth was defined as not just financial wealth but also fulfillment of one’s career and life aspirations. In this context, if we can achieve alignment between the desires and aspirations of employees and the goals and objectives of the business, then sustainability of a business is little more than the sustained success of its employees who are creating what they really want to create.

We generalize this act of creating as innovation. And if we can accept these relationships from a systems perspective, we can begin to understand the power of innovation. We propose that building capacity for sustainable innovation will create an environment that fosters individual wealth creation and thus provides a source of employee and organizational fulfillment.

On the surface this proposition may not appear to be a radical departure from conventional thinking; rather, an apparently straightforward perspective on how innovation can drive individual and organizational fulfillment. What is troubling, though, for something
that seems so logical and so powerful, is that we are not very good at doing it—especially in large, well-established corporations.

We believe the problem is rooted two areas. First, there is a lack of deep understanding about the relationship between individual and organizational fulfillment and innovation. And second, there is the lack of know-how about how to build capacity for sustainable business innovation. Capacity building can be defined in terms of two distinct components. First is the capability of employees to successfully drive innovation in the business. Second is the number of employees in a business who really have an opportunity to engage in innovation. We propose that capacity for sustainable innovation is enabled both by improving the capabilities of people and the organization, and by engaging more employees in innovation around the future direction and success of the business (traditionally the domain of planning and upper management).

1.2 HYPOTHESIS

For this thesis, we investigate the following hypothesis

Building capacity for sustainable innovation, enabled by broader employee engagement and improved capabilities, increases both employee and organizational fulfillment.

We begin by building a deeper understanding of the relationship between individual fulfillment, organizational fulfillment, and innovation. Then we turn our focus toward building capacity for innovation, examining both the question of capability and the question of broader engagement of employees in innovations involving growth and renewal of the business. Finally, we conclude with some observations about the applicability of our findings in today’s business environment for the new knowledge economy and large global corporations, encouraging a more patient, disciplined, yet activist approach to controlling individual and corporate destiny by creating their future through purposeful and effective innovation.
1.3 DEFINITIONS, SCOPE AND FRAMEWORK

_Innovation_ is a broad concept, full of rich and diverse meaning. For our purposes, we define innovation to include those activities within the business that focus on developing substantive new ideas in the areas of product/service offerings and bringing business concepts to commercial realization.

As characterized by Peter Senge (1990) in his landmark book _The Fifth Discipline_, the scope of innovation includes both incremental innovation—where products and services are redefined in an attempt to increase customer and business value, and basic innovation—where products, services, and business concepts are developed, defined, or redefined in such a way as to transform entire businesses or industries. Our hypothesis assumes that both incremental and basic innovations enhance employee and organizational fulfillment, and that capacity building should be directed toward all facets of new business innovation.

Our definition is somewhat arbitrary and defined this way primarily to differentiate innovation from the subject of internally focused continuous improvement or implementation of many small ideas on a frequent basis. Our definition also makes a distinction between invention and innovation, where invention concerns the development of substantive ideas and concepts but lacks the implementation and business focus of innovation (Alan Graham referenced in: Senge, 1990, p.6). While continuous improvement, invention, and innovation are all critically important to business success and sustainability, we believe that building capacity for innovation requires a different set of competencies and organizational approach than either invention or continuous improvement.

We also go one step further in this thesis, to establish a theoretical and practical linkage between learning and innovation as a critical connection for building sustainable capacity for innovation within individuals and their organizations.

_Individual fulfillment_, in this thesis, concerns the creation of individual wealth. Individual wealth, as defined earlier, goes beyond financial wealth to include career aspirations, social responsibilities, and life ambitions. In this thesis, we examine the scope, relevance, and sense of accomplishment associated with successful business innovations as
characteristics that set the innovations apart in terms of their ability to create meaningful individual wealth and fulfillment.

*Organizational fulfillment* goes beyond creating profits and wealth for shareholder—what is professed in today’s top business schools (and most corporate boardrooms) as the fundamental purpose of business. We examine a broader set of fulfillment objectives by considering the full range of stakeholders in today’s business environment. While financial shareholders are certainly important, we will show that in today’s transformation to a global knowledge economy, the roles of employees, business partners, and the global communities in which businesses operate are equally important constituents in defining business success and sharing the rewards of that success.

Finally, *capacity building* concerns improving the effectiveness of individuals within an organization, as well as the organization itself as a system, to successfully foster innovation. As discussed briefly in the introduction, capacity building concerns both the number of employees engaged in innovation efforts and the capability of those individuals. Most of the effort of this thesis is directed toward understanding the challenges of capacity building. Herein lie the keys to successful innovation and the ensuing individual fulfillment we are seeking in our working lives, and the organizational fulfillment we are seeking for our businesses.

### 1.4 METHODOLOGY

In conducting the research that supports this thesis, we employed a three-pronged methodology consisting of a literature review, interviews with experts on the topic, and study missions to real-world business settings. We supplemented these sources of knowledge with our own personal and professional experiences. This approach enabled us to invite a diverse set of voices and perspectives into the research, and provided a complementary blend of theory and practice from academics, consultants, and practitioners.

From the academic perspective we include the “organizational learning” school led by Peter Senge, the socially oriented “purpose/process/people” school espoused by Sumantra Ghoshal, the school of “strategic innovation and activism” from Gary Hamel, and the “technology” school of Clayton Christensen. Although each of these schools of thought
offers unique points of view, they are at the same time remarkably similar in sharing many core themes around innovation. Each of these authors has participated extensively in real-world business engagements to substantiate their theories and perspectives. The combination of published literature and personal interviews provided a fresh look into the current state of innovation theory and practice.

We also conducted practical study missions to IBM and General Motors, which offered excellent examples of pockets of innovation occurring within large global organizations—evidence that innovation can and is happening, but, as always, still brings with it some great challenges.

We believe this methodology challenged us to stretch academically to break new ground; it brought with it the practical realization of what can be accomplished in today's complex business environments. In fact, this methodology itself demonstrates the learning and innovation concepts that are included in our thesis findings and conclusions.
CHAPTER TWO
Theoretical Assessment

2.1 A SYSTEMS PERSPECTIVE: INDIVIDUAL AND ORGANIZATIONAL FULFILLMENT AND INNOVATION

As the 21st century begins, we find ourselves in a dynamic and chaotic world. The rate and magnitude of social and technological change is unprecedented as we transition from an industrial to a knowledge economy and from a national to regional to global society. As Sumantra Ghoshal (1999) puts it, we are moving from a value-appropriating market economy to a value-creating organizational economy; from a society that has tended to exploit human and capital resources for shareholder profit-making while pushing products and services onto consumers, to one that must embrace and nurture human capital in a customer-pull dynamic toward the fulfillment of market, business, and employee needs. Driven or enabled by these macro forces, our needs and desires as individuals and our objectives and reasons for being as organizations must change as well (Ghoshal, 1999). These changes are at the root of understanding innovation and its relation to individual and organizational fulfillment.

Perhaps most challenging is the complexity and interdependency we are experiencing in every aspect of our personal and working lives. Writing a thesis that hopes to offer the some meaningful contribution to the existing body of academic and practical knowledge is no exception. Fortunately, there are some new methods, tools, and ways of thinking that help us deal more effectively with the complex world we seek to understand.

One of those tools is called Systems Thinking, pioneered at MIT during the 1960s Systems Dynamics movement by computer core memory inventor Jay Forrester, and popularized as part of the “organizational learning” leadership doctrine in the 1990 book The Fifth Discipline by Peter Senge. Systems Thinking attempts to build a holistic view of complex interacting forces or actions that occur in our world, enabling us to understand interrelationships and leverage the interdependent nature of powerful systems to our advantage. In building the case for Innovation as an enabling competence for achieving
individual and organizational fulfillment, we will take a systems thinking approach – developing a clear articulation of each element separately and then synthesizing them into a holistic view.

Organizational Fulfillment

We begin with a discussion of Organizational Fulfillment in an attempt to capture the emerging role of businesses in today's global socio-technical world. A good starting point for understanding organizational fulfillment is with Sumantra Ghoshal’s views as outlined in his 1997 book *The Individualized Corporation* and his 1999 *Sloan Management Review* article “The New Manifesto for Management”. In these, Ghoshal proposed that modern societies are not market economies but rather organizational economies in which companies are the main entities that create value and advance economic and social progress. Ghoshal’s theory of our world as an organizational economy is based on Nobel Laureate Herbert Simon’s work. Simon posited that value in society is created by organizations that involve people acting collectively, with their motives empowered and their actions coordinated by their company’s purpose. In an organizational economy where the essence and purpose of a company is value creation for customers and society, the corporation and society are interdependent (Simon referenced in: Ghoshal and Bartlett, 1997, p.275).

Ghoshal proposes that the growth of firms, and therefore economies and society, is primarily dependent on the quality of human capital (in contrast to the past where financial capital has been recognized and rewarded as the basis for economic progress). He goes on to define human capital as the sum of intellectual capital (knowledge and skill), social capital (networks and relationships), and emotional capital (motivation and passion). In this world of human capital dominance, the hierarchical and cost-oriented management practices of the past must give way to an empowerment of innovation, growth, and renewal where companies create value for society by developing new products and services or providing innovative solutions to existing ones (Ghoshal and Bartlett, 1997).

To drive his point home, Ghoshal (1999) cites numerous examples of firms driven by vociferous shareholders and global competitors, who focus almost exclusively on enhancing competitiveness by improving the firms’ operating efficiencies, convinced that they can save their way to prosperity. The result has been a victory of sorts, as shareholder returns (and
senior executives’ pay) have increased enormously. However, explicit and implicit contracts with employees and suppliers have been broken and employee loyalty and commitment shattered by these value-appropriating firms. Even top management in these firms has lost confidence in their ability to create and grow rather than slash and burn.

In counterpoint, Ghoshal (1999) cites other companies like HP, 3M, Disney, ABB, and Microsoft that have shown no fear of diversity and no timidly about growth. Continually proliferating new technologies, products, and services, they seem unfazed by the things most companies find so difficult—innovation, organic expansion, and creating new businesses. They have created value and wealth for shareholders, employees, business partners, and the communities in which they do business, and an internal environment and external reputation that has made them the preferred employers of the best human talent.

Ghoshal summarizes his work with a “new manifesto for management and business” built around Purpose, Process, and People (1999). Purpose, defined as how a company will create value for society, allows strategy to emerge from within the organization, from the energy and alignment created by that sense of purpose. Process points to the new role of leaders within a company focused on building core organizational capabilities and integrating those capabilities and resources to release the entrepreneurial energy bound up in a firm’s untapped human capital. People he defines as building new employment relationships that foster management and employees working together toward continuous learning and development. In this environment, the natural motivation for everyone in the business is to be the best that they can be, and this is manifested in the growing practices around guaranteed employability.

Beyond Ghoshal, we found that the literature and our own dialogues with Peter Senge and Gary Hamel offer further insight into the topic of Organizational Fulfillment. Senge’s The Fifth Discipline (1990) is based on the premise of “Shared Vision” as a driving force behind successful organizations. Shared visions create a sense of common purpose that permeates the organization and gives coherence to its diverse activities. Shared visions are valuable only when they are deeply linked with the personal visions of employees within the company that bind them together by a common aspiration. According to Senge, shared vision is essential to the learning organization because it provides focus and energy for generative learning—expanding the ability to create (and innovate). Without shared vision,
most companies lack staying power for sustainability—a critical element of organizational fulfillment. Here we begin to see the intertwining of individual and organizational fulfillment.

Gary Hamel also speaks of higher-order concepts that must emerge within great companies if they are to achieve sustainable positions of industry leadership. These are concepts that, while they don’t negate the importance of profitability, are nonetheless necessary to ensure long-term sustainability. Hamel (Hamel and Prahalad, 1996) uses the concept of “Strategic Architecture” to describe an overarching purpose that must be in place to guide the innovative energy of a business, and he characterizes it as an “aspiration pull” mechanism. Having an overarching purpose for the business is no guarantee of success, but not having one is almost surely an indication of mediocrity.

Hamel has developed a set of design rules for successful innovation, and at the top of the list he insists that businesses must be motivated by “a cause” to give them the necessary passion and purpose to create a future. Being motivated by “a cause” enables “unreasonable expectations” that give the impetus to stretch for goals and aspirations that set winning businesses apart in their ability to create value through purposeful innovation (Hamel, 2000). Society seems to be taking note of this shift toward innovation and value creation for customers, as evidenced by the financial markets’ new trend toward rewarding knowledge-based, value-creating firms—and, needless to say, fulfilling their organizational expectations.

What is interesting is that firms appear to be being rewarded more and more for their human capital than for their financial capital, despite the success of the venture capital community. This trend is most evident that in the plethora of Internet-based startups dotting the landscape of entrepreneurial and corporate America (and rapidly the rest of the developed world). Analysts are searching for theories to explain the huge valuations being placed on these companies by the financial markets. We have an interesting hypothesis, borne out of our dialogue with Sumantra Ghoshal (2000), that might help explain the phenomenon and in the process explain the rewards for true innovation-driven, value-creating firms.

Capital markets are increasingly filled with individual investors who understand the value-creating propositions of knowledge companies. While these investors are primarily motivated by their own desire to get rich on the technology bandwagon, they still must vote with their pocketbooks. And what they seem to be rewarding with market valuations are
knowledge-based companies that have created their innovative value propositions largely on the sweat equity of their human capital. By running stock prices up, individual investors (institutional investors also, to some extent, although they shy away from full participation in the technology sector) are explicitly transferring market wealth to employees of startups. Wealth is being transferred through widespread stock option/ownership schemes that are becoming an increasingly larger proportion of the compensation plans of these new economy knowledge companies. In essence, a portion of the returns to financial capital—now a relatively plentiful resource—are being redistributed in the form of returns to human capital, now the scarce resource.

If this hypothesis is valid, then future stock prices (and thus individual and organizational wealth) can be viewed as a function of innovation and knowledge-based value creation rather than just a function of the NPV of future cash. In this view, fundamental new questions arise regarding company ownership and returns to financial and human capital. This might represent some new and meaningful connection between the external voice of society (through financial markets with higher individual “customer” representation) and the internal company management philosophy of human capital-based, innovation-driven value creation. As yet, there is no data or analytical rigor to substantiate this hypothesis, but we felt compelled to share this idea here as possible validation of the growing links between Innovation and Individual and Organizational Fulfillment.

**Individual Fulfillment**

Because of the systemic nature of this topic, our discussion of Organizational Fulfillment led us naturally to the subject of Individual Fulfillment, which is frequently measured in monetary terms. As discussed in the preceding paragraphs, rewarding human capital investments in innovation is now possible through new compensation mechanisms like ESOPs and options. However, there remain huge opportunities to use these mechanisms more effectively to establish fulfilling reward and recognition for innovators. In a dialogue with GM Vice Chairman Harry Pearce (2000), he noted that GM is bound by its own orthodoxy regarding compensation, and he believes much more could be done to employ creative compensation schemes to recognize and reward innovation. By their very nature, innovation initiatives are often structurally autonomous means of measuring financial and
business implications, and thus they offer opportunities to directly tie individual rewards to individual investments of human capital. This is a valuable starting point for establishing links between innovation and individual fulfillment.

Through extensive research, monetary compensation has been proven to be a necessary but not sufficient condition for fulfilling individual needs. In fact, regarding individual fulfillment, employees often cite other higher-order needs. A sense of accomplishment is one such important need, and one that innovation brings many good opportunities to realize. Innovations (we will provide a specific definition later) are usually associated with creating something new and of value, and the nature of creative processes is that they have outcomes that offer a sense of accomplishment.

Self-actualization is another higher-order need that can often be fulfilled by innovations. Creating innovations provides the stretch or aspiration that both requires and enables individuals to reach deep inside themselves and rise to new levels of creativity and performance – fueling the fire of self-actualization.

Founder’s pride—the feeling of personal ownership of a product or business concept is another common characteristic of innovation initiatives. Ray Stata, founder and President of Analog Devices, cited founder’s pride as the single most important element that led to his firm’s thirty-year dominance as the industry innovation leader (Stata, 1999).

In addition to work, needs such as family, community, and spiritual cultivation are characteristic requirements of individual fulfillment. While business innovation may not explicitly address these needs, innovative efforts implicitly address them. The entrepreneurial nature of innovation often demands that the individual go beyond his traditional business relationships and draw on the intellectual and emotional resources of family and friends, expanding the circle of influence and offering an opportunity to share in recognition and rewards (Senge, et al, 1999).

Experience has taught many people “the more you put into something, the more you are likely to get out of it”. This human relationship between individual effort and individual fulfillment is clearly evident when it comes to innovation, and is depicted in the causal loop diagram shown in Exhibit 2.1. Personal and business relevance are key factors for successful innovation, and the relevance of an innovation is related to the scope, magnitude, and importance of the problem or challenge at hand (we will discuss this further in Chapter 2.4.
on Innovation. As these factors increase, a virtuous circle begins to emerge where the increasing relevance of the innovation becomes a generator for the increased effort required by the innovation. The increase in individual effort then in turn increases the personal and business success. These successes drive an increasing sense of accomplishment for the individual and organizational fulfillment for the business. The increasing sense of accomplishment in and of itself drives individual fulfillment, which in turn increases personal relevance and the circle begins to churn. Furthermore, if the organization is generous in recognizing and rewarding individual effort that resulted in its business success, even further momentum is generated to keep the wheel spinning. Perhaps more than any other factor driving individual and organizational fulfillment, it is this virtuous circle of
innovation that both demands and rewards individual investment of human capital towards creating value for the business. These effects can be seen in other walks of life as well – sports and other competitive endeavors are good examples. But there is no doubt that highly relevant and demanding innovation efforts clearly offer the opportunity to exercise this human tendency that drives both individual and organizational fulfillment.

Innovation

While our discussion about Individual and Organizational Fulfillment and Innovation has already become quite intertwined (due to its systemic nature), we will turn the discussion more directly toward innovation in an effort to clarify some of our earlier allusions and fill in the remaining elements required to round out our hypothesis.

So what is innovation within the context of this discussion, in the context of its relationship to individual and organizational fulfillment? We propose a simple definition based on a synthesis of our discussions with writers and practitioners on the subject:

Innovation is the act of creating new products, services, and business concepts that are relevant to employees and provide value for customers.

The “act of creating” means to bring something new into existence through intellectual, physical, and emotional means, thus requiring the use of people’s minds and hands and even their hearts. Creation brings with it a tacit action bias – a focus on real and novel outcomes.

The something we address is new products, services, and business concepts that underlie the purpose and existence of organizations. In this context we include incremental innovations, such as anti-lock braking systems or the Pentium computer chip, as well as basic innovations like the Windows computer operating system, GM’s Onstar in-vehicle advisory system, Schwab’s electronic system for investing on the Internet, and business concepts such as cable television or Starbucks Coffee.

We then add the concept of relevance to employees. Relevance in terms of scope and meaning seem to be significant keys for unlocking the human capital in employees, generating motivation and sense of accomplishment associated with individual fulfillment.
Finally, this act of creating is then placed in a business context by introducing the notion of **value for customers**. Implicit in this part of the definition is that customers are willing to pay a fair price for value created, thus creating a successful business proposition in pursuit of organizational fulfillment. This business proposition is not just from a financial transaction standpoint but also one that fulfills the purpose of the business and builds strong employee and customer relationships that ensure the long-term sustainability of the firm.

We propose this tacit and action-biased definition to highlight one key factor of successful business innovation: that it results in outcomes. This again differentiates innovation from invention and from merely innovative thoughts and ideas that litter the halls of today’s businesses, ideas that were never successfully brought forward into the marketplace to add value for customers, for employees, and for the business.

With our definition of innovation in the context of individual and organizational fulfillment, we now have the elemental insights to synthesize a systems view of these interrelating factors that provides the deep understanding we set out to achieve. Organizational Fulfillment is characterized by the notion that modern societies are not market economies but are rather organizational economies in which companies are the chief entities that create value and advance economic and social progress. Growth and sustainability of firms, and therefore economies and society, depends mainly on the quality of their human capital – the integration of intellectual, social, and emotional capital, and the ability of that human capital to create value for society. There is some evidence that society, through the capital markets, is beginning to reward organizations that create and deliver value according to these characteristics. And purpose, depicted through a shared vision or an emergent strategic architecture, more than any other single element provides the basis for sustainability of a value creating business enterprise, and thus for what we have called organizational fulfillment.

With this view of Organizational Fulfillment, we begin to understand the intimate linkages between individual and organizational fulfillment. Individual fulfillment begins with compensation as a basic requirement, but goes far beyond monetary rewards to include recognition, sense of accomplishment, self-actualization, founder’s pride, and the fulfillment of secondary needs such as family, community, and spiritual cultivation. When individual fulfillment can be aligned with organizational fulfillment through a sense of common
purpose and a commitment to innovation and value creation, reinforcing loops are activated. The opportunity presents itself to let employees and the business indulge in the virtuous circle of innovation, where relevance draws upon aspiration to drive effort which itself increases relevance and reward – propelling both individual and organizational fulfillment.

In an effort to enhance understanding about the relationships between Individual and Organizational Fulfillment and Innovation, we have developed a simplistic causal loop diagram (see Exhibit 2.2) that reflects the key relationships and influences driving this reinforcing loop of challenge, effort, and success.

**EXHIBIT 2.2**

**The Virtuous Circle of Innovation**

*Individual and Organizational Fulfillment*

---

Source: Authors
In this context, our simple definition of innovation — "the act of creating products and services that are relevant to employees and provide value for customers" — provides the glue that bonds individual and employee fulfillment together and the momentum to harness the resulting human and organizational capital toward value creation for business and society.

2.2 BUILDING CAPACITY FOR INNOVATION

Having made a reasonably compelling argument for the systemic relationships between Innovation and Individual and Organizational Fulfillment, we now shift our focus to Building Capacity for Innovation. As outlined in the introduction, capacity building encompasses two main concepts: (1) improving individual and organizational capabilities, and (2) increasing employee engagement both in numbers and connectivity. At an actionable level, capability and engagement are constituted from a diverse set of ingredients that must be developed and deployed to build deeply embedded capacity throughout the organization.

To no great surprise, these ingredients are systemically interrelated and in combination represent catalytic forces behind new business innovation. For the purpose of simplicity and effectiveness, we have chosen ten significant themes around which we have organized our discussion of capacity building. The following arrangement is not intended to be collectively exhaustive but rather represents some of the latest academic and literary theory:

➢ Relevance of Purpose
➢ Alignment of Intents
➢ Unbounded Imagination
➢ Entrepreneurship Inside
➢ Collective Activism
➢ Experimentation and Learning
➢ Autonomy of the Parts
➢ Integration of the Whole
➢ Nurturing Growth
➢ Embedding Enablement
Before presenting a detailed discussion of each of these themes, we would like to provide some insights into the important relationship between organizational learning and capacity building. These ideas come from our study (and practice) of Peter Senge’s *Fifth Discipline* (1990) concepts. Learning, according to Senge, is simply “enhancing the capacity to act effectively”, which by definition implies a supportive relationship with innovation “the act of creating ...” Building capacity for innovation can be noted as the same notion as learning to innovate – with an action bias toward learning. In this context, learning is about “know how” versus the traditional academic perspective of learning as “know what”. Understanding this difference is one of the fundamental challenges of innovation – especially in large businesses. Employees possess a great deal of individual “know what” (the seeds of innovative ideas). What they lack, largely as a result of their organization’s shortcomings, is collective “know what” and “know how” (the constituent elements for creating and nurturing great ideas into successful business propositions). So, this first challenge of innovation can be addressed with the ideas, methods, and tools of organizational learning.

Senge also draws an important distinction between what he calls *adaptive learning* and *generative learning*. Adaptive learning concerns responding to or coping with a challenging or uncertain situation. Adaptive learning is useful in traditional business settings, and is by and large how we are all taught to learn, i.e., to sense and respond. Generative learning, on the contrary, is all about creating, developing, and nurturing new ideas through iterative experimentation. Generative learning is the fundamental basis for successful innovation, and unfortunately is what most of us are never really taught about learning. Generative learning is appropriately characterized as “anticipate and surprise”.

Having drawn a cursory parallel between learning and capacity building provides us with a basis for integrating the tenets of generative organizational learning into our capacity-building efforts for innovation. We will reinforce these tenets throughout the remaining discussion on capacity building, as they provide a powerful basis for effective implementation and action. Following is a brief elaboration of each of the ten themes constituting our ingredients of successful capacity building for innovation.
1) **Relevance of Purpose**

In the context of capacity building, relevance of purpose ranks among the highest criteria for successful innovation. Relevance of purpose begins with an organizational commitment to growth and sustainability of the enterprise, and is enhanced by meaningful nature of work for all its constituents. Ghoshal uses the term *dynamic efficiency* to describe organizational commitment to growing the business – making the pie bigger by creating new options that require new resources and deliver new benefits—as contrasted with *static efficiency*, or getting the most out of today’s pie (Ghoshal, 1999). Hamel (2000) characterizes relevance of purpose as “a cause, not just a business” that provides extraordinary motivation and reward to those involved in working to realize it. Senge and Hamel believe that *stretch*, in terms of scope and magnitude of ambition, is a third characteristic that generates relevance for individual effort and prosperity for their organizations. Stretch, and thus relevance, are achieved when employees are consumed in working on big ideas that can make a real difference to customers and society. Senge notes that generative learning—expanding our ability to create—can only occur only when people are striving to accomplish something that holds deep meaning and relevance to them.

2) **Alignment of Intents**

Alignment of intents is closely related to relevance of purpose, and can be characterized by Senge’s concept of *shared vision* (Senge, 1990). According to him, shared vision is an organization’s collective answer to the question “What do we want to create?”, an answer that permeates an organization and gives coherence to it diverse activities. When people truly share a vision, they are committed to one another, and are thus bound together by a common aspiration. Senge contends that few if any forces in human affairs are as powerful as truly shared visions that have emerged out of ongoing conversations and reflections within the organization. Innovations that are powered by shared visions have a substantially increased probability of success.

Hamel makes a compelling case for *strategic architecture* as a guiding force that provides coherent diversity around a firm’s innovation efforts (Hamel and Prahalad, 1996). Strategic architecture is an inspirational overarching framework for strategy that emerges from a firm’s new business innovations, and eventually provides a self-reinforcing aspiration
pull mechanism that turbo-charges innovation capacity. Like shared visions, emergent strategic architectures provide relevance and purpose while serving as aligning mechanisms for employees and their firms.

Ghoshal provides a thermodynamic analogy to the concept of aligning intent (Ghoshal, 1999). The creative potential energy of a firm’s human capital is like entropy – disorganized and useless – without a relevant sense of purpose to guide, align, and motivate action within the firm. Ghoshal builds his platform for organizational renewal and sustenance around his 3P’s, of which the first is a relevant and aligned sense of Purpose. Here again, we see the systemic interaction of relevance of purpose and alignment of intents as powerful builders of capacity for innovation.

3) **Unbounded Imagination**

All of our contributors share a strong belief that merely unconstraining our own thinking paradigms and implicit organizational boundaries (that we place on ourselves) will offer as much as any other proactive prescription. Senge calls these change inhibiting behaviors our *mental models* and believes they are responsible for the fact that many innovative ideas fail to get put into practice because they conflict with deeply held beliefs about how the world and our businesses works (Senge, 1990). By raising awareness of their existence and practicing some simple but challenging tools, mental models can be removed as impediments resulting in an increasing capacity for innovation.

According to Hamel (Hamel and Prahalad, 1996), industry and company “orthodoxy” is responsible for poisoning our perspectives about what is possible through innovation. Hamel contends that our accomplishments are limited only by our aspirations, and our aspirations are limited only by our imaginations. If we let our imaginations run free, unbounded by rationality, we will find the kind of ideas and inspirations that dreams are made of. In order to build capacity for innovation, today’s companies need to redress their inhibitions by challenging and overturning orthodoxy and by re-conceiving their organizations (internally) and their business models (from the customer’s perspective).

Hamel proposes a toolkit called “Nine Routes to Industry Revolution” (Hamel 2000) that offers a unique perspective on rethinking current products, services, and business models, and also proposes enhancing our capability to develop foresight – the ability to see
the future first. These tools enable a “future back” approach to strategic innovation that is based on the notion that we can create the futures we imagine. By unleashing our thinking through unbounded imagination, we enable a creative tension that will only rationally be bounded by a somewhat more limiting factor, our ability to execute.

4) Entrepreneurship Inside

In our conversations with Gary Hamel, also articulated in his recently published article “Bring Silicon Valley Inside” (1999), several facets of what is driving the plethora of new-economy startup successes should and can be brought inside the business environments of large corporations. Hamel succinctly describes these phenomena as markets for ideas, markets for capital, and markets for talent, and calls for institutionalizing new processes and systems that will enable a radical and revolutionary departure from traditional resource allocation to the more progressive approach of resource attraction. Setting up and sustaining dynamic markets for ideas, capital, and talent is at the core of freeing the entrepreneurial spirit and capability that resides in every company, building its capacity to innovate.

Hamel cites several examples of large companies that are successfully pursuing the approach. Some of the examples he cites include the use of innovation labs to generate ideas, internal venture funds and decision boards where ideas can attract financial resources, and open-resourcing models where employees have the freedom to choose to work on whatever project or business interests them. One key aspect of the internal venture boards, like today’s external venture capitalists, is their commitment and direct involvement in transforming the innovator’s ideas into successful businesses.

One significant challenge to making this model a success is coming up with unorthodox compensation schemes that link individual investments in innovation by human capital to the value they are creating for the business. The autonomous nature of many new business innovations, coupled with the increasing use of employee stock ownership, is enabling such opportunities. As GM Vice-Chairman Harry Pearce (2000) shared with us, our current beliefs and practices are limiting our imagination on what is possible.
5) Collective Activism

Activism is a philosophy espoused by Hamel and his colleagues (Activist’s Starter Kit, 1999) at the Strategos Institute, a non-competing forum of academics, consultants, and business practitioners. Activism is about every individual taking personal responsibility for active participation and leadership in transforming their companies and their industries through business innovation. Activism is a culture, like a contagious spirit within the company; an esprit de corps that enlists healthy discontent to enable creative tension aimed at realizing stretch aspirations. With human capital taking precedence over physical and financial capital as the primary contributor to value and wealth creation, the revolutionary role of innovation activists is becoming central for many companies in their movements to establish industry leadership.

Within an activist culture, top management discovers that sharing its power and control over strategy and new business development by inviting new voices from the broader population of the organization into the business innovation arena pays huge dividends for the employees of the firm, and for the business. New voices provide creativity and energy – especially when they come from the diverse periphery of the organization such as lower levels, geographic outposts, and cultural or lifestyle minorities. When these new voices are actively engaged with top management decision-makers and resource controllers, new conversations ensue, resulting in new perspectives and new passions. Having a voice in the say over the future direction of the business not only adds fresh rule busting ideas, it also provides tremendous individual fulfillment for the engaged employees.

Sumantra Ghoshal (1999) echoes the activist philosophy in his Purpose, Process, People manifesto when he calls for corporate leaders to cease honing their skills to develop strategy at the top, and instead focus on creating the environment that allows more strategic input and initiative to emerge from below, where most of the intellectual, social, and emotional capital resides in a company. Although Ghoshal is an adamant supporter of broad-based engagement, he is also insistent and unwavering on the necessary role of top management sponsorship and leadership of the overall engagement processes and interactions.

And Peter Senge, while taking a somewhat more patient and disciplined approach through the organizational learning lens, is perhaps even more fundamentally grounded than
most others in his commitment to the ideals of widespread engagement through communities of practice. Through communities of practice, pockets of innovation and change leadership evolve and slowly widen their circles of influence.

One important point is that not everyone in the organization either wants or needs to be an activist, nor should we expect them to be. Experience tells us that 10-20% of an organization’s human capital is all that is required to kick-off a viral and contagious spirit of activism within a business. As an organization’s social human capital continues to grow, these new networks and relationships will make it even easier to affect broad-based engagement and the resulting positive leadership and action biased culture that ensues.

6) Experimentation and Learning

Forward progress in the new economy is characterized by experimentation and learning, taking small steps to realize big ambitions and learning at every step along the way. As knowledge replaces physical capital, and information becomes instantaneously accessible, and customer demands for continuous refreshment grow insatiably, both the requirement and the capability to grow through experimentation and learning become imminent. Tacit, action based, experiential learning is easier, more effective, and more fun for everyone.

Experimentation begins with simplifying tasks and refocusing time horizons, perhaps by order of magnitude from conventional business practice where complexity and duration were the hallmarks of greatness. Using Gary Hamel’s “future back” premise (Hamel, 2000), imagined futures are deconstructed into stepwise migration paths of doable and testable action steps. In the early phase, resource commitments are aligned with the levels of risk and uncertainty undertaken in an effort to feed the process in a nurturing way. Large ventures are systematically broken down into 100-Day Plans, actionable experiments with deliverable outcomes intended to drive knowledge accumulation and tacit learning about how to accelerate forward progress. Ironically, this iterative stepwise approach enables non-linear growth curves as the scope, magnitude, and speed of successive iterations increase.

Hamel’s firm, Strategos, partners with corporate clients on strategic innovation “journeys” based on a double-diamond model of successive divergent/convergent iterations (Strategos, based on author’s knowledge of GM Vector Journey, 1998). Divergent phases are energized by unbounded imagination creating opportunity ideas and stretch.
Convergence follows where learning is focused and synthesized. The iterative approach serves as a de-risking mechanism as knowledge and experience accumulate, and builds in a repetitive sense of accomplishment desired by entrepreneurial activists.

Clayton Christensen, in his renowned book *The Innovator’s Dilemma* (1997), proposes the use of “discovery based planning”, where the assumptions upon which opportunities are based are identified, and successive actions launched for learning what needs to be known. Success hinges on understanding the relevant questions as a basis for learning, as opposed to a more traditional rigor of demanding the right answers. Inquisitive culture and management processes that focus on “unanticipated successes” displaces the demands of MBO approaches focused on “unanticipated failures” appropriate for large-scale ongoing business operations.

7) **Autonomy of the Parts**

Autonomy is of some concern to top managers in large corporations, but when properly managed through integrative means (discussed in the next section), it is an essential ingredient for building capacity for innovation. Autonomy provides business and competence focus, execution maneuverability and agility, and a sense of ownership and personal responsibility required by entrepreneurial innovators.

Christensen (1997) builds his compelling argument for successfully managing disruptive technologies around the premise of autonomous business units, separated from the mainstream organization but yet properly fed with human and financial capital. Christensen cites several advantages in making his case, including rightsizing the organization to the opportunity; removing it from mainstream customers and internal competition for resources, and accepting drawn-out (but eventually exponentially growing) profitability curves that often accompany significant innovations. In our dialogue with Christensen (2000), he shared his latest thinking on the alignment of resources, processes, and values as the critical success factor for managing disruptive change. More often that not, if managers can discipline themselves to go through the cognitive assessment of these alignments, the obvious conclusion is that some degree of autonomy is required for successful realization of large innovations.
Autonomy is always relative and can be intellectually achieved inside of large corporations, although the risks are high. Peter Senge advocates the use of Pilot Teams as the basis for learning communities trying to foster and drive big relevant changes in large organizations. Pilot teams can provide a sense of autonomy, and the associated benefits, as long as they can be supported and nurtured by strong leaders within the company (Senge, et al, 1999).

Hamel’s design rules for innovation speak about the importance of autonomy. Autonomy ensures everyone building a new business concept is 100% dedicated, and provides opportunities to nurture entrepreneurial talent. Speed, flexibility, and focus have never been so important, and autonomy enables all three. Autonomy forgoes some leverage of shared economies, but this can be minimized with proper integration mechanisms (Hamel, 2000).

8) Integration of the Whole

Balancing and strengthening autonomy is the concept of integration. Left to their own devices, autonomous innovators may veer off the path of corporate synergy and miss opportunities to effectively (without being smothered) leverage corporate competencies and resources. Integration builds collective strength, and unlocks the creative potential of collective value added. The degree of integration and the appropriate mechanisms to achieve it are related to the degree and design of autonomy. But several basic principles hold true for most every situation.

Senge’s more recent work (Senge, et al, 1999) focuses on understanding the role of “network leaders” in driving innovation and change in large organizations. Network leaders help to connect ideas, people, competencies, and resources so as to increase the creative power and probability of success for change initiatives – including business innovations. Network leaders can be explicitly defined, as in the role of some more progressive planning organizations or corporate process leader roles, or they can implicitly evolve out of an individual's nature and ambitions. As organizations evolve toward concepts such as virtual, centerless, and boundaryless, the roles and opportunities for network leaders will increase. And cognizant leaders will exploit these opportunities by promoting network leaders.
Ghoshal’s continuing work on understanding human capital provides more understanding and reinforcement for the benefits of integration. As previously defined, human capital is comprised of intellectual, emotional, and social capital. And social capital is represented by the accumulated, and nurtured/active relationships and networks that individual employees bring to the workplace. Promoting these investments in human capital by encouraging and providing time and space for networking and relationship building will build capacity for integration, and thus innovation (Ghoshal, 2000).

9) Nurturing Growth

Activism and entrepreneurialism may not seem like nurturing concepts, but innovation is certainly something that needs nurturing. Perhaps it is the striking differences between innovation and restructuring and rationalization that have dominated management practice over the past decade that demand a sense of nurturing. It is not only innovative efforts themselves that must be nurtured for growth, but also the capacity to innovate.

In *The Dance of Change*, Senge describes an organic metaphor that underlies ten challenges to initiating change:

1. control over one’s time,
2. coaching and support for innovating groups,
3. making the case for change relevant,
4. management clarity and consistency,
5. overcoming fear and anxiety,
6. new measurements of success,
7. overcoming the isolation and perceived arrogance of the innovating group,
8. management’s willingness to give autonomy to innovating groups,
9. transferring knowledge across organizational boundaries, and
10. revitalizing the strategy and purpose of the organization. (p. 26-28)

Using the illustration of the biological “sigmoidal” growth curve, Senge explains that growth occurs in a pattern of acceleration, followed by a gradual slowing, based on nature’s propensity to generate and control growth. Senge says:
All growth in nature arises out of an interplay between reinforcing growth processes and limiting processes. The seed contains the possibility for a tree, but it realizes that possibility through emergent reinforcing growth processes. (p.7)

In this model, if growth stops, it is because that growth has somehow been constrained. The challenge then is to understand how to reinforce growth, by catalyzing the factors that enable change and removing the barriers or inhibitors that limit change.

When viewed in its full context, innovation includes building an insightful understanding of the business environment, generating new ideas for growth and renewal opportunities, and venturing forth to bring those opportunities into realization. Many of the ingredients we have shared in this prescription for capacity building support a nurturing environment for the complex challenges of innovation. But perhaps the most important ideas relate to providing the time, space, resources, and management attention to foster innovation. While top management exclusivity and dependency needs to be discouraged, the practical reality in large corporations is that top management involvement enhances both resource acquisitions as well as employee motivation – primarily through reinforcement of relevance. Amidst the intensity of the game of corporate survival, competition for corporate mind-space and human capital often get lost in the demanding chaos. And in this chaotic world, nurturing anything at all is difficult; not the least of which is building capacity for innovation.

10) Embedding Capability

We complete our discussion about capacity building with some of the latest thinking around building capabilities within individuals and the organization, and embedding those capabilities for lasting value. Hamel (2000) provides a useful analogy of innovation capability to that of the quality movement that dominated management attention during the latter half of the past century. While eventually successful, the quality philosophies and practices responsible for raising our world’s standard of living required generations of thinking and effort. And so too will innovation, if it is to be the paradigm around which we build a world of ongoing positive growth and renewal that our citizens seem to be desperately seeking.

Embedding capability requires a diverse and comprehensive set of actions that will institutionalize new business practices into our daily work. This topic is left for another
thesis, but we felt it sufficiently important to at least introduce the basic ideas, which will be discussed in detail in Gary Hamel’s forthcoming book later this year (Hamel, 2000). Gary shared his thinking with us in our interview, and he offers the following ideas.

A revolution in skill building, measurements and metrics, methods and tools, management processes, and most importantly information technology enablement, will determine the winners and the losers in the game of corporate sustainability for the 21st century. Skill development is required for making sensible, insightful assessment of our internal and external worlds, and developing new business models. Measurements and metrics that gauge the progress and success of innovations and the share of new wealth and value created will surpass traditional financial measures of ROA and EVA as numerator management displaces denominator management. Re-engineering processes will turn from a functional focus and efficiency bias towards a human capital focus and effectiveness bias – as output management takes reign over input management. And finally, growth of Internet capacity and functionality will offer order of magnitude shifts in communications effectiveness. The democratization of information, and thus power, will open the door and in fact create new pathways for organizational success, centered largely on the empowerment of individuals and teams. And “management’s new manifesto”, as articulated by Sumantra Ghoshal, will truly evolve from strategy, structure, and systems to Purpose, Process, and People.
CHAPTER THREE
Study Missions

3.1 OVERVIEW AND PURPOSE OF THE STUDY MISSIONS

Having developed the thought that "building capacity for sustainable innovation, enabled by broader employee engagement and improved capabilities, increases both employee and organizational fulfillment", we sought examples of corporations that are engaged in employee-driven business innovation in parts of their organizations. We wanted to determine what these corporations were doing to build capacity for employee-driven innovation, and to determine if these efforts have shown evidence of employee and organizational fulfillment. We wanted also to learn what was working well, what challenges the organizations were facing, and to see if there was additional learning relevant to our theoretical assessment.

We visited The Center for IBM e-Business Innovation, in Atlanta, Georgia. We chose the Center as a good basis for learning about innovation after hearing that IBM was planning to replicate the successful venture in several additional locations around the United States. We also studied the learning history of a General Motors innovation initiative called the Vector Journey, and visited with people from the General Motors Discovery Center who are involved supporting innovative new business development for the corporation. All of these initiatives are fundamentally based on the principle of employee-driven innovation, and they afforded us the opportunity to share practical experiences with the people and leaders involved.

3.2 THE CENTER FOR IBM E-BUSINESS INNOVATION STUDY MISSION

The Atlanta Center for IBM e-Business Innovation had its genesis six years ago, when a small group working on video digitizing and interactive CD-ROMs was formed as a
separate organization with its own accounts and infrastructure. The group was having success with its ventures, broadening its customer base and expanding into new products. One innovative new product they developed was the kiosk, a self-contained, publicly located information center, similar to an ATM, but with much richer content and capability. As the Internet began to present e-business opportunities, this organization became the logical choice for the design and development of IBM's e-business, due to its prior success with related, leading-edge information technology.

At present, the organization has 700 creative staff members. The facility consists of a briefing center, a media center, and an arts café where innovative e-business models and supporting Websites are created. In order to maintain a sense of autonomy, deemed important by the founders of the center, it is housed exclusively within two dedicated floors of a larger IBM complex.

In contrast to the former business model of sending IBM employees to be resident at a client's site, clients come to the Center to have their needs served by the concentration of talent and resources located there. While this may seem contrary to our mental models about customer service, it has proven to be quite successful and is well accepted by IBM's e-business customers. In the media center, there is state-of-the-art equipment and technology that promotes innovation and enables the center to do high-technology work for clients. Recent examples of innovative client projects include simulcast Websites for the Grammy Awards and the U.S. Open Golf Tournament. Other examples of work done through the center include business-to-consumer (B2C) and business-to-business (B2B) Internet ventures.

At the time of its founding, and throughout most of the Center's history, one person — described by the people we interviewed as "charismatic, strongly supportive, and down to earth" — has managed the Center. His vision was to create the world's greatest innovation center, and the energy, enthusiasm, passion, and excitement that he expressed radiated throughout the organization. We asked for clarification of the terms "strongly supportive" and "down to earth". We were told that this manager was strongly supportive of employees, believing that management works for the employees, and not the other way around. In addition, he understood that employees know more about what they do than does management, and employees are therefore the best sources of ideas. By "down to earth" they
meant that the manager was likely to be seen washing dishes in one of the fully stocked employee kitchens or interacting with the employees, all of whom he knew by name. His management style was nurturing and protective of the purpose and intent of the center, shielding it from the pressures of the larger, traditional organization.

Management also supports blending work and outside life. For example, it is acceptable for employees to bring pets to work. We were told that in addition to knowing the names of the employees, the manager knew a large number of the pets by name as well. In addition, therapists are contracted to provide free weekly massages for employees. And, recognizing that creativity is an important attribute for its employees, they are encouraged to pursue outside interests (like mounting art shows), that might otherwise be discouraged by the pressures of work.

One of the primary requirements that makes innovation work is communication. We gained a better understanding of the important role of communication from a dialogue with Jan Toler, whose title is “Intense Communicator” at the center. According to Jan, communication needs to be “proactive and abundant, making people feel relevant...and the communication must be authentic.” Jan basically listens to, records, and assesses everything that she can. She stays “attached at the hip to thought leaders.” She captures thoughts, functions as a sounding board, idea shaper, and counselor, and helps to decide what information is relevant and beneficial to pass on. Jan makes sure that the information is of good quality, and can be processed in the context of the organization. Jan asks, “Have you ever seen the memo from management at the end of a quarter that says, Sell! Sell! Sell!? The result is that it may stir the pot faster, but people wonder, Why? How much?” Her role is to assist in careful, abundant, and authentic communication that is vital to making innovation work.

One of the unique jobs at the Center is that of the arts café practitioner, where Websites are actually created to support clients’ new e-business models. The work is innovative in nature and requires that the practitioner stay on the leading edge of technology. Therefore, the practitioners are encouraged to read, study, and share the most current information related to their field. The arts café is filled with creative toys, interactive stations, and lighting and décor that are conducive to creativity and innovation. Such an environment seems to reinforce innovation. There are small team learning coops in place at
the Center where practitioners share their learning with each other. Practitioners spend about 50% of their time on R&D, creating ideas that they bring to a group in rough form for development and refinement in the ideation phase. Mike Wittenstein, an Executive Consultant for the Center, explained that “Consensus in ideation leads to compromise.” It is for this reason we learned that challengers or “naysayers” are purposefully designed in to the group process, to challenge ideas and provide a different perspective.

Recognizing that some of the characteristics of e-business evolution are discontinuity and unpredictability, then adaptability becomes more important than repeatability. Wittenstein explains that the reason for becoming an adaptive enterprise is the realization that the customer has a growing amount of power and therefore drives your business. “If you aim for the money, you’ll miss,” Mike explains. “Instead of responding to the customer with your voice, design your business model to meet his needs.”

Mike shared with us some details of a new “Innovation Accelerator”, described as a dot.com inside IBM aimed at commercializing innovation at the rapid pace required by today’s customers. The accelerator will employ techniques to supercompress and iterate during the development phase of a client engagement. He explained that the Innovation Accelerator is an adaptive enterprise that focuses on connections that enable better use of resources. During a customer engagement, connections between resources are made. When the engagement ends, traditionally the learning of that particular engagement is lost. The goal is to find a way to capture the connections so the whole organization benefits from the learning of a particular engagement.

Mike also told us that the role of the leader in the adaptive enterprise (based on the work of Stephan Haeckl, 1999) is to “set the organizational context” or reason for being, to establish a commitment management system to coordinate the behavior of people in accountable roles, and to populate roles with the right people.

IBM’s intention is to eventually create six additional innovation centers that will form around niche regional competence needs. The philosophy is that each center will be better than the last and will infuse newly developed capabilities back to its predecessor centers. The goal is to have a consistent implementation team for each. In addition to providing customer solutions, the centers will build the brand name, provide public relations, and provide corporate educational platforms.
Reflections on Building Capacity for Innovation

The first step IBM took toward building capacity for e-business innovation was to create a smaller, autonomous organization that could focus on the emerging customer requirements of e-business. Closely aligned with the theme of “Autonomy of the Parts” cited as one of the ten significant themes of capacity building in our theoretical assessment (refer back to Chap 2.2), we are reminded of Christensen’s thinking on alignment of resources, processes, and values. Christensen asserts that if what you are doing fits the values (the criteria with which employees prioritize, which also reflects the cost structure of the business), but not the processes (how people work together, and how the organization does things), then focus within the organization can be successful without having to completely spin the venture out (Christensen, 2000). Focus has allowed clearer “Relevance of Purpose” and “Alignment of Intents” for the Center. In this case, IBM created the Center, staffed it with people who have the right skills, and realigned its processes to create a focused organization within the larger IBM organization.

The culture that management has created with the employees of the Center is another element of building capacity for innovation. The practices of appreciation, intense communication, protecting the organization, and promoting the blending of outside life with work life seem to be key factors in building capacity at the Center. Relating again to the ten significant themes of capacity building in our theoretical assessment, we see that management practices have come together with individuals in the organization to promote “Unbounded Imagination” and to “Nurture Growth”. We were surprised to learn that the Center’s manager was an employee with more than 20 years at IBM. We expected that he had come from outside IBM.

The unique role of Intense Communicator at the Center reinforces the capacity-building theme of “Integration of the Whole”. The practice of gathering information, refining it for relevance, and communicating it in context serves to reinforce the “Relevance of Purpose” and “Alignment of Intent”.

We observed the theme of “Experimentation and Learning” and “Embedding Enablement” when we consider that the IBM’s plan for the center is to copy it in several other centers, as well as to use it as a platform for corporate education. Additionally, a team
is established to provide continuity across the multiple Center startups, embedding competence for the startups. And improvements in subsequent centers will be returned to the predecessor centers, forming a continuous improvement loop.

We could also see evidence of “Experimentation and Learning” and “Embedding Enablement” in ventures like the Innovation Accelerator, where the connections between resources, made during client engagements, will be captured, shared, and used in future engagements.

**Reflections on Organizational Fulfillment**

We asked whether or not the Center was successful, and by what criteria the success was measured. Our hosts said the Center was “wildly successful”. We inquired as to how success is gauged and were told, “In terms of revenues, profit, quality client capture and retention, and the downstream benefits to IBM that the center generates.”

Since IBM is planning to replicate the Center and use it as a platform for corporate education, public relations, and building the brand name, it appears that the organization must also believe in the success of the Center.

We were fortunate to be able to see an organization that has had six years of continuity. It gave us an opportunity to see how capacity building has taken root and translated into business success.

**Reflections on Individual Fulfillment**

Chrissy Stokley, the Executive Briefing Administrator, told us that it is “the quality of the clients, working with the highly talented people at the center, and management’s appreciation” that make working at the center fulfilling. We also asked Jan Toler and Mike Wittenstein about their feelings on the subject of fulfillment. They pointed to the exclusive cachet at the Center, to management’s historically strong support of the organization and down-to-earth style, and the freedom to blend work and outside life. Mike explained, “Basically, people like to feel that they make a difference. They like to have their efforts recognized, and they want a voice in what gets done, and how. At the center people believe that they are responsible for inventing their own work environment.”
We also learned that center has been reorganized recently into the Global Services Organization, with total employment around 135,000. Concern was expressed that the reorganization, along with change in management at the center, could affect the culture of the center. They clearly believed that the culture, enthusiasm, and passion are critical to the success of the Center.

3.3 GENERAL MOTORS STUDY MISSION

With so much written, both supportive and critical, of General Motors, it may not be intuitively obvious that there are leading-edge efforts, energy, and commitment toward building capacity for innovation within the company. However, there are pockets of innovation that are beginning to grow roots, and they show signs of spreading throughout the organization.

To gain a deeper understanding of these efforts, we studied the learning history of a recent innovation effort within GM's International Operations – the Vector Journey. This study is based on the first-hand experience and involvement of one of the authors of this thesis who was operationally involved with the initiative. In addition, we had conversations with ex-Vector team members. We then talked with employees from the GM Discovery Center, an outcome of Vector and other similar initiatives, who are attempting to build and embed capacity for innovation within GM through capability development and the direct support of innovative new business opportunities.

GM Vector Journey

During the late 1990s the profitability and market dominance of General Motor's International Operation's (GMIO) came under increasing threats. GMIO was a complex organization and despite significant operational efficiencies and leveraged competencies, it lacked an integrated sense of purpose and direction; for all the ideas and initiative bubbling up within the organization, none came together in terms of vision or execution.
Choosing to act ahead of a possible crisis, then-President Lou Hughes issued a personal challenge to himself and the GM International Strategy Board (ISB): to develop, articulate, and deploy a clear strategy that would achieve and sustain industry leadership.

In response to Lou's challenge, the ISB launched a major effort within the company directed at accomplishing three objectives.

- First, develop a strong sense of purpose and direction for the future of the company.
- Second, identify and launch a set of new business ventures aimed at realizing the purpose and direction.
- Finally, embed learnings from the process so as to increase the sustainable capacity of the organization to successfully innovate.

Because of the desire to learn and embed capacity, Strategos, a small professional services boutique under the direction of Gary Hamel, was engaged to support the initiative. Strategos espoused an approach that included broad-based diagonal employee involvement in the strategy process. This broad engagement was particularly important for GMIO, since the company was growing rapidly and many of the American managers had little experience with the markets, business, cultures, and people they were trying to unite. There was also a feeling that having a broader base of employees involved would bring better ideas to the table, strengthen the likelihood of successful implementation down the road, and begin a process of embedding innovation as a capability throughout the organization.

To further clarify the choice of this approach, it is helpful to note two alternative approaches that were rejected by the ISB. One was "buy a strategy", i.e., hire a firm like McKinsey to develop a strategic vision and action plan for GMIO. The second rejected approach, although strongly supported by many top leaders and lower-level workers, was predicated on the notion that ISB would have sole responsibility for determining the strategic direction of the company which would then be deployed by the organization. This approach was rejected because the ISB members were convinced that ideas would be constrained, implementation success compromised, and organizational learning opportunities limited only to top management.

The ISB commissioned a team of 35 employees from throughout its international business units to lead the "Vector Journey" effort, under their own direction and charter, and with their full support and involvement. Diversity was the primary selection criteria for the
Vector Team – diversity of geography, culture, functional experience, age, and thinking style. Employees who had demonstrated an attitude or willingness to challenge the status quo and lead the company in new directions were given favorable consideration.

A systematic process was developed and launched based on the “double diamond” approach (Strategos, working with GM Vector Journey, 1998) to experimentation and new venture development characterized by divergent/convergent iterations. The process was also based on the principles of broad-based engagement between the Vector Team, the GMIO Business Units, and with the ISB.

About 50% of the effort would be spent on “discovery” – gaining insight into the complex business environment inside and outside of GMIO. The remaining 50% would be spend on “opportunity” – developing an initial set of ventures and a strategic architecture that would begin a move toward relevance, leadership, and sustainability (to be specifically defined during the course of Vector).

The ISB committed itself, as a team, to work with the Vector team two full days per month in addition to individual time, a commitment to strategy and innovation they had never before undertaken. Ten diverse business units representing 75% of GMIO’s operations were selected to conduct extensive engagement processes. The Vector Team, with its constituency from across functions and business units, formed the heart of the process in terms of business unit engagement and interaction with the ISB. The basic philosophy was to get new voices, new conversations, new perspectives, and eventually new passions and ideas. Extensive networking and relationship building occurred during Vector’s nine months, and passions ran high both from innovative business ideas and from opportunities for the Vector Team to engage with the ISB on a regular basis.

Vector produced over 2,000 business opportunity ideas from which a set of seven innovative and viable ventures was synthesized. The ventures addressed fairly radical departures from the traditional mainstream business such as Urban Mobility, Youth Markets, Vehicle Information Services, Ultra-low Cost Mobility, Customer Relationship Management, and Internet Marketing. It is important to note that these seven ventures were not intended to be sufficient to realize the vision. Rather, they were seen as first steps toward addressing totally new opportunity spaces but with the potential to leverage and complement ongoing business activities and developments. The ventures were semi-autonomously organized with
relatively small amounts of dedicated resources and launched on 100-day plans. Each moved forward at a different scale and pace, but in general repeating the short duration planning/outcome cycles. The intent is that all hit the business or marketplace in some way, at some time, and contribute positively to GM’s future vision and direction.

From these ventures emerged the underpinnings of a Strategic Architecture – a coherent framework that would serve as a motivating sense of purpose for GMIO’s long-term industry leadership and sustainability. Key elements of this strategic direction include ideas such as Responsible Mobility, Democratization, Next Generation, and Customers for Life.

At this juncture, Vector was declared a major success for GMIO and GM, based on the ventures, strategic direction, and the process learnings to date. The ISB accepted responsibility for the strategic architecture while the 100-Day venture plans continued and preparations were made to begin a formal process for embedding process learnings. However, less than two months after the endpoint of Vector as a formal initiative, GM undertook an evolutionary reorganization in which GMIO leadership was integrated with North American Operations into one global automotive sector.

As a result, the strategic intents have not yet been formally adopted by GMIO or GM as a global vision or purpose for the company, nor communicated broadly in any effort to encourage aligned intent among all employees. While there is no specific evidence, it can be ascertained from personal conversations that there is at least some remaining relevance to the core themes and ideas developed in Vector, especially in the hearts and minds of thousands of employees touched by the journey in one way or another. More importantly, one and a half years later, all of the ventures are still alive in some form, either as independent entities or integrated into larger or complementary efforts with GM’s North American and now Global Automotive Operations. Progress is not as encouraging as originally envisioned, but it is still quite an accomplishment for GM. Capacity building for innovation is moving forward as key Vector resources were formally integrated with complementary North American resources in the new GM Discovery Center, a global effort working to build capacity for innovation in GM.
Vector — Capacity Building for Innovation

GMIO's leadership team had the foresight and fortitude to collectively engage the organization in an innovation-driven renewal process. Because they acted to engage the broader organization, they were able to tap into their human capital for pent-up ideas while at the same time developing future business and leadership competence — what we have termed "capacity for innovation". As cited by ISB member Arv Mueller in a Vector review with the new global Automotive Strategy Board, the learning and behavior outcomes from Vector are as significant as the content outcomes, and perhaps more important for the long term.

➢ First is that broadly and collectively engaging employees from all levels and areas of the company, and proactively encouraging new business strategies and innovation, is worthwhile and rewarding for the employees and the leadership of the company. Beyond that, it adds tremendous enjoyment and fulfillment to the daily work of the business. Contrary to initial beliefs, the spirit of activism that accompanied Vector proved to be far more beneficial than harmful, especially when that activism was channeled through the collaborative engagement of the Vector team and the ISB. Activism in isolation might be dangerous, and this is certainly the orthodoxy of the company. However, collaborative activism in pursuit of industry leadership is a powerful source of energy, especially when distributed broadly throughout the organization's employees. Not everyone was on board from the beginning or even at the end, but the collective spirit of activism eventually garnered enough support to win over the broader population of those involved. Broad-based activism brings with it the creative tension that drives out inhibition and mediocrity as the entire organization strives to lead and win, not just a few radical individuals vying for promotion and position.

➢ Second is that a commonly held and clearly articulated sense of purpose has the potential to be a far more powerful driver than simply reducing cost or increasing shareholder value when it comes to generating innovative business ideas and highly motivated people. While the strategic architecture has not been formalized and aligned within GM, the role it played in GMIO's Vector effort was instrumental in selecting and launching a set of highly innovative ventures and in displacing desperation and anxiety with hope and ambition. The complexities of strategy and organizing implications for
global companies will continue to be a challenge, if not a burden, as they seek the right balance between integration and autonomy.

The third outcome was understanding that people in the organization already possess an enormous amount of imagination, creativity, and ideas necessary to succeed in leading the industry; what the organization lacked was know-how to get those ideas on the table for discussion, development, and implementation. This know-how involved elements such as overcoming constraining orthodoxies and mental models, enhancing foresight around future industry directions and opportunities. These are difficult capabilities, and many of the best ideas are still on the table waiting to be discovered. Know-how also included enabling skill-building in new venture development and implementation through bringing entrepreneurialism inside. Even with the ideas approved and funded, moving them forward was like walking through a swamp. The semi-autonomous structuring of the ventures aided the effort significantly by providing the sense of ownership and personal responsibility needed to persevere; but clearly, the tendency within GM, as with all large corporations, is to slowly suck the ventures back into the mainstream bureaucracy. The organization has a long way to go both culturally and structurally to begin to accept the value of autonomy within an integrated whole. Continued tenacity and personal commitment, along with ongoing skill development, will be required in order to establish a reasonable level of competence and success.

Fourth, GM learned that strategy is not just about big billion dollar projects that sustain the momentum of the status quo; it is also about experimenting and taking small steps toward big ambitions in new directions, learning along the way. Iterative development, combined with the recognition that some level of failure is a core part of learning, must be improved if GM is to sustain its efforts to build capacity for innovation. Nurturing growth through cultivation, providing time and space for experimentation, coupled with a healthy discontent for inaction, will serve GM well in the future. The seeds of these competencies were planted in Vector and must now be cultivated and grown along with the ventures.
Vector — Organizational Fulfillment

General Motors profited in three main areas from Vector.

First was the capacity building for innovation as described in the previous section. The scope and magnitude as well as the process of Vector, conducted as a broad-based engagement in strategic innovation, allowed thousands of people in the organization to be touched in some way. For the 35 people who were dedicated full-time to the project, the experience they gained was beyond expectation — as quoted on several occasions by GMIO Executive Strategy Board members throughout the journey.

The second area of fulfillment for GMIO was the rich content of business opportunity ideas developed and pursued. As noted, the seven ventures represent some of the most exciting space GM is working in today, and all continue to be pursued in some way. Four of the seven ventures are expected to deliver measurable benefit to the company by the end of 2000, 18 months after Vector formally ended.

The third area of organizational fulfillment came from the ideas developed around purpose and strategic direction for GM. While these ideas have not been formalized, a recent conversation with one of the ex-GMIO Strategy Board members indicated that the core themes developed in Vector continue to have a lasting impact on his perspectives regarding the future direction of GM. While these ideas have not been formalized, a recent conversation with GM Automotive Strategy Board member Larry Burns indicated that the core themes developed in Vector continue to have lasting impact on his perspectives regarding the future opportunities for GM. Furthermore, GM’s continued support of the venture ideas that came from Vector indicates a strong consistency with the direction where they want to be moving the company. There appear to be no significant negative implications to manage as a result of Vector and its growth-oriented approach to value and wealth creating opportunities, contrary to many past and ongoing restructuring and cost savings programs that continue to drive GM.

Vector — Individual Fulfillment

Vector was a long and arduous Journey that demanded huge personal commitment and sacrifice on the part of most team members. Extensive travel, long working hours, frequent engagement sessions with top leadership—all run by Vector team members and
encountering healthy cynicism during the early days. A few team members did not finish. Others had mixed emotions and limited success along the way. But others—certainly the majority—immersed themselves totally in the effort. They worked long and hard to secure their time commitments and rally organizational support. And at the conclusion, most wanted to know what they could do to remain with their ventures or other responsibilities. The camaraderie, *esprit de corps*, motivation, commitment, and personal satisfaction—genuine signs of individual fulfillment—were plentifully evident among those who took the journey. One of us knows and can testify to this rich experience, because one of us was lucky enough to be part of the journey.

Aside from the Vector team members, the GMIO Strategy Board also expressed their personal satisfaction at having had the opportunity to participate in this effort. One strategy board member, VP of Planning Don Sullivan, by far the most outspoken doubter at the outset, shared his views with the Vector team at the final joint meeting: “I would never have believed this nine months ago, but this is truly an amazing outcome. I am personally indebted to each and every one of you for what you have given to me, and for what I have learned from you. Thank you very very much!”

Perhaps the greatest sign of individual fulfillment came at the first GM global Automotive Strategy Board meeting (immediately following the integration of GMIO and GMNAO to one global company) when the final outcomes from Vector were reported. Several ex-GMIO Strategy Board members spoke passionately about the past year’s endeavor, emphasizing their personal development and learning. This new GM global leadership team applauded the overall Vector effort, and endorsed continued resource commitments to all seven ventures, including the integration of GMIO’s Vector resources with the newly unfolding GM Discovery Center. In a large company like GM, keeping a project alive and resourced is perhaps the single most important sign that the organization is happy with what is being done. This is also one example of what we mean by organizational fulfillment.
3.4 GM DISCOVERY CENTER

When GMIO and GM North American Operations (NAO) were globally integrated in October 1998, shortly after the close of Vector as a formal initiative, the remaining people who were still working on Vector joined forces with complementary people in NAO in an effort to continue the work around building capacity for innovation. Within NAO, an initiative called the GM Discovery Center was in its conceptual stage of development, well resourced, and endorsed by NAO leadership team. The Discovery Center is led by Wendy Coles and Nick Pudar who combine their efforts to develop new business opportunity ideas, and to work with the operating divisions to bring those ideas into realization. This match-up with GMIO’s Vector fall-out provided a ready-made marriage of purposes and intents.

Discovery Center — Building Capacity for Innovation

An explicit focus of the Discovery Center is to offer innovation and new business development support services to the operating divisions. These services are provided in the form of capability development and direct resource support to work through messy but relevant new business opportunities. Team skills in sense-making and strategic innovation form the basic toolkit for Discovery Center services. Sense-making involves gaining insight into the business environment surrounding new business opportunities. The Discovery Center provides support services in business/technology/market intelligence, Internet searching, story boarding/telling, organizational learning, and individual/team development. The Center also offers capability training on strategic innovation, including ideation, domain mapping, scenario planning, and venture development and implementation.

These competencies are being developed and reside primarily within the Center today. But they are also being embedded in the operating divisions as the Discovery Center works hand-in-hand with sponsored teams on innovation projects. Individuals, teams, or ad-hoc groups bring their problems or ideas to the Discovery Center for up-front support in sense-making, perhaps determining a kick-start for a big problem, and then they can rely on Discovery Center resources, on a pull basis, as they progress into the rigorous business development activity. Discovery Center liaisons work with the teams to assess their knowledge needs and to provide the physical environment and resources necessary to foster
innovation and teamwork. According to Wendy Coles, once teams are exposed to the methodologies, tools, and services, it is hoped that team members will continue to leverage the expertise that the Discovery Center offers, as well as spread their knowledge in other settings throughout the company.

A secondary, more implicit focus of the Discovery Center is to provide leadership development and training. The Discovery Center serves as a developmental training ground for future company leadership competencies. Employees from the broader GM organization staff the Center on 3-month to 3-year assignments in which they indirectly and directly support the development of strategic new business innovations. These opportunities are not limited only to high-potential employees, but are intended to bring together a mix of the employee population, thus distributing the innovation and new business development competence broadly throughout the company. One member captures the essence of the Discovery Center's prime directives: "to develop leaders and to do good work", each directive being more important that the other.

Most employees at the Discovery Center are network leaders and serve as liaisons to operating staffs/divisions, working collaboratively with the business units and connecting cross-functional and cross-business unit groups together. Discovery Center employees see the multiplicity of initiatives that are going on across the company that can have organizations at cross-purposes from time to time, or those that could benefit from each other but are not aware of each others existence. Working from their systems level vantage point, these network leaders work to establish collaborative connections both inside and outside the company.

The best way to illustrate the workings of the Discovery Center is by example. While visiting GM, we had an opportunity to talk with Lucas VanderAart about his experience as a Discovery Center liaison with a GM Global Leadership Development Task Team (GTT). Global Task Teams are chartered by the global Automotive Strategy Board to work on key strategic issues and innovations for the company. The teams represent a significant undertaking in time and resources, where high-potential employees are fully committed to the project for 3 to 6 months away from their regular positions and locations. Prospective team members self-nominate, are selected and approved by Strategy Board members, and are
funded by their business units. The projects are sponsored by GM University Leadership Development.

Historically GTT’s have had difficulty getting up and running – not a good situation since they have a relatively short time to accomplish a rather significant task. The tasks often lack definition, have not been researched, and are not aligned with the mainstream organizational resources, structures, or priorities. These are truly messy problems, and a perfect fit for the Discovery Center to serve in its capacity as a jump-start and resource support base. The particular project is the first GTT did in collaboration with the Discovery Center, and there were significant learnings regarding capacity building for innovation, among other things.

The subject was Urban Mobility Solutions – actually one of the original Vector ventures, coming off of its first 100-day plan and moving forward toward an implementable business opportunity. As VanderAart described the experience, he said that the GTT members were “on top of the world”, knowing that they were working on a highly relevant issue to the company and to themselves, and envisioning themselves as future leaders of GM. However, reality quickly set in as the significance and complexity of the task, the diversity of the team, and the newness of the environment began to overwhelm them. The Discovery Center had designed and constructed an initial workspace for the team complete with individual workplaces, team meeting areas, and an information resource center. While the basic workspace was acceptable to the team, members soon began to re-configure the space in a different way, one more conducive to their needs and autonomy.

The Discovery Center had also planned and developed tailored training modules for the team, and immediately began delivering these support services intended to address the GTT’s business opportunity and team-working needs. While this “force-feeding” was appreciated by the GTT, there was some push-back because the modules did not seem to serve their immediate needs and were in fact creating information overload. The GTT put the training modules onto a pull-system, asking for the appropriate modules when they felt they needed them. This reinforced the notion that the most effective learning must take place in the appropriate context. When the time and context was right for the GTT, the modules were found to be highly effective.
VanderAart told us that in the next phase, anxiety grew as the team became concerned about its ability to deliver, both in terms of content and timing. With the support of the Discovery Center, they were able to quickly connect with the GTT advisory board sponsors and other internal and external experts who helped focus their efforts on the key issues, deliverables, and deadlines. The timeframe for the project was 100 days, requiring an appropriate scope and framing to deliver basically one iteration of experimentation and learning. With a more refined project scope and a clearly articulated sense of deliverables, the "pull" on Discovery Center training modules and support services increased, as did the overall effectiveness of the GTT.

Meanwhile, as VanderAart explained, the team wrestled with its own internal dynamics. Leadership questions, personal style differences, and conflict resolution were all part of growing together as a team. The Discovery Center provided facilitation and training to assist the effort. The team grew more solid and productive throughout the project, and eventually became very insular, autonomous, and results-oriented as their task ownership and personal responsibility blossomed. VanderAart noted that the only really valuable knowledge was that created by the team—and this was achieved over time and accompanied by the team’s own development and learning.

The lesson learned by the Discovery Center was that providing access to sources of intelligence is the most effective form of enablement, rather than trying in any way to synthesize the information for the team. One of the GTT’s key observations was that this approach also ensures building competence (know-how), and not just content (know-what).

**Discovery Center — Organizational Fulfillment**

The quality of the GTT’s outcome was judged to be outstanding by the Strategy Board (its customer) and by GM University (its sponsor from a leadership development perspective). This was especially rewarding considering that the team formed and executed in just 100 days, and considering the nature of the “messy” opportunity they dealt with. In the review with the Automotive Strategy Board, their analysis and recommendations were applauded, but perhaps a better indication of success (and fulfillment) was that the Strategy Board directed that the next GTT work on the continuation of the Urban Mobility Solutions venture. That team is now in progress working in India to pilot one of the recommendations.
GM University was also enthusiastic about the success of the GTT/Discovery Center partnership, and has agreed not only to continue using the Discovery Center as a project launch resource, but also has reorganized part of its GTT project support staff to the Discovery Center full-time. Obviously, the Discovery Center was extremely proud and satisfied to have supported both project content outcomes and more importantly the GTT’s individual and team development.

In addition to the examples of learning cited in this review with Lucas VanderAart, the Discovery Center is implementing a continuous stream of improvements, and innovations to enhance its capability to build GM’s organizational capacity for innovation.

**Discovery Center — Individual Fulfillment**

VanderAart and others conducted informal exit interviews with the Urban Mobility GTT at which time they expressed their feelings regarding the experience. According to VanderAart, the overall outcomes can be generalized in one word — “outstanding”. The team cited personal learning and fulfillment in three areas.

- First and most obvious was the content outcome as reflected in the project’s recommendations for new business opportunities in Urban Mobility.
- Second was their newly developed skill in the area of new business development arising out of the rigorous work of venture planning.
- Third was the personal development in leadership, teamworking, and the network of resources they each developed during the course of the project.

Reflecting back on Sumantra Ghoshal’s definition of human capital, we would conclude that this was an investment in building the intellectual, emotional, and social capital of the GTT members.

The GTT also had some concerns about the experience that were reflected in the exit interviews and in follow-up conversations after repatriating back to their home units.

- One of the discontents of this temporary GTT process (which to date has been conducted primarily as a leadership development program), is that the team members had to return home and leave their newly discovered opportunities behind for another team to pursue. This presented quite an emotional letdown from the team members.
Also during the transition, the project itself lost considerable energy, passion, and momentum as the dedicated team members moved on. The corporation's intent with GTT's is to make sure that recommended actions plans are appropriately organized and resourced to continue the migration path of iterative development and eventual realization. In the case of this project, the follow-on team actually did not come on board until nearly nine months later, far too late to maintain the project's momentum.

In addition to leaving their work behind, repatriation of the team back into their home organization presented other personal challenges.

- The GTT members return energized and often transformed by the intensity of their experience; they find it challenging to return to more traditional roles and leave the excitement of their strategic innovation projects behind.

- It is the hope if the Discovery Center that the team members become the seeds of transformation in their home organizations by utilizing their newly developed knowledge and resources linkages acquired during the GTT project to drive further innovations within their organizations.

The Discovery Center is maintaining contact with GTT members in this regard, but it is too early to tell whether the desired outcomes can be achieved. This is an area of opportunity for the GTT to ensure cascading competence development and capacity building.

One final observation on individual fulfillment itself has to do with the Discovery Center itself and their employees. The Discovery Center has been involved with many innovative business developments, a few of which have been quite successful (the GM Onstar business is one such example). Supporting these types of projects and helping to build capabilities within the organization seems to create an enviable working environment within GM and attracts some of GM's top talent. It also attracts talent from top business schools like MIT and Harvard — very difficult for large incumbent companies, especially in the face of today's dot.com frenzy. Contrary to the high-fashion consulting and startup worlds, employees are offered a challenging work environment that encourages and enables a balanced approach to life and work, a philosophy of growing importance to new economy employees. With some humility, the Discovery Center effort is cognizant of its success and its shortcomings, and is actively employing an organizational learning approach to their own development and progress.
CHAPTER FOUR
Summary and Conclusions

The choice of topic for this thesis was motivated by our personal interest in the general level of motivation, commitment, and satisfaction of employees in today's large corporations. Despite the many corporate success stories of profitability and shareholder wealth creation, our personal experience leads us to believe that a significant number of workers are still less than fulfilled by their jobs and their companies. Considering the vast portion of our lives that we spend tending to work—both on and off the job—the negative personal and worklife implications for individuals who find themselves in unfulfilling job situations seems to us to be both unacceptable and unnecessary. From the other side of the lens, we believe that there is a relatively high degree of enthusiasm in a small but growing population of today's workers, specifically those who have an opportunity to engage in innovative business growth and renewal initiatives. If this is true, we believe that this situation is not only good for the employees but good for the performance of their organizations as well.

In this thesis, we defined job-related happiness as individual fulfillment, and we defined business success as organizational fulfillment. We considered the gap between actual and potential fulfillment as a creative tension that motivates us to search for solutions to these challenges of individual and organizational fulfillment. At the outset we established a hypothesis that engaging employees effectively in innovation could be a source of increased individual fulfillment, and by virtue of the relationship between individual and organizational fulfillment, the former would naturally lead to the latter. Finally, assuming we could establish reasonable validity to this hypothesis, we set out to increase our understanding, both theoretically and practically, about how to effectively build organizational capacity for innovation that could enable individual and organizational fulfillment.
Based on these objectives and ambitions, following is an assessment of our accomplishments and core learnings. We also discuss the shortfalls of our learning objectives and offer some suggestions for further research on this subject.

Utilizing a systems thinking perspective, we constructed what we consider to be an intuitive and rational model that depicts the reinforcing interrelationships between innovation and individual and organizational fulfillment. This model was derived primarily from the experience-based writings of our academic/consulting experts, and on personal dialogues we had with each of them. While each expert brought unique individual elements of profound knowledge to bear, together they contributed a great deal of synergistic thinking.

> **Employee Engagement In Innovation as a Source of Individual Fulfillment**

The first significant conclusion for us was that our experts all converged around supporting the important element of broad-based employee engagement in innovation as a source of individual fulfillment. Whether small change initiatives or large new business developments characterized the innovations, as long as they were relevant to the future purpose, growth, and sustenance of the business, they provided a major source of motivation and fulfillment for engaged employees.

This conclusion was strongly reinforced in our study missions to GM and IBM, where significant energy, passion, and progress is being made through involving broader employee constituencies in innovative new business developments. Measuring individual fulfillment is a difficult task, and was not intended to be a central element in the scope of this thesis. However, we can testify that the “fire in the eyes and hearts” of the people we met at GM and IBM reflect exactly the kind of passion we hoped and expected to find for employees highly engaged in innovation.

Whether this broad-based engagement and corresponding individual fulfillment would actually lead to organizational fulfillment was less certain, primarily due to the recognition that realizing successful innovations profitably in the marketplace is extremely difficult, especially for large incumbent firms. This is due in part to the lengthy duration of business maturity for highly innovative ventures. At IBM we were able to observe a high degree of organizational fulfillment associated with the Center for IBM e-Business Innovation, as this venture is being scaled up and replicated as the fundamental business
model for IBM’s e-business activities. At GM the results were less developed and the outcomes less clear, primarily due to the significance of the initiatives we observed and the divergence of those initiatives from GM’s current core business. However, the amount of effort and resources being dedicated to the activities are indicative of the organization’s expectations of success.

To more fully understand the organizational and individual implications from innovation, we would recommend that a longer-term research initiative be undertaken where the content, learning, and behavioral outcomes can be properly observed and assessed over a relevant timeframe – perhaps two to three years.

➢ Competence in Innovating Does Not Come Easily

This realization leads to our second significant conclusion – that competence in innovating, demonstrated by commercially successful business ventures, does not come easily. This observation was not a big surprise, but the extent of the challenges facing the people we visited at GM and IBM were bigger than expected. Innovation competence is largely a function of systematic and disciplined effort toward capacity building—putting the preconditions as well as the processes and systems in place that will enable innovation to succeed, and engaging a broad base of employees in the efforts. The amount of resources dedicated just to capacity building, the time and effort being expended, and the relatively slow progress were more than we expected. Despite the slow but steady progress, the attitudes and energy of the people we met were encouraging, and reinforced our hypothesis that innovation provides a source of individual fulfillment.

While it is too far a reach to be holistically conclusive about the ten elements of capacity building we identified in Chapter Two, we saw strong evidence of all these factors being used in various situations at GM and IBM. What we conclude is that there is no single perfect formula for building capacity for innovation; that each individual business must assess its own situation and develop a capacity-building approach that suits its own needs. There were no other significant factors that we observed in the field that were not generally covered in the ten elements in Chapter Two, thus reinforcing the robustness of the principles and experiences of our innovation experts on whose ideas we based those developments.
Effective Capacity Building must include Learning by Doing (Innovating)

The third important learning was that innovation capacity building done simply for the sake of capacity building was far less effective and rewarding than capacity building undertaken as an integral part of a commercially oriented innovation process itself. To clarify this point, those people we interacted with who were approaching capacity building as a conscious byproduct of working on real business innovation projects, were far more fulfilled—and by our estimation far more successful—than those not directly engaged in innovation projects themselves. We witnessed this phenomenon at both GM and IBM. The key for us is that learning innovation by doing, and gaining know-how, is more fun and more effective than teaching or learning innovation by any passive means through the sharing of know-what. We believe this is true of any organizational learning process.

Markets Reward Innovative Firms

Another learning that we would like to reinforce here is that markets reward innovative, customer-value-creating firms well beyond what could be expected with traditional valuation models and approaches. At the same time, there is evidence that innovative compensation and wealth-sharing schemes are evolving that make it possible for this new wealth to be returned to its rightful earners—the human capital of the firm—in instead of the monopoly control of rents by passive financial investors. As indicated in Chapter Two, we have no statistical evidence of this fact, nor was this the intent of this thesis. However, we do believe that our dialogue with Sumantra Ghoshal provided the basis for a strong intuitive argument that offers a compelling topic for further focused research.

Time and Patience are Needed

One final observation has to do with the extent and methodology of research and assessment required to fully understand capacity building for innovation and its potential implications for individual and organizational fulfillment. As noted above, certainly the timeframe needs to be extended to a horizon that will enable proper assessment of the longer-term outcomes. Additionally, the research needs to be structured with a high level of interaction among studied companies so that the complex organizational and individual implications can be understood in a more meaningful way than what our limited duration
implications can be understood in a more meaningful way than what our limited duration visits allowed. Furthermore, the use of a more structured learning history approach and tools would be useful to properly document and assess outcomes in a way that would be useful to the learning of the organization.

Building capacity for innovation is laying the cornerstones of success for new economy organizations. This does not mean just Internet or knowledge companies, but every company that wants to excel and sustain itself in an industry leadership position in the 21st century global economy. Building capacity for innovation is all about investing in the human capital of the firm, intellectual, social, and emotional, where the roots of creativity and action reside. And capacity for innovation is built both by enhancing capabilities and by engaging broader constituencies of the workforce in innovative new business developments.

We conclude that innovation is best played out through a spirit of activism based on taking personal responsibility and leadership for creating the futures we imagine. When this spirit of activism is collectively embraced and nurtured by establishing effective preconditions for learning and innovation, then capacity for innovation grows. Enhancing organizational competence in this regard and encouraging each and every individual to engage with their minds and hands and hearts in the collective future of the company will provide any business one giant step towards fulfilling its purpose while simultaneously fulfilling the needs and desires of its employees.
REFERENCES


Christensen, C., Professor of Business Administration, Harvard Business School. Personal Interview, March 27, 2000.

Coles, W. Director, Discovery Center, General Motors. Personal Interview, Detroit, Michigan, March 2, 2000.


Hamel, G., “The Innovation Imperitive”, Activist’s Starter Kit, materials from Liisa Valikangas, Director of Research, Strategos Institute, 1999.
REFERENCES
(continued)


Senge, P., Senior Lecturer, Sloan School of Management, MIT. Personal Interview, February 23, 2000.

Stata, R. CEO Analog Devices, Seminar in Leadership Class notes, October, 1999.

Stokley, C. Executive Briefing Center Administrator, Center for IBM e-Business Innovation, Atlanta, Georgia, March 3, 2000.


Vander Aart, L. Manager, Discovery Center, General Motors. Detroit, Michigan, March 2, 2000.

APPENDICES

INTERVIEWS WITH

PETER SENGE
SUMANTRA GHOSHAL
CLAYTON CHRISTENSEN
G: Peter, the essence of our thesis is testing the hypothesis that building capacity for sustainable innovation, enabled by broader employee engagement and improved capabilities, increases both employee and organizational fulfillment. And we wondered, first of all, how this connects in a deep way with what you regard as the core questions underlying your work.

P: Would you read that premise one more time?

G: "Building capacity for sustainable innovation, enabled by broader employee engagement and improved capabilities, increases both employee and organizational fulfillment."

P: Well, yeah, I think there's no question that that's really central in our work. One of the things that's always been distinctive about the stuff we've done -- not necessarily unique, but distinctive -- is the emphasis on capacity-building. And that in order for organizations to change, people have to change. It's not something you can do TO the organization without engaging people at a pretty deep level. It's probably one of the reasons it's hard to respond to that because it's such a kind of central premise. And it's a fairly abstract level, so it's kind of hard to know exactly how to respond.

W: Well, I don't want to interrupt, but maybe just starting back with this issue of innovation. One of the questions Joy and I are toying with is how central is innovation, and what really, is innovation? You talk to 20 people, you get 20 different ideas. In fact, we kind of started out with that. But I guess one of the questions we have thought about a lot is how does learning relate to innovation relate to change, in your mind? I mean, you clearly, with organizational learning, the learning organization and then -- I guess part of the issue with that too -- is that just a semantic issue? Or is there some kind of content issue behind that?
P: I think these terms are so broad-brushed that I wouldn't make too much out of the terms per se. Innovation can mean purely technical innovation. But I think in a business setting, you can say there's technical invention. But innovation, even when you're dealing with a new technology or a new product, always has to do with how do you bring it into actual use. So I think there's always an element of organizational innovation.

Since innovation always involves the application of new ideas, not just the development of them, it always is a social process. So you might say it always involves some degree of learning.

I don't know if you saw the two connected articles that Drucker and I wrote. One is called "The Discipline of Innovation", and the other is called "The Challenge of Innovation". The common definition is that innovation is anything that increases the ability of an enterprise to create value. It's a very broad definition. So changes in the way work is done or the way work is realized or a particular customer. So in that sense it's a very broad definition and any process of innovation, finding many new ways to create value, you might say is by definition a learning process.

So in that sense -- the problem is these are such broad terms it's hard to make meaningful differences.

W: But that's really why I'd like to get some elaboration. So if it's a learning process, how do you describe a learning process?

P: Process that enhances people's capabilities to produce outcomes they want to produce.

W: Of whatever they want to produce. Which is kind of your learning definition, right?

P: I think it's kind of a colloquial definition of learning. Learning is a process that enhances your capabilities. Capabilities means "to some aim", you know, trying to walk, or learning to ski or what have you. It doesn't really matter what the aim is. So I don't think that's a very controversial or unique definition of learning.

W: OK. But the relation to innovation is that innovation is also about wanting to accomplish something, do something different, produce something new, add value.
P: In a new way, create value in a new way in a business setting. Creating value in a new way or creating a new type of value, something that ultimately will be considered worthwhile by a recipient or a customer.

W: So by default some learning is going to be required to do that, which is where if you're building learning as a fundamental capability within the organization....

P: Yeah. So as I say, I don't see much point in going too far in these very very broad concepts that are so abstract. But in any case, the two articles that you have not seen, you might enjoy. They're real short. Drucker has a very simple way of talking about the discipline of innovation which he believes is an absolutely teachable and manageable process, it's not serendipity. A lot of those things may play a part, but it's basically pretty basic.

And then I talk about the difficulties and why it's easy to talk about but difficult to do, but very much keeping to his definition of what he means by it. What he calls the "discipline of innovation". But I think what innovation is, I can't remember if he includes that definition in the article. That's what I was trying to recall.

G: We'll have to check those out.

P: Yeah, Jean has copies and we have them over at the Sloan office.

G: In some of your work, you talk about the network leaders. What do you see is the role of the network leader in innovation, in the process of innovating?

P: Well, network leaders are very important for spreading ideas. That's not innovation, but that can be the seeds that can lead to significant innovation. They connect people with one another. So going beyond just ideas, you establish relationships and people who can help one another, maybe team up in different things. Out of new relationships come new ideas, new working arrangements. So all that is very important for innovation.

A lot of people in various kinds of network leadership functions also help a lot directly with capacity building. They coach and mentor, they connect people to others who can help them out. So there is a lot of capacity building with networking, which is probably one of the main ways it occurs.
And all that is pretty relevant to your first question. It’s hard to separate capacity building with innovation, and networking is pretty important to both in those two basic ways.

W: What about capacity building? Can you talk a little bit more about what that means? That was the first thing that came to mind when we were thinking about how what you’re doing is really central to this topic. I’m just curious as to your thoughts and definition about what capacity building really is.

P: Well, it's very closely related to learning, but you might say it's a sub-category of learning. Learning is such a broad concept. Ultimately, I think learning always has to link to some kind of practical outcome, whereas capacity building is, you might say, a process that can lead to some learning but is a little bit more a component. In other words, capacity building means people, individually and collectively, developing capabilities for capacities they didn't have before. So it's always been an appropriate term in our work because of the emphasis on certain skills and capabilities, like systems thinking and reflection and being aware of mental models, being aware of our own inferences and not treating our inferences as if they're fact. I think that's really hard for people to do. They are completely caught up in their interpretations, and their interpretations become reality because they are not very skillful at distinguishing what happens from what they perceive or interpret as happening.

So that's a real area of capacity building, in that case. It's slowing down and being able to kind of look at your sense-making. That's something that most of us have never had much opportunity to develop and it's not at all captured in our educational process. And consequently, it's really deficient when it comes to situations where there is conflict, or different points of view, or something happens that unsettles people. Then they all make their own interpretations and they treat their interpretations as if that's what really happened.

So that's an example of what we mean by capacity. So if you link all that to some particular practical outcomes, then I would say that's really a complete picture of a learning process. So there's many levels of learning, and since any work organization is a pragmatic environment, whether it's for-profit or non-profit it doesn't matter. It's about people collectively being able to achieve outcomes they really care about. Then in that kind of broad, encompassing sense, that learning is all about enhancing our capacities to do that.

And in many ways it's useful to kind of break it into pieces. That's not quite the right image. It's useful to be able to look at different facets of that larger process.
So you can say, "Well, developing the ability to reflect, or to be more aware of my own thinking or distinguish what happens from my interpretations of what happened" doesn’t automatically produce better products. It’s much more an interim set of results, you might say. But it might be crucial for people working together in a way that they can produce better products.

So in a sense, the focus of capacity building is a way of trying to get our arms around a very very complex phenomenon of organizational learning or innovation, or any word you want to use -- you can use either one -- in such a way that you can say, "Well, here’s certain components or facets of it that we want to pay attention to." They’re not sufficient. There may be many other things that come into play in terms of people ultimately being successful and accomplishing things. But it gives us a little bit of a handle.

Linda Booth-Sweeney is a doctoral student at Harvard who is actually in the course with you, and Linda is doing her dissertation on various instruments that people can use to particularly self-assess their own systems thinking abilities. Now, that’s a good example of capacity building. There’s no guarantee that people, individually and collectively, who favor systems thinking ability will be more effective in any work setting. But the odds are in their favor. There’s always many other things that come into play.

So, in any case, that I think is the main difference. You can say capacity building is a focus on learning but it’s a limited focus because it defines the outcomes you’re interested in in terms of certain skills or capabilities, not in terms of overall, practical outcomes.

And it then involves a kind of logical link. We believe with certain enhanced capabilities you will be more likely to produce certain outcomes. There’s no guarantee that anyone is going to be a success as a design engineer. There’s a lot of skills and capabilities that you can work to develop to increase your odds. But when it comes right down to it, your success in any given project or even over a career will be influenced by a lot of things. They include your capabilities, but they’re not limited to them. So it’s that same distinction. It’s a very common distinction in thinking about anything from an educational standpoint.

W: OK. Just going one step further into capacity building: You mentioned the instrument that Linda is working with, which I assume is more of an assessment tool that you could look at your capacity to do something. But is capacity something that can be taught? Or is it something that needs to be learned? And learning, in essence, by doing. Is it an experiential kind of thing?
P: All learning is learning by doing. There’s no learning that doesn’t involve doing. So it’s not different than any other learning. Teaching is not learning. You can go through a bunch of actions, and you can call it teaching. But it doesn’t mean anything has changed with anybody. It certainly doesn’t mean that anybody is able to do anything they couldn’t do before. So all learning involves enhanced ability to do something.

As I say, the only difference in capacity building and what I would call an organizational learning process is the nature of the outcomes you were looking for. So if Linda is trying to better understand people’s skills and systems thinking, there is a set of outcomes, but they are not business outcomes per se. They are the ability of people to perceive and structure interrelated situations, to say, "Well, here, I’ve experienced all this, let me make some sense of it in terms of the underlying systemic interrelationships". It’s a set of skills or capabilities. Does that respond to your question?

W: Yeah. I guess the one thing that I’m struggling with in my mind is: OK, I understand and buy the experiential learning part of capacity building. But there’s still what I call the "generic" side of capacity building and then there’s the "specific" side. The generic side being, as you were trying to describe, it’s just the ability of the organization to produce some new and different kinds of outcomes, if it’s innovation or whatever. Versus a very specific innovation of a new product or a new process. So as the learning starts to take place, we’re trying to build a capacity for the organization to continually reinvent new products, new markets, new opportunities to do things.

And that, in essence, is the capacity that we’re trying to understand. How do you build that kind of capacity in the organization? Then, to get to the specific question: Do you learn those capacities by innovating time and time and time again? Or are there certain generic pre-conditions that make for effective innovation that you can somehow experience, build, and learn and drive into the organization? I don’t know if that makes any sense.

We used to have a saying at work, a guy I really respect said, "The hard drives the soft." And he said, "Any time we’re going to learn or try to do anything, let’s do it within the context of some kind of real project or real thing. And then be reflective as we go through that process and understand not just what about that hard thing, this new product, did we learn? But what did we learn about the process that we’re learning and the skills and the capabilities?"

So I’m just trying to understand more how you build capacity? How does it work in practice?
P: How do you build capacity in practice?

W: Yeah, and again, I guess the angle I was looking at it was, again, versus working on the capacity specifically versus working on some real new things and drawing the capacity building and the learning out of that as you go along.

P: Right. So there's a distinction between sending everybody off to some kind of training program to build their skills as systems thinkers, versus having people develop systems thinking skills in the context of getting a product to market more quickly.

W: Exactly. Right.

P: And I certainly think the latter is likely to be much more effective than the former, in most cases. There's roles for formal education. I don't think there's anything wrong with it inherently. In part it kind of gets you out of your ruts and maybe gets you into situations that are a little different and you need to develop capabilities to increase your odds of being successful. But it's never a substitute for developing capacities in the context of real work.

So you get a good grade on the test, so what? You face a real situation. Everybody understands mental models when they are doing a left-hand column exercise. But as soon as they get to a real conversation, they can't do anything. So that's inherent variable capacity. Real capacity building is what you can produce in real situations.

W: As a bit of an aside, we're going to GM and IBM later this week and I know both of them -- clearly, at GM they have something called The Discovery Center which they are using to train, drive, I would say, capacity building for innovation. But the way the thing works, you can come and bring a team of people to work in or with in conjunction with the Discovery Center. But you have to come with a real problem or a real opportunity. And when you have that, they use various different instruments and skill-building kinds of things but it's always within the context of that problem that you are working on. So it's trying to blend, again, rather than the more formal educational kind of process, blend it with "Let's work on something, let's do something, let's go accomplish, let's learn as we go" kind of approach.

S: I think that's important. You can call it "action learning", that's a common term people use for that sort of thing. I think, by and large, it's what is really
needed because it’s where the motivation lies. People are much more motivated to really accomplish something they want to accomplish rather than learn some more abstract skills that somebody says they SHOULD know.

I do think, though, the shortcoming of that can be, a lot of times, the goals. How useful, as a learning process, that is depends a great deal on the nature of the project. In other words, you can pick things that are very short-term: we’re going to learn how to do something in the next 6 weeks -- and it may or may not, it may give you an excuse to just ignore a whole bunch of deeper issues. So that’s the one qualm. Managers can use these kind of action learning settings as a new technique for managing people who accomplish the goals that management has pre-determined. And I don’t think a great deal of learning will come out. A little bit will because they don’t -- the real question is: Is there an opportunity to ask really difficult questions? Is there any opportunity to bring to the surface deep assumptions that are going unchallenged? And it depends a lot on the nature of the task. If you have to do something over 3-5 years and you have no idea how to do it, you can say that’s an action learning setting too. But it’s a very different one than if some manager is trying to get a group of people to solve a very nuts and bolts problem in 60 days. So the latter is not too likely to create an environment where deep changes are going to occur.

So I think that’s the one thing to be mindful of around action learning. Learning for what? What’s the nature of the goal or objective? I’m worried a little bit, it’s gotten so fashionable now, everybody likes to talk about this. Of course, it’s right that you should link learning to important outcomes that people really care about. I think there’s nothing wrong with that at all. The problem is, most of the outcomes people are trying to do "action learning" about are not particularly important and nobody really cares that much about them. They’re no more important than the typical crap that people have had to waste their time on before. Management’s good ideas: "Let’s do action learning to see if we can reduce 10% of our costs in the next 6 weeks". Give me a break! Why not just fire 10% of the people?? That’s what you’re going to come up with anyhow.

So it’s not quite as simple as saying, "Action learning is something practical." What’s the nature of the practical goal? Does it have real meaning to people? Is it sufficiently long-term and challenging that you can’t get there working the way you traditionally work?

I have an extra copy of, a friend of mine at Xerox just sent me a second copy, I think he forgot that I had a first copy a year ago, of a book on a product development project at Xerox. This is the one where they produced that copier, the Document 265. So there’s an example of what I would say is real action learning because they had an immense challenge, basically to reinvent a lot of the paradigm of copying and
produce a totally new kind of product. And along the way, they decided they wanted to
make it a recyclable or remanufacturable product too. Well, that to me is real action
learning. A new way to learn about it really encouraged that. And you can see that in this
book. A heck of a lot of time they spent really getting at really deep assumptions, both
technical assumptions and organizational assumptions. And they had the time, it was a 5-
year project, and they had enough support to give them a lot of leeway. So that's a far cry
from the kind of thing most managers are going to try to do with their workout session.

So that's what worries me a little bit. I think people get all caught up
in this workout mindset and it all sounds really neat. "Let's do management by objectives
through learning." I mean, what's going to change? If management sets the goals, and sets
the timeframe, puts everybody in a little tiny box and says "We're going to learn like mad in
this box", the real learning is out here. So I hate to call it a basic premise, but again at
abstract levels it's not problematic. But if you look at it up close there's a big difference
between learning through practical results over a few months and a few years.

W: And how sustainable it's really going to be.

P: Well, that's again another matter, how sustainable it is. I'm just talking
about really significant enhancement in capabilities. And ultimately in core competencies.

There's a couple of articles that go with the book, I'll give you one of
those too. Because there is a lot of evidence that this group of engineers have laid the
foundation for some really significant core capabilities for Xerox, core type of capabilities.
That would not have come through short-term action learning projects.

So yeah, sustainability is another matter. Now I'm really talking more
about how potentially significant the learning is. Whether or not it's sustainable, that's still
another set of issues.

W: OK. But the one thing I hear is that the scope and the timeframe have
to be long enough that there's some continuity with the people involved. One of the words is
a "community of practice" or whatever, but that you actually get a learning community. And
you can't really learn outside the community. If everybody isn't investing the time and effort
and resources, it's hard to get real learning going. I think one of the intents is to learn across
communities at some point in time, and between communities, but if you can't get that core
energy level and focus level, like you're saying, then there's probably not any real learning
going to result from it anyway.
P: Yeah. I was mainly thinking about it in terms of time horizon and depth of inquiry.

G: And you touched on management as still having control of the process in terms of setting up times, setting objectives.

P: Exactly. That's exactly it. I worry a lot about current faddish interests in these action learning projects. I don't know if people are using them actually, but that's the traditional term for it. That's my main concern. Is it really something very new? Or has it just become another tactic used for the same old system of management?

W: To get the same kind of things done, anyway...

P: They get them done in a more learningful way. It becomes just a kind of manipulation. If there's no deeper questioning of the goals or the strategies, then that's why I say I'm kind of worried about that.

G: We kind of touched on it when we met back in January, because in our thesis statement or hypothesis, one of the things we were trying to explore was engaging the broader organization. I just wonder -- traditionally, the decision to pursue new ventures, new markets, new products, has rested with executive management. Do you know of, or have you seen evidence that turns that process over to the broader organization, in the sense that you described, not setting the time horizon and the management by objective, but actually engaging them has benefits to both the individual and the organization?

P: Well, it's the kind of thing a lot of people would espouse. It's very hard to know, to give a very authoritative answer to your question because most of the examples that come to mind are relatively recent. We don't have enough history yet to see the long-term effects on the organization. Talking about Xerox, it's quite clear Xerox has had huge benefits from this product, but it's much less clear whether or not they will be effective in exploiting the knowledge base they have built. They might lose a lot of these key people because they are not very good at helping them escape their work and take it further. So it's really an open question right now.

And I think that's often the case. I think it's very hard to manage deep learning. Again, one of the reasons might keep learning very narrowly focused on pre-determined management objectives is that it seems more controllable. Well, you know, "We can do it this well, and you guys learned how to do it this well. And when you go from here
to here, we'll all understand that, and we'll be able to manage it and we'll be able to get it out to everybody else." But if we're doing this, and somebody else goes off and does this, 180 degrees away, no one knows what to do with that, even if it can be very successful. And I don't think that will ever change until there is a real shift in the type of functioning of more senior-level management. Until you have people in the senior-level positions who are really much more open to surprise and discovery and do not see their job as just driving results. The fundamental problem here is that so much of management, particularly senior level, see their fundamental job as driving results. And that just focuses everybody so narrowly. As opposed to really creating the conditions for the next generation of results, rather than driving results in the next year or two.

Another way of saying this, Joy, is that the time horizon is very important in all these issues. If the time horizon of your top two or three levels, let's say the top two levels of an organization, isn't 10-30 years, it's probably more than likely going to end up being 3-6 months. And then, if somebody came along with some really significant new innovation, you would ignore it. You would just ignore it, because it wouldn't help you in the next 3-6 months.

W: Do they have to have an exclusive focus on that longer-term timeframe? Or do they just have to show a willingness to both be sincerely concerned about the 10-30 window as well as understand they have some short-term responsibilities in business and finding a balance.

P: Yeah, but you can't get off the hook by saying "Oh, we need to focus on everything." I think that's bullshit. I think there has to be priorities. If the primary focus -- let's just make it a little less daunting -- if the primary focus of your top two levels is not 10 years, then they won't have a secondary focus on it either. Because you know, day-to-day pressure is always going to be immense. So if that's not their primary focus, then it won't be anybody else's. You can have other people in the organization, like researchers etc., who naturally are thinking 5, 10, 15 years out by the nature of their work. But they'll be kind of, in terms of how that diffuses back into the core of the enterprise, that will obviously require a real champion on the part of key senior-level people.

Look at the auto industry. The auto industry has squandered all kinds of opportunities for major innovation for years. You know, it's pathetic that we drive the cars we drive. I mean, it's -- the word's even stronger than pathetic! It's unforgivable. Why we aren't driving cars that get 150 miles to the gallon and aren't recyclable is pathetic. And mainly because a lot of the technology and the technological ideas have been there for a long
time, but it takes some real passion for somebody thinking 10-20 years out to do that. Of course, there are counter examples.

But I think it has to be the primary focus. It can’t be one of many things. Because if it’s one of many things, it will get shunted aside by all kinds of other things. That doesn’t mean you don’t pay attention to the next 3 months, but it’s not your primary focus. And you better have a lot of people in the organization who are doing 3 months and 6 months and 2 years. But if it’s the top people who are worried about that, then you’re in trouble.

G: Is there anything you’ve seen -- I don’t have any background for asking this question -- but I know when you talked to us in John Van Maanen’s class that day, you mentioned the same thing, about the long-term health of the enterprise and the focus of the top management. Is there any fundamental economic shift or any other driver that you’re aware of that is going to necessitate top management to think that way? Or do you just have to get lucky and get the right kind of person in the spot, someone who just believes it?

P: Well, I don’t think it’s so much luck. I think the people who are in the senior positions are the result of a system that identifies and helps develop people. So I don’t think that’s luck. I think it’s thoughtfulness, it’s intention, it’s design, it’s all the things that impact the process of cultivating leadership talent in an organization. So yeah, sometimes some one individual might have some special gifts. But that is the kind of exception that proves the rule, that you’re in big trouble.

I think there has always been examples of organizations that have more really gifted people for executive leadership than they can use. Usually at any one point in time, you have a small number of organizations that are spitting out executives to the whole industry, and a large number of organizations that can’t find anybody who seems to really be adequate to the challenges. I think that’s a clear reflection of the fact that they have very little wherewithal to attract and develop people. IBM was like this, of course, for years. Now that’s a long time ago. But for years, IBM basically filled the executive ranks of much of the computer industry. Now, this is back 20 years or more ago.

So I don’t think it’s luck. The best example I know of personally -- I’m trying to think of good examples -- well, I’m very impressed by the Army seems to come up with one really outstanding chief executive, chief of staff after another for the last 15 or 20 years. I think that’s because of all the very very serious work, their whole promotion and development process. A lot of the big companies we work with are pretty good at it. They get a lot of good people. Shell and BP would be two examples that come to mind.
It's always complicated because the bigger the company the more different kinds of positions are very important, such as the CEO.

But, no, I don't think it's luck.

W: But does the cycle start to reinforce itself too? I mean, once top management does start paying attention to those things, that opens the doors for workers at all levels of the organization to engage in those kinds of longer-term activities which builds capacity, builds competence, builds a level of thinking. And then that system starts to produce...

S: Yes. You would want people to have business responsibility very early in their career. You know, for example, you want to design an organization so people have profit and loss responsibility within 5 or 10 years of being in business, when they're 30. Because that begins the process of having to balance the short-term and the long-term. And there's always lots of things you can do to make your profit look better the next couple of months. But if you have a stake in the profitability of the unit over five years, you have to think seriously about the longer-term consequences. So that's a for instance. You put people into different positions where they really have to exercise leadership and judgment and balance in the short term and the long term, a broad range of technical and person issues. They can't be just narrowly focused. It's part, again, of the development process, identifying, cultivating people for executive positions. In terms of the people, I think they do really well.

I really don't think I have a good feeling of it comparatively. I can think of a lot of bad examples (laughs). Again, I've watched the way Shell moves people in positions. I think they do a pretty good job of using their personnel process to give people a very broad array of business experience. They probably have not done as good a job as they could have in terms of profit and loss responsibility because they haven't had profit centers down to small enough levels. But they certainly do a good job of giving people global responsibility and moving them into key positions. A lot of big companies do a pretty good job of that.

I think the necessary thing to do is do a good job of getting the overall business experience. Companies like Johnson & Johnson have had a long tradition of this, since they broke up into so many small businesses, real businesses, profit and loss businesses. There's a tremendous wealth of opportunities for people. They're one example that comes to mind.

G: Those are good ones too.
W: I'm a little bit surprised. One of the things that seems -- in the fact, THE thing most criticized in this too-short-term thinking is the focus on profit and loss responsibility.....

P: It's not a long enough timeframe. It's all a matter of timeframe....

W: ...and use that as an example for....

P: If you have profit and loss responsibility for 3 months, it's not much use. If you have a stock position in a business you helped to grow and you're going to keep that for the next 20 years, you have a different perspective. Back in the days when IBM was so famous for its development of leaders, they had a sale incentive plan. This is not profit and loss, but it will serve as the same point. They had a sales compensation system for their sales people where they had a standard positive commission, and then they had a negative component of the commission. If a customer to whom you had EVER sold an IBM product, ever, switched, you had a negative commission. Think about that in terms of long-term perspective for a salesforce. IBM was doing this because of its service for years. I mean, IBM was never a technical leader in anything back in its traditional days. But it was phenomenal in its service. I mean, it had an entire salesforce which was dedicated to service because they knew if a customer got crappy service he'd be pissed off and buy a competitor and would shorten their paycheck.

So it's always a question of time horizon. It is, you're right. So if I put you in a kind of profit and loss business setting where you're going to move on in 6 months with no consequences for you personally, of your decisions, then of course that's a disaster. So I meant really long-term profit.

The reason for profit as an orientation is that it's wholistic, it forces you to deal with investments and short-term expenses and with the revenue side and the cost side, and to really think in a wholistic way about an enterprise. And it's a fundamentally sound part of a profit orientation. You have to think about growing an enterprise. But it can be undermined if you make the time horizon too short because then a lot of steady investments will never be undertaken. Why do it? All you get is the cost up front and the benefit is 2-5 years out.

W: In that regard, one of the things people talk a lot about in terms of successful preconditions, if you will, for innovation or change -- there's always a lot of
reference to entrepreneurial kinds of skills or talents. But if there was -- to me, almost
everything that is really short-term focused, especially nowadays. I mean, it's design well,
sell your company and get the hell out. Have you given much thought to the advantages and
maybe the disadvantages of entrepreneurialism? I see this radical push "GO, GO, GO, 20-
hours a day, Gotta get it done now" kind of philosophy, versus a more deep, sustained, long-
term "this is the objective where we want to be". How do you rationalize those two things?
Or take the advantages out of ...?

P: Well, I don't think -- the entrepreneur is still thinking about his long-
term benefit. It's just that in some situations he operates in a very unusual environment
where he can build long-term wealth in a short period of time. You can build a lot of wealth
in a short period of time. So he still has a long-term perspective when you think about it.
You know? If you work 20 hours a day and sold your company for less than you invested in
it originally, that would not enthuse you very much.

But, yeah, I think it's a temporary condition in certain capital markets.
The problem is that people are seeing it as kind of the "new rules of the game", new "law of
the land", and of course it's not that. Most people working 20 hours a week will never make
a penny. It's like the lottery. You keep reading about the lottery winners and you think
"Well, I'll be one of those too". So it's very deceptive because it doesn't mean the vast
numbers of people, or high percentages, or the vast majority will never make anything.
Because everybody is making big bets. It's a big lottery and most of these companies don't
make any money but they have huge interest in the stock market because people are making
all kinds of bets on what's going to work out. It won't continue forever.

W: But then how to these entrepreneurial characteristics that people
describe in their own environment fit with a good learning environment?

P: Well, there's classic characteristics of entrepreneurs, and you shouldn't
be too -- entrepreneurialism wasn't invented two years ago with dot.coms. The classic
characteristics of entrepreneurs is that they are passionate, they have something they really
care deeply about, they're imaginative, they're willing to forego lots of short-term benefits.
They're willing to forego security....

W: Even if their venture capitalists won't, they are willing to.
P: Sure. Because they are really passionate about it. As far as I know, most of the studies of people who are making fabulous amounts of money don’t do what they do to make fabulous amounts of money. The large number who try to make fabulous amounts of money probably won’t succeed very well. The people who usually make fabulous amounts of money just happen to have a really great idea and develop the wherewithal the collective wherewithal to pull it off. But it’s almost a side effect; they don’t go into it to make fabulous amounts of money, they go into it because they are passionate about something and they’re imaginative and understand a little about the creative process and they create something new. So those are timeless ideas of entrepreneurs. I think there is a lot of distortions today. Everybody becomes an entrepreneur just because they work 20 hours a week and expect to cash in in two years. That’s not a very good definition of entrepreneurialism. Most of those people will be doing other things in a couple of years.

G: Could I ask one last question, and it speaks to something also that you said before and gets at the heart of what we’re really interested in, which is: You said that fundamentally, it’s risky for people to undertake change and innovation, etc. And the only reason they do it is if they fundamentally cared about the health of the enterprise in 10 years plus. What does it take to get someone there? To care about the health of the enterprise in the long term? Not just senior management....

P: Well, I would say that it’s more a matter of removing obstacles. I think most people who are part of organizations would like to operate from more than they do, from a perspective of responsibility and investing in the long-term health of the enterprise. It all depends, of course -- it’s hard to talk in complete generalization, but it depends of course on the company having something that’s worth investing in. Does the company stand for anything? If the company has something that it has stood for traditionally, then I think you find this condition where many people would love to invest themselves more deeply and the reason is they thought they would make a difference over the long term. But there’s lots of barriers, you know? They have bosses who only care about the next quarter. They see an environment dominated by games-play and politics. They don’t really have anything worthy of their commitment in terms of what they can focus their energies on.

The Xerox story is a really good example of this. You see again and again in different articles written about the team how it meant a great deal to them to reconnect with the principles and values of the founders of the company. So they were kind of "dying" to be able to commit themselves to doing something that could really help the
future of the company because they really had a sense of connection to the founders. You'll see, there are many examples. I'll give you this book.

Now, if the company didn't have anything it stands for, if the founders never stood for anything and the people in the enterprise never stood for anything, then I think none of what I'm saying matters much. Then it's just a job. Then what is there to be committed to. But an awful lot of companies, particularly those that have been around for a few years, do have some things in their history that give them something worthwhile. In those cases what usually happens is just layers of crap on top that keeps this commitment from coming out.

I think there are those two different cases. You know, companies are just formed opportunistically because somebody sees an economic opportunity whether they're founded by greedy assholes. People aren't going to be committed to giving their soul to a greedy asshole, you know? That's stupid. So they put in their time, make some money, and look for a better opportunity.

So I think you have to make that important distinction. If the enterprise doesn't stand for anything, then there's no reason to expect people -- you can't expect people in an organization to elevate their aspirations to a higher level than that of anybody else who's ever been involved in some kind of responsible position. If there's never been anybody in a really responsible position in the organization, who's had really deep aspirations, then you can't expect people in the organization to have them.

END OF INTERVIEW
APPENDIX B

INTERVIEW WITH SUMANTRA GHOSHAL
INTERVIEW WITH
SUMANTRA GOSHAL
February 25, 2000

W: Sumantra, we are interested in exploring how you motivate people in organizations through more fulfilling life experiences. We’re looking at innovation as a renewal factor, leading to growth, rather than the downsizing you hear so much about. As you saw in the information I sent you, we’re talking to several thought leaders in academia and consulting. We’d like to start by asking how and if the statement, “Building capacity for sustainable innovation, enabled by broader employee engagement and improved capabilities, increases both employee and organizational fulfillment”, relates to the fundamental questions that underlie your work.

S: We find these ideas interesting. I understand that you want to also talk to companies and find out what they are doing. I can’t agree or disagree with the statement. In the individualized corporation, ABB is one of the top ones. Orin Lindo has now taken over as CEO of ABB and his basic mission now, strategic mission, is to transition ABB from a capital-intensive, manufacturing-based businesses to more service-based businesses that leverage the knowledge of ABB rather than just the capital assets. Sort of reduce the capital base, improve the total capital employed.

Now as he tries to transition to this more service, knowledge-based businesses, he finds that the kind of organization, those kinds of organizations that Barnevik can build, that we have described -- small units, highly entrepreneurial little units, coordinated through these business area managers -- to be somewhat inappropriate because they need much more integration across skill areas, integration across geography, integration in the sense of which parts of the practices to use, and so on.

So the tension becomes, on the one side, the technologies, the markets, the customers that are driving the need for integration. On the other side, the need for individuals, the need to retain and develop individuals, that are to marshall entrepreneurship requires more focused units, more focused entrepreneurial readiness - And that's the tension that is troubling.

I think the issue then becomes: How do you achieve important top unit integration while you are trying to create this sort of place that we described or the kind of organization that's described. That's the problem of they are facing.
Now, on the other hand, if I go to BT, another company. If you look at BT, they need to make a transition from the old kind of fixed-line, monopoly providers of telecomm services in the UK and some joint ventures abroad, the explosion of the Internet around, it has to move to that and it's being hammered in the capital markets because the market is seeing them as inadequate in terms of their response to these demands. Inadequate in terms of American players, even inadequate compared to what Deutsche has done in the Internet space, Deutsche Telecom and others.

And if you look inside BT, they have started up all kinds, more than 40 dot.com companies, Websites, Internet businesses, ISP providers, the whole lot. Somewhere, they are finding it difficult to make this transition. They can't keep the people. There is the whole issue of the remuneration structure. BT's middle management weighed to a dot.com company. They give them 35% ownership of something that tomorrow can become a billion-dollar operation if we don't believe the internal administrative consequences, and so on.

So, these are, at a very operational, practical level, these are the kind of problems that I see these big companies coming up with. To my mind, at one level, what we see in the individualized corporations is kind of the attendant story. You need to create a greater level of commitment of individuals. And for that, desymbolize the sources, desymbolize the politics, and build the organization around individuals. Fine. The problem that that poses are these kinds of problems.

W: OK. Then again, your finding, then, also is that in these situations the concepts -- let's just say 3 Ps to simplify -- they're testing out to be successful as the kinds of things that are going to drive that level of commitment? That are going to help attract and retain and help companies to develop the new kinds of competencies and skills that are going to make people be successful in those environments?

S: Yeah. I'm talking with companies where the top management completely buys and in fact, are being stimulated with the ideas we write about. So at an ideological, philosophical level, there is a complete congruence. Then they come back to me and say, "these are the problems we are facing, tell me what I do".

W: OK. Just a couple of segues off that. First of all, both BT and with ABB's move toward services, clearly I understand in that world of knowledge-based workers, knowledge-based enterprises, the applicability seems very relevant. Are you finding the same thing in larger industrial companies in the past? I mean, everything can't go to services.
Somebody still has to be out there manufacturing products that can be offered, presented, subscribed in the way of services to customers.

S: At one level, yes I do. Again, take an example. What would be a more extreme example of manufacturing commodities than cement, right? You look at what's happening, to Cemex's industries. The real source of profitability is now getting into the specialized areas, not just a plain commodity. And how does Cemex build these specialized applications? It's back to the same issue of creating small teams, creating an exciting environment within those teams with a clear local leader. They take up a project, a very entrepreneurial process to develop specialized applications. That's where the margins are. But a pure old commodity business has absolutely thin margins.

That's not just a supposition. Issue. It is "how do I move up the value curve to higher value applications than what I have?" They all require this bottom up of entrepreneurship of some sort.

W: OK. This is kind of a semantic issue -- would you characterize those types of entrepreneurial activities that they're trying to drive as new business innovation? Obviously, in a thesis, you get hung up on a lot of words. And I would ask more broadly: What is your interpretation of the word "innovation"? Does it work in this context? You probably talk more specifically about entrepreneurial kinds of skills. But what's your take on that?

S: I would go back to Schumpeter for a distinction -- I mean, his original definition of entrepreneurship and innovation in academe. Innovation is a new idea, whereas entrepreneurship is not just a new idea but it's implementation. And ultimately, what could be innovation, entrepreneurship, in that domain, you have to somehow create new value. And again, back to Schumpeter. It is some kind of either a new combination of resources to create new offering, or it is a better way of existing combinations to full productivity improvements as well as new business, new product creation. More can be the product of entrepreneurial initiative, but entrepreneurship would be, at least in that definition of innovation because the implementation of it, bringing it to market, is an integral part of entrepreneurship. Even though it may not be a part of innovation, it can beget the idea itself.

W: OK. That's very consistent with our thinking. We've adapted to the difference between invention or ideas and innovation, is that innovation is actually putting those ideas into practice, commercializing them, making something valuable for the business.
So, again, I don't want to get hung up on semantics, but it sounds like we're talking about the same thing so that's good.

G: I was going to explore -- I can understand what you're saying about the pull of the capital market and the conflict that it causes potentially in the creation of these new organizations and the top buying it and having problems implementing it operationally. And I wonder if you have any ideas or have seen what types of things people are doing to work through these operational difficulties they are encountering?

S: I don't have any ideas. But I can frame -- given yours is a thesis project, solutions are best left to you, even though I recognize the paucity of time and effort that you can put into it. But let me give a problem. For example, one very big company, an American company, which I will not name, has been successful in trying to make the transition, but now a lot of the good people are leaving. And in fact, when we ask why they are leaving, yes of course the equity options, etc. are a bit better where they are moving, etc. But the real issue is becoming, there is no sense of "we are an institution, we are together" and where there is no sense of this, people don't trust their top management. Somewhere, in an external market, the market externally, both labor market, capital market, in terms of venture and so on, have become so dynamic that the real problem is: How do I hold onto the ideas inside a United Technology, or inside a General Motors, given how easy it is for the creators of those ideas, the entrepreneurs, to go outside, in which they are more likely to reap a larger reward. What do I do?

There I told them, the most critical issue boils down to a level of trust. It is not a question of loyalty but it's a question of trust in the institution, which is symbolized by trust in top management. And I think there is a falling level of trust in these companies. There's this middle group, bright, sort of trendy people, who just don't trust their top management. And without that trust, the problem of how do I hold onto these people inside - - that's an absolute sharp edge of the problem that happens everywhere.

And again, I go back -- you folk must have experienced this from inside, whether it's in GM or UT. And I would urge you: Use that experience, use the way you felt inside those companies. That's as good data as anything you would get out of interviews.

W: Yeah, it's not just 20 years old, it's even 40 and still fall into that category.
S: Yes. And again, the problem, on the one hand, the labor market -- at the top level, the middle levels -- it is extremely hard to protect the internal labor market and external labor market. Given the fluidity that has emerged, not just in the U.S. but also increasingly in Asia, now how do you create a sense of commitment inside to the people? You have to find a solution to the incentive problem. In other words, I think Jack Welch, for example, may well go down in history as having been outstanding and successful for 19 of his 20 years. But he made a horrible mistake in the last when he said there would be only one stock, that would be GE stock. And as a result, out of GE Capital, already a large number of good people have left out of Locomotive, out of Domestic Appliances, the whole Destroy your Business.com. I think it's going to be very interesting to see. Can he manage that with a single GE stock without either tracking stocks or without spinoff stocks and so on?

So that's one side. How do I manage the incentive system given the external labor market? But the other side is: Even if I manage it, how do I make these people stay inside when top management itself is seen as a part of the external labor market? And the perception is that the CEO get a better job, he/she will leave. Then what is this institution within which I will remain, simply because its an institution? That's become a very complex problem.

W: Very good. Regarding that whole issue of incentives, and especially the stock option motivated drive here in the U.S., driven very much from the more pure capitalistic approach and stuff, what is your view on the importance of stock options and the motivation and the incentives that they provide for the organization? Many people say that that's been primarily responsible for a large portion of the rationalization and restructuring and shorter-term focus versus what I would consider a longer-term focus driven by the purpose and societal responsibility and things that you talked about.

S: It would be. We are at the most weird and extreme version of a speculation. Here is the speculation. I find some major puzzles in the way the world is working today. I'll give you some of the puzzles. One puzzle is: We are all saying that increasingly, capital is a commodity, there is plenty of capital rushing around the world, whereas the real scarce resource is talent, the real scarce resource is knowledge, ideas, whatever, which are embodied in people. Yet, and I do not have very rigorous data, but it seems that in a first-cut analysis, over the last 20 years, certainly in the U.S. market but perhaps also including Europe, capital share of the pie has been going up, not down. The normal economics would say, what is becoming more and more of a commodity it's return
should fall, and what is the scarce resource should attract a greater return. Yet, in relative
terms, capital return is going up. And I think this is the puzzle. This is difficult to explain in
terms of a simple framing.

Second, the capital market itself presents a puzzle. On the one hand, current profitability still remains the best predictor of future profitability. We know that empirically. And yet, it is not just dot com valuations overall. The correlation between profitability and market capitalization is steadily declining for over ten years now. Certainly from 1991, each year, to the extent that from about 0.22, now the correlation is down to .08 for the total U.S. economy, the capitalized economy. And that again is very hard to explain because on the one side, if today’s profitability is the best predictor of future profitability, then why should this correlation decline so precipitously?

So if you put all that together, where am I heading? We always think tomorrow will be like today. I think the problem is, the entire structure of the capital market and entire distribution of rewards need to fundamentally change. It is changing, but it is changing by labor-owning capital; it is changing by equities and ownership and so on which affects, ultimately, a very small part of the working population. But the broader notion of people becoming more important than capital is applicable to a far wider base.

And I think what I propose, which is nothing more than a hypotheses, is that over time what you are now going to witness will be a significant reshaping of the capital market structure itself, together with a significant decline on the returns to capital on relative terms of value added. In other words, an inverse of what we have seen over the last two decades. The capital markets are now completely out of whack and they are being retained by a highly institutionalized process that includes theory, the whole set of capital asset pricing model and the finance economic theory, the institutional structures of pension funds and investment banks, and so on. This whole thing is going to change. That is the next step of the evolution that we are witnessing.

W: OK. If we drive down that line. Shareholders today basically perceive themselves as putting capital resources into the business and they are entirely entitled to the returns of the business based on that capital. But now, as you said, we need to maybe re-conceive the returns on the people and the knowledge assets. Would the shareholders consider that they own the human resources and that they are entitled to a return on that knowledge? Do you have any thoughts on how those returns may be distributed?

S: Confronting these questions - We know slavery is abolished. Nobody can own people. But yet, what does then "residual rights" mean when the residual
rights are really accrued from people and you can't own on people. The notion of the market value as the net present value of all future cash flows is not based on a descriptive accuracy. In other words, we know that's not how you and I buy stocks, nor even the pension person, and so on. Nobody really sits down and calculates the residual value and then the net present value of future customers. If justification historically were based on the Milton Friedman kind of a notion that says, "Yes, the assumptions are accurate but the predictions it makes conform to reality." That's the thesis. That's the set of positive economics. No, increasingly that also is not true. So if it is not descriptively true as a process, and if it is not predictably true in terms of outcome, then why don't we go back and question the fundamental premise that this market cap of a company is net present value of all future cash flows.

Perhaps, I think what we are seeing -- why is Internet stock where it is? Most people would say it's another tulip, it's another bubble, one hypothesis, a very viable one. I would say the equity market acted like the venture market. Again, a viable hypothesis. We actually know all of them will not survive but some will. And we are playing the roulette table in a venture capital sense.

But it could well be that the evaluation -- and our entire model -- and I come back to the Sloan Management Review paper that I don't know if you have yet seen -- our entire model of strategy, the Porterian framework, financial theory, all of that is based on value appropriation. How much can a company appropriate value that its strategy, power of customers, supply and so on. That is finance theory because that is ultimately the positive cash flows, how much can I get to keep?

I think an alternative hypothesis is, these valuations have been proper value appropriation, but an actual value creation. Amazon.com is creating a certain level of value for society at large, including all its customers, only a very small part of which it can keep. In the past our presumption was valuation will depend on what it can keep, not the value it creates. I think in the same sort of "Adam Smith" sense of butchers and bakers, not that the butcher is coming to do good to the world. The butcher is coming to earn a living. Similarly, the analyst and you and I are coming to make money on the stock market. But collectively, what we are doing is rewarding companies that fully create value as opposed to only those that appropriate value. When you create value you always get to keep some. Again, back to Schumpeter. But then you have the process of handing off. And therefore, the challenge becomes continuous innovation, continuous adaptation, as a way to keep up all the strategic notion of sustainability, of competitive advantage in a Porterian sense, or indeed, of CAPM. Or the full loss may be open to question now.
I do not say this as my point of view. I say this simply - I see my job at this point as throw things at you simply to broaden the perspective within which you are placed on. And in that spirit I say now, "Why not?"

W:
Yes, it's working. There's some good idea coming out here. Again, just probing a bit more. In this model, the one thing I still see happening today, though, is that the returns are still going to the shareholders who are putting in the capital. And it's possible that in the future maybe more of those returns will need to go to the people, the employees of the organization and if the economics worked out, you could see these lower returns to capital coming, is the valuation, the real return to the shareholders may go down and the value to the people go up. So it could be a way, maybe, that the tide starts to turn a little bit.

S:
Yes. And it's not just employees. It's customers, suppliers, a much broader -- the way the company and the shareholder get benefit is because society will reward them for creating value for all. And that's what will drive their price/earning, that is what will drive their market cap. But in terms of profitability, who gets to keep a lot of the cash flows? That is going to get far more widely distributed in an arena where profitability has become less and less relevant. And the thing has become continuous innovation, continuously creating new value.

W:
Right. And as those rewards are shared among all the constituents, everyone may have a higher degree of motivation and because of reward, to continuously innovate and drive value creation, as you say, in the business....

S:
This is what is so special about the U.S. economy. It is, somewhere, the U.S. economy, we all, all over the world blame Wall Street for being this horrendous creature which is destroying everything and all it cares about is the next quarter's earnings. The thing that is most interesting and hypothesis to me is that the American capital market, which has really swung (in this hypothesis) toward rewarding value creation rather than value appropriation. Yes, there are those who are looking at General Motors and all they are interested in is will the next quarter's earnings be 6% higher or 8% higher? But a large part of the capital markets says, "We don't give a shit about your profits. What we care about is send me a business model, tell me why it is creating new value for the world, and if I can see that, I want to reward you."
W: OK. Very good.

S: The Purpose Process People model, which is internally focused with an external reality of this changing nature of the world. The reason I mentioned that is -- I'm enthusiastic about that model, and the whole idea of that model is to shift management attention from value appropriation (which is a strategy structure systems headline) to Purpose Process People which is value creation. And the reason this is consistent is: The world rewards value creation. The outside capital market and so on, is linked with the inside in terms of a management philosophy.

W: OK, Very good. You mentioned, interesting, the U.S. as an example of where maybe there's a shift from the short-term thinking. But as I was reading and thinking a lot about the 3-P model and stuff and purpose being the driver for the corporation, it seems to have more of a European societal-based flavor to it than the purely capitalistic nature of the U.S. Do you see the ability for the U.S. market -- again, what I see as a very capitalistic profit-driven market -- to accept this? Or do you even think maybe they're leading, like you say, in this shift towards a broader purpose?

S: With just framing, I tell you why. In fact, I have a problem, at the extreme, with any of these "national" or "cultural" comparisons. The reason is, yes, if I take any one stereotypical dimension of individual behavior, there will be a difference in the mean between a German population and an American population. However, the problem is, in-group variance, variance within the U.S., variance within Germany, in-group variance exceeds cross-group variance. And any minimal sense of rigor tell us, any construct, any differentiating factor across groups, where in-group variance exceeds cross-group variance, that is not a good differentiating factor.

I think the same is true in this context. The big values are about as much Midwest American values as they have been in Europe. 3M is a product of good midwest American values. McKnight was an embodiment of those values. Those are the values he put into 3M. So, in 3M this was always a concern, acting through from the 1940s, not because it came from Germany or Italy or France or UK. It came from Midwest America. Do you understand?

W: Yes I do. Do you think globalization is in some ways helping to drive more of a convergence, where these issues -- again, social responsibility in the context you
speak of it, in a way that all the constituents in the business are able to share more in the rewards of the value that's created?

S: But more than a convergence to one model. It is more of a convergence to acknowledging and creating pluralism. And when I say pluralism, variety, institutional variety. If you look at the U.S. capital market structure, there is a huge institutional variety. There is the guy on Wall Street who wants next quarter's margins; there is the Warren Buffetts of the world; there are the venture capitalists; there are the angels. There is a huge variety in the U.S. capital market. If you take values, corporate-level values, on the one hand you have Emerson Electric, totally capitalistic, individual-based incentive system, all the way down you have the Johnson & Johnsons and the other lot. It is pluralism in terms of diversity of individual values, diversity of institutional structures, diversity of corporate values, etc. I think whereas the rest of the world it was a sort of area where this pluralism what was valued. What was valued was one kind, whether it is Asian values, or German model, or whatever.

What I believe globalization will do is not make the world "American" in the sense of one thing, called American. What the world is doing is it is increasing celebration of, acceptance of, and institutionalization of, pluralism. So now, Daimler Benz is one kind, but at the time Bertelsman is another kind. So there is more pluralism in the Italian corporate sector; more pluralism in the German corporate sector. In that sense because more Americans perhaps, but not in the sense of one particular value or one particular style or one particular individualism or capitalism, or whatever. It is an acknowledgement of a more pluralistic society, with more pluralistic institutions.

W: OK. Good. Shift gears just a little. The role of top management in leading the kind of change that you're talking about within organizations. You seem to be more of a proponent that top management really has to lead these kinds of changes, accept them, embrace them, and lead the organization. How important -- do you stand behind that? And can you share some examples or some insights on the role of top management?

S: This again has been sort of a debate. You have, on the one hand, Mike Beard and others at Harvard saying, "No, it is never top-down. These changes appear at the periphery and then they diffuse." And I think that is true.

On the other hand, you have the notion that these kind of fundamental transformations have to come from the top, they have to be agreement at the top, because
otherwise there isn't enough resources, enough legitimacy, enough authority, and enough consistency behind them to make a change in large companies.

Where I come out is that this is a journey. If you take a General Motors or if you take a GE, which is chucking it all over a huge process of historical momentum in one way, then the starting point of a kind of radical change needs to -- and in my experience, without exception -- has come from the top management. It is top management who has to say start; this is where we are, this is where we are going to go -- confront the reality and then make the case for radical change. That comes from top management. The first stage of the journey, indeed is driven firmly by the top and often, though not always, in this first phase it becomes the top-bottom coalition against the middle. Because the middle gets stuck with a variety of factors. The top management basically articulates the direction and creates a coalition with the front lines and then throws it to the middle or whatever.

Some companies try to continue with that process but without success. That doesn't work. Somewhere you need to bring that middle back in. You have created a top-down and a bottom-up process from the beginning. Then you've got to bring the middle up-down process into it.

If you go back to the Individualized Corporation operations, and you talk about the 3-P model of change, the first phase, we call it the Rationalization phase, is really this combination of a top-down/bottom-up kind of process. The middle is absent there -- they're in the parking lot! Then in the Revitalization phase, a middle up-down process comes in and top puts much of the actual ongoing need for change on them (the middle). And begin to retreat back into more of communicating the vision, communicating the values and keeping the umbrella alive for the middle to do its job. And then you emerge to a scene where it is not top-down versus bottom-up, but is middle up-down. When you have all the people supporting you, there is a top-down process going on continuously at the top with Strategy. There is a bottom-up process, sort of a GE work outside where each employee is taking the responsibility for being best in class in whatever he/she does. And there is a middle up-down process that is both meeting across these two and ultimately becoming the most important sparkplug, the trunk of the tree that is holding the whole company together.

So it's not one or the other, it is all three. And the way you build them is through a sequential process. Because you can't build all three together. If you're going to do that, then they are contradictory.

W: OK, good.
G: And that kind of brings us back to where you were starting, which was talking about the difficulties and the dilemmas that companies are facing in retaining some of the middle management and the trust-building that’s required from the top.

S: Absolutely, yes.

G: This will perhaps display my ignorance, but if in fact the stock market turns out to be that it’s rewarding something that isn’t there, with the startup of these dot.coms and so forth, do you think that it still holds that there will be this kind of restructuring of the whole situation you went through earlier in terms of the....?

S: I tell you, worldwide there is a mood and a pressure that says, "Human capital matters, intellectual capital matters." Trouble is, we don’t have ways of measuring them. And I don’t think the real problem today is a philosophical or even a conceptual problem. The real problem, at one level, is a measurement problem. Because we cannot have those measurements, then we cannot deal with them. And therefore, even if we know that world should be different, because we can’t measure that we carry on with "flat-earth theory" simply because we can’t measure our things in a spherical-earth kind of way.

I think a very large part of the program on which this change will utterly will be somewhere there will be a breakthrough in terms of measurement of intellectual capital, social capital, human capital, whatever we use for signals. And until a standard measurement comes, the world can’t work on it – its just theories. Without measurement, we may believe it to be true, but no one can work on it because there is no signaling system available.

As an inquiry as to the search process, as well as the practical priority, I think a very high priority now is - beginning to make progress on how do we quantify some of these things so that people can monitor. Once we have that, I think that will stimulate the change in the market structures.

W: What’s interesting maybe with some of these high valuations of the dot.com companies is what it is really doing is providing a return to employees. Because of the options process. They’re not really capital investors, they’re people who have invested their knowledge into the company and they’re getting huge rewards. And as they cast those rewards into the....
S: A very interesting thing. They are getting returns on shared options, they are becoming millionaires, but they are not putting in capital. Returns to actual capital investors in that new sector, the relative share of that return, are very different than in the traditional sectors. That's the wave.

W: Yeah, and even though the returns to capital...

S: Today GM is no exemption from this phenomenon. Neither is the guy who cleans floors. So that wave is moving. Yet, our own concepts, our theories, our world view is lagging behind. And I think the need now is to make the world view, the theory, catch up with what we are seeing happening in the real world.

W: Do you see a return to a more basic set of social response and values in terms of employability, in terms of sustainability, the environment versus what's more been a pure unadulterated focus on value appropriation, extracting wealth out of whatever you can, take the money and run. What's your view on where the world's headed, and how quickly?

S: I have a hesitance in using the words "social responsibility". It comes with so much baggage. Social responsibility frames the problem almost as "business is business". Now because you do business and make money, you should carry some of the weight for the rest of society. That's not what this world is at all. What this world is is actually more of a shared destiny world in which the business itself is to create value. It is not that having appropriated most value, I give some of it to charity. Not at all. What your business is, is to create value, and the way you get rewarded is for creating value for the world. And that reward then gets distributed inside.

So, yes it is a shared destiny world, but that's not either a stakeholder economy nor is it a social responsibility of business kind of a debate. Which is sterile. Do you understand the distinction? Do I make the distinction clear?

G: Yes.

W: For me, a little bit, although I have to say there is still some hesitation in my mind. And some of the issues that are bothering me, if I just talk it out -- we've come through this big wave of rationalization and restructuring, and unemployment is a huge cost. Companies seem to be willing to put the burden of those costs onto governments and society itself while they tend to extract the financial wealth out of the system. And somewhere in
that whole scheme -- especially as we look at the global world -- I sense there needs to be some kind of rebalancing. And unless people, and society in general, start to demand that corporations have more of a financial responsibility in helping to balance and equalize the needs of the world, I wonder if it's going to happen. I don't know....

S: This is where the genius of people like Hyeck lay. You can now move to a more -- I hate to use the word "Marx" because it is not Marx, but sort of a socialist thing. But companies must share this responsibility. Ultimately, you know that the market is the connecting factor and I think that is exactly what's happening. Over the 1980s up to the first part of the 1990s, indeed it is true that individuals bore the cost while a corporation, done through their residual rights shareholders, got the benefit. That is no longer true. It is especially not true in America, it is also increasingly not true in Europe. As the external labor market is burning out. In the 1980s, early 1990s, external labor market was very weak. In that context, the costs were transferred to the employees.

Today is not so. I was in the Business Week Top Management conference about 2 months ago, and you can very clearly see the difference in the problem. Now the same companies that did all of that over 10 years are now saying, "Jesus, how unreliable these people are. They just leave. They have no sense of loyalty." The reason is, the external labor market is burned out. The same thing is happening in France now. The same thing is happening in Germany now. So the market is connecting for the transfer. You can no longer impose that cost on employees alone.

Look at the external labor market in the U.S. Look at almost any part of the U.S. today. Companies cannot just arbitrarily transfer the cost to employees because of the labor market.

There is a guy called Capelli at Wharton, he has done a wonderful analysis of exactly this shift. Peter Capelli at Wharton, who happens to be an MIT Ph.D.

G: It's fascinating the way you were able to so quickly tie all these things together and have this broad sense of what's going on and what the shifts are. Because sometimes it is hard to see them. And you hear the media hype, you hear what's being said, and yet it is rational that the shift is starting to occur and you are now starting to hear about it.

S: Yes.

G: In terms of the labor market firming up, and people being in demand.
W: If we go to the individual, let’s talk about employees and motivating employees and generating this entrepreneurial environment, empowering people. You talked about the trust-based thing, but really focusing on the individual and what’s going to turn people on and increase their aspiration, their inspiration, their motivation, draw out their emotional energies and their intellectual capital. What do you see driving and pulling that whole thing? I know purpose is an important part of it, but what else is there? What are the ingredients to making that happen?

S: You know, let me take that from a slightly different perspective. What I want to say is not going to be an answer to your question but, nevertheless, will throw into your talk the latest piece of my hobby horse.

You talk about human capital, right? Now, there are some people who would object to the use of the word "capital" in a human context. But let me stay with the word "capital." Then you ask the question: Human beings do, are in all kinds of things, not all of which relate to the term "capital". The whole meaning of the word "capital" is a productive resource. So the question becomes: What is it about human beings that is a productive resource? I do believe that companies should not usurp all institutions. There is a church that I go to that meets some of my needs. My family meets some of my needs; golf meets some of my needs. The company is a part of me and that link is the human capital link in that whole framing.

But then leaves the question: What is it about me that is a productive resource that I and the company can jointly use, develop, and benefit from? Then I think there are 3 components in humans that constitute, collectively, this productive resource. One of them is intellectual capital. The knowledge I have, the skills I have, tacit, explicit, whatever. Not just knowledge AND knowing ability. That is one box, I call it intellectual capital.

But very often the discussion about human capital is becoming only about knowledge. I do not think that is true. Just knowledge doesn’t lead to great action.

The other element of human capital is social capital which is my social network, the people I know, and the resources that I can access to my network structures, both inside the organization and outside. Each of us comes with these -- we all know that, it matters, in business it matters. For instance, you are going to MIT. That has significantly improved not just your intellectual capital in terms of your knowledge, but your social capital you now have, new relationships and a broader circle at MIT as a part of your social capital. And this would be very valuable to any business you go to and that company factors that in
in terms of your wages. So that's the second element, social capital and the network of connections.

But just knowledge AND a network of connections is still not good enough for you to take action. The third is emotional capital. We all talk about this well, we know. Most people know what to do; a few do it, and most don't. That's the emotional capital box.

And the real issue of human capital is not just 3 pieces but the interconnection across those which leads to action. And I think, from a human side, if I take someone employed by a company, that the deal becomes, companies must continuously help me, both through their upgrading and development, but also structure the work, the kind of assignments, all of that, that will allow me to develop all three of these. Not just my knowledge, but my knowledge, my connections, and my ability to act, my emotional ability. As well as create opportunities where I can use the combination of all three to win in the marketplace.

The reason I say that is that much of this human people debate comes just focused on learning organizations, knowledge, etc. I think that's just one piece. The real issue it to take these 3 pieces together and then to really focus on the interaction that develops the three of them as an interactive, technical process.

Does that make sense?

W: Yes, it makes total sense. One of my frustrations, though, in trying to understand that is, from my experience at GM, it's been difficult on a broad-scale basis to find out how you can offer those kinds of opportunities to the larger population. Again, typically, it's the planning staff, it's some kind of selective project team, maybe some specific innovation initiative whereas 80% of the people aren't tapped into. How can you offer these opportunities to the extended population?

S: That's the logic for the "Individualized Corporation". Functional councils, building tighter links, moving to smaller units, project based work, integrating mechanisms. The structural change from the hierarchy. This allows development of all 3 sources.
APPENDIX C

INTERVIEW WITH CLAYTON CHRISTENSEN
Interview with Clayton Christensen

3/27/2000

C = Clayton Christensen
W = Jerry Weiland
G = Joy Greenway

G: The hypothesis of our thesis is “Building capacity for sustainable innovation, enabled by broader employee engagement and improved capabilities, increases both employee and organizational fulfillment.” I know that one sentence is very broad, but we’re wondering if it connects for you in any meaningful way with the questions that underlie your work.

C: Yes, it does. We’ve noticed that employee fulfillment is an important aspect in organizations. Today we see, even in traditionally well-known companies, there is a problem arising of people leaving. If people are leaving, they can’t be fulfilled – and it isn’t just about money, or what they are being paid. We know that there are many attributes that lead to fulfillment. If people are leaving it is because they are in some way not fulfilled, and the job holds the wrong attributes for them. So I agree with your statement, we know it to be true.

W: That’s interesting. We’ve discussed the fact that money isn’t the primary motivator for people in organizations. So we agree with you that there has to be more.

C: That’s right, there is much more.

G: In your book, The Innovator’s Dilemma, you explain how traditional standards of management—like systematic marketing, investing in new technologies and projects promising the highest return—can cause even well run firms to fail. Does this somehow point to management needing to engage the broader organization in decision making for innovation?

C: What we find is that people in the organization have lots of ideas. They want to contribute, but the processes that companies use can sometimes hurt their
efforts. You hear words like "giant beauracracy" mentioned in frustration. Every company has processes for getting things done. But, when the processes don't align, we hear "beauracracy" standing in the way of getting things done.

W: I guess that beauracracy is the label that people put on things when processes don't work for them.

C: We published a recent article in the Harvard Business Review. Looking back it should have been a chapter in Innovator's Dilemma. In fact a paperback edition will be published this summer, and will be updated. But we've observed that an organization's ability to get things done depends on three things: resources, processes, and values. Resources are the people, capabilities, technology, cash, and so forth that a company has. Process is how people work together. There are explicit processes, ones that are written down and tell us how to do things. There are implicit processes that are not written down, but are known throughout the organization as the way we do things. Values have a profound effect on whether we can get the job done. The word "values" usually has a religious or spiritual connotation. What we mean by values is the criteria with which employees prioritize, which also has to reflect the cost structure of the business. Senior management has to articulate the values.

When they think about how to get things done, managers traditionally equate resources with capabilities. They believe that if they hire the best or most talented people, they should have the capability to accomplish what they need. In fact, an organization's capabilities reside in the processes and values. The processes determine how they work, and the values are the criteria with which employees prioritize. What manager's need to do is to think separately about capabilities to succeed, rather than just focusing on resources.

Let me give you an example. Digital is the company mentioned in the book, but Intel is a more current example. Intel was being threatened at the low end. They introduced the Celeron chip and have regained their position. They were influenced in part by the work that I did with them. When you think of a company like Intel, are they capable of succeeding in introducing a product at the low end? From a resources standpoint—yes. They have the cash, technology, brand...everything they would need, perhaps the best positioned in the industry. Processes—you would think yes, but they are geared at a 4 year, $1B per product development process. Their process is geared to wring performance out to the bleeding edge. Shouldn't a company who operates at the bleeding edge in performance be able to succeed? But, backing away from a $400 product to one that costs $50, may cause
them to encounter different ways of doing things...like doing an introduction in one year, instead of four. They would have to subcontract some development and fabricate on the outside. These are processes that they don’t necessarily have experience with. From a values standpoint, how can they go from a product that goes for $200-$600 and 60%-80% gross margins to making a product that sells for $50, with 30% gross margins? You simply cannot get the project prioritized because it cannot make as much money. It’s not a matter of resources, you just can’t be successful in the current company. But...you could own a different company that could do it. In fact, that’s how Intel was successful. They couldn’t do it in Santa Clara, but they have a separate company in Israel that is capable.

In fact, what we’ve come to understand is that resources, people and technology are flexible. Processes and values are not.

W: I see, so when you talk about economies of scale, how would this relate?

C: Returns to scale come from leveraging resources, not processes. Beauracracy comes when there is not alignment...when what you are trying to accomplish does not fit the processes. When there is focus, it sings. That’s what Intel did. They focused.

A lot of people who read The Innovator’s Dilemma understood it to mean that the answer to everything is to spin out. Spin out is not necessarily needed. Focus is the issue. For example, if a project fits the values but doesn’t fit the process, you can create what we refer to as “Heavy Weight Project Teams,” like Chrysler is doing. In a Heavy Weight Project Team people interact fundamentally differently than they would in their traditional functions. The team may be made up of manufacturing, technology, and marketing, all working together fundamentally differently than they normally would. So, if what you are doing fits the values, but doesn’t fit the process, Heavy Weight Project teams might work. If, however, it doesn’t fit the values, then it may have to be spun out.

W: So, these project teams or autonomous organizations you refer to can be successful without spinning out, to achieve focus? And, do they work for dealing with disruptive technologies?

C: What you have to consider is that a disruptive technology to one company is a sustaining technology to another. Companies are sometimes considered to be “visionary”. I’ll give you an example...Dell vs. Compaq. The Internet to Dell is a
sustaining technology. How could something like the Internet be considered a sustaining
technology? Dell’s business was sales over the phone. The Internet is simply a way to do
what they were doing already, more efficiently. I mean they could suddenly do with fewer
call centers and people in the call centers because they could use the Internet. Compaq’s
model was totally different. The Internet to them is disruptive.

Another example is Schwab. They’re considered a visionary of online,
but they are also a discount broker. In fact, our observations show us that to discount
brokers, being on line is a sustaining technology. Give the technology to Merrill Lynch and
it’s disruptive.

The longer I go on, the less critical I am of upper management. In the
examples, relative success in the face of the technology has less to do with the cognitive
skills of upper management. In many cases they are more or less equals. What I think sets
them apart is the ability to think about resources, processes, and values.

Let me tell you something (name deleted) is doing at GM. GM has
spent hundreds of millions on the electric vehicle. I think it’s pretty well proven that the
electric vehicle will not compete with the gas-powered vehicle. It’s a technology that needs
to be developed, but for today, and for the immediate future, it will not compete with the gas-
powered vehicle. But do you know what (name deleted) is doing? He’s chartered a Market
Research Study by an outside firm. And do you know what they’re using as a basis for the
Market Research? They’re interviewing owners of GM cars. Here’s an example where the
process calls for Market Intelligence. They have to do it, because of the requirements of the
process. And how do they accomplish the research? They accomplish it in the way they
traditionally do it...they engage someone on the outside. And the way the research is always
conducted is to survey GM customers.

In the Intel example, a woman from the internal training department
read The Innovator’s Dilemma and she recognized the issue from the book. She raised the
issue to management, and they began a process of training on the concept as something to
pay attention to. The communication went all the way up to Andy Grove, who also
recognized the issue, and became sensitized to paying attention to the concept. Training was
conducted on the second, third, and fourth tier-700 managers, trained 70 at a time, in monthly
sessions over the course of a year. The story was in the last “Business Week”. What did the
training consist of? First, there was a lecture about the research. Then, the class would break
into small groups to discuss what could affect Intel. The groups talked about how Intel could
disrupt people like Cisco, which is a big deal to them. Next there were case studies. The
objective was to give practice in thinking about innovation. Did we solve the problems? Not
in the sessions—but what it did was to give a common language to frame values, processes, and resource discussions.

Toyota and Honda both have hybrid technology cars. The need for the fuel economy of these cars far outpaces what consumers want now or in the near future. But they’ve introduced the technology commercially. But what do these cars do? They displace gas cars. There isn’t a new market for these cars, they simply replace what would otherwise be sales of gas powered cars. So what they have to show for their investment is no additional revenue. The process makes it impossible. What would be effective might be to leverage and target a market that would enable people who historically didn’t have cars before, to have cars. Otherwise, it’s cannibalistic. And the simple idea we had in here about how there are a lot of teenagers who don’t -- their parents can’t justify spending $20,000 and they don’t need all the performance that’s in the car. Because they just drive to their friends’ house. Or there’s a 400,000 vehicle market in retirement communities. They have their Cadillac in the driveway for when they drive up north for the summer; and they’ve got a souped-up golfcart in their driveway for just tooling around town.

It's very interesting. 400,000 vehicles is not a trivial market. And GM -- or you have a lot of folks in China and India who can’t buy the $20K car, nor can they buy the Buicks that GM is trying to build in China. Why is GM trying to do Buicks in China? Because it fits their values, you know? It gets the margins. But it’s not going to grow the market.

So here you are, sitting on top of a big market opportunity and how does (name deleted) spend this energy and this money? He commissions a market research project to survey existing GM customers in North America. Well,...

W: At the very highest end of the market.

C: That’s right. So there needs to be, across the management team at General Motors, a common language and a common way of framing the problem so that when (name deleted) says, "All right, we’re going to set up a different organization, we’re going to let this one go about its marketing planning in a completely different process than our traditional process." Everybody else can say, "I understand why (name deleted) is doing this, because this is one of those. And if we tried to manage it in our traditional way, it wouldn’t work. But we’ve got to do it this way because we need to grow." So everybody would understand that. And if you don’t have that common language and common way of framing the problem, then when (name deleted) tries to do this, you have everybody saying, "Why is he doing it that way?? Why are we spending our money on this, instead of this??"
W: In fact, our value system just induced us to pull that project back closer to the mainstream. It was more autonomous and to leverage resources because of the mainstream organization, we're basically deconstructing and pulling it back into the organization.

C: That's right. What a tragedy.

W: Well, you've given me some food for thought.

G: Just to follow up on that, because one of the things we've really gotten into with this is capacity building. And to maybe replay what you were saying, it appears that perhaps a company like Intel built capacity just by the recognition -- the way of framing the problem and having developed the common language skills among the management.

C: That's right.

W: Capacity to innovate more effectively.

C: That's right, when we talk capacity building....

G: Are there other things on top of that? Or is that what you consider primarily?

C: Well, it's a....

W: Let me start with a related but more basic question: Is innovation a process itself, talking about building capacity? Or is it looking at a number of different processes within the organization and saying, "How do we adapt to be able to innovate more effectively?"

W: It's a process itself. And it's a different process than the work process used in the organization. So you think about what is the process? Well, it's a way of working that is evolved, consciously or unconsciously, to do the same thing over and over again. That's why you have a process. You want to repeat the high-quality result. And that means you don't want it to change. So that means that the very fundamental mechanism that managers utilize to translate inputs into outputs is meant not to innovate. Just by its intrinsic nature. So if you want to change, you can't rely upon this process to create innovation. It has
to be a separate process so that this can do what it's trying to do, and you have another process of innovation that is consistent with the way it works.

There's one other interesting thing we're doing. We're doing a project with McKinsey, because McKinsey is like, they make their whole business around trying to help organizations become more innovative. And so the project is: What could we tell managers about how to manage the transformation of their company? And what we're coming out at is that business units can be transformed in a sustaining direction but never in a disruptive direction. Because if you go around -- and we're just in this process now, so we haven't really proven it yet -- but ask the average manager on the street what she would consider the 5 examples of companies that have transformed themselves.

Hewlett Packard would be on everybody's list. It started out as an oscilloscope company. But if you look at how HP managed the transformation, they did it by creating new business units and by getting rid of or shutting down old business units. But the business units themselves have been almost inert to change. So like their original oscilloscope business unit is still there and instead of making the cheap little oscilloscopes that HP started out with, now they make these $100K unbelievable capable oscilloscopes. They are at the high end of the market, they are exactly what you'd expect, a booming market for a $2000 PC-based oscilloscopes that are largely software in character, that aren't good enough to design Pentium processors, but plenty good enough for 98% of the world. And HP oscilloscope business is paralyzed looking at this thing.

So it's like, when a population evolves in biological evolution, we as individuals will never evolve. We'll just die and the mutants will take over. So you have inert individuals while the population itself evolves. You have process.

And that's kind of what's coming out of this study we're doing with McKinsey. There are business units that have been transformed in a sustaining direction. They were floundering, they weren't making money, they were inefficient. Some manager walks in and turns it around and puts it back on its feet and helps it be more profitable in the way it was structured to make money.

But I don't think we'll ever find an example of a business unit that transformed itself in a disruptive direction.

W: Without a series of sequential smaller disruptions that eventually change -- which is not really -- that business disrupting. You have to get to that disrupting by a different path?
C: By creating a new business to pursue the disruption. General Electric is another one. The companies that existed when Jack Welch took over, he sold off a bunch of them. The ones he kept had all magnificently moved in a sustaining direction. And the company has grown by creating a whole new set of financial services businesses and to disrupt the commercial banking sector.

W: That's the meat of the company.

C: That's right. So he's transformed GE, but the individual business units haven't transformed. And I think that's because processes and values are inflexible. So capacity to change -- both of these companies have had fabulous capacity to change, but they've done it by respecting the inflexibility of processes and values and setting up new things.

So that's where my mind is on this.

G: We're trying to be conscious of your time. I had all these questions, and you actually covered most of them embedded in a lot of the conversation, as well as brought in some new thoughts. And then the new insight of the book....

W: One last little quick question: You primarily talk about technological-based innovation. Are there significant differences between non-technological-based innovation and technological? Or do you think some of these same basic principles hold?

C: I think they apply absolutely to service. The Harvard Business School is getting disrupted. It's a very serious problem. Because it costs today $200,000 to get a Harvard MBA by the time you walk away from $65,000 a year salary for 2 years and then soak them for another $35K a year. $200,000 investment just to get a silly degree. And so the students demand a return on their investment. So the average starting salary of our students is about $115,000 and if you look at who signs up to recruit Harvard MBAs on campus now, it's no United Technologies, no GM, no HP, no IBM, no Motorola, no Johnson & Johnson, no General Mills. The very mainstream operating businesses that we think of as our core market, we've overshot what they can absorb.

So who signs up? It's McKinsey, BCG, Goldman Sachs, and we've really become a finishing school for consultants. It's not a school of management. And whose coming at the market underneath this? Our corporate university and in-house training programs that aren't nearly as good as a full service complete Harvard MBA.
W: It suits the needs of the customer....

C: It's like here, you can learn the analysis of business problems better than anywhere in the world, I think. But the analysis of business problems isn't management. And you can learn management better on the job. And a corporate university or an in-house training program can give people a way of thinking about a challenge and then they can go use that. It's very....

W: You've been pulled to the top of the power curve, the top of the technology and left that space at the bottom where somebody says, "Hey, this is beyond my needs anymore, I just can't use it. I can't afford it, I can't use it."

C: That's right. Even McKinsey, of all people, who has been our most loyal customer for all these years, now our students are shooting off into the dot.com world and it's not that all of a sudden they're interested in operating management. It's just a faster way to make more money easier. So now McKinsey can't get enough people to staff its projects. So it's going out and dredging up lawyers and all kinds of things and bringing them in to what they call a McKinsey mini-MBA. It's a 3-month course, offered at McKinsey University. And it's a lousy educational experience compared with here.

   You know what? These folks do just fine. And they've got other attributes, like they've got technical expertise, they're engineers, they're scientists. And that adds real value. And you know, McKinsey already is finding that they would rather have non-MBAs, just bring in undergrads, train them internally, and .... anyway...

W: Some big questions....

G: Everywhere. Thank you so much

END OF INTERVIEW