The Critical Need for Learning by Design

- ■ Why is learning by design critical in order to sustain organizational performance and competitive advantage?

- ■ What are some of the views on the meaning of organizational learning?

- ■ What are the basic assumptions about organizational learning mechanisms?

- ■ What is the plan of the book?

We have entered a new era in the evolution of organizational life in which all of us can be agents capable of transforming the direction and flow of events. The immense forces of the technological, societal, and global changes resulted in a variety of new terms and labels that attempted to capture the changing work-life reality: post-industrial society, the information revolution, the post-capital society, and the knowledge age, to mention a few. While we may not be able to fully comprehend the magnitude of the changes, organizations and managers around the world are struggling to find the balance between economic performance pressures, managing business transformation, and business and human sustainability.

Over the past decade thousands of companies have seized on a variety of management methods such as empowerment, business process reengineering, self-managed or self-directed teams, sociotechnical systems redesign, and total quality management as a means for improving and enhancing business

performance and competitiveness. In many cases their application probably reflects an interest in fashion or what some called "management fads" or "the quick fix" (Abrahamson, 1996, 1999; Gibson and Tesone, 2001). While immensely popular in the business press, there is a growing recognition that these methods have too often failed to deliver on their promise (Beer, 2000). Furthermore, business competitiveness was sustained in only a few of the successful implementations (Stebbins and Shani, 2002). In many cases, the learning potential embedded in the change programs never materialized.

▶ New Management and Learning

One thing is clear: The impacts of these continuous improvement methods, tools, and processes that aim to help organizations to enhance their productivity, quality, and workers' quality of working life are usually very short lived (Lillrank et al., 2001). Furthermore, traditional hierarchical organizations and industrial age notions of management seem to have served their purpose (Purser and Cabana, 1999). In response to the complexity and uncertainty of a turbulent environment, a more innovative and adaptive corporate species is emerging: the learning organization, recognizing the flexibility of its members, the organization, and its relations in the marketplace. This new form of organization did not emerge from nowhere – it has a long evolutionary history that dates back to the early pioneering experiments with self-managing (and learning) work systems conducted in early action research projects such as the sociotechnical work in the British coal mines and Scandinavia.

A careful scanning of the literature reveals that many companies have focused on organization learning and have been engaged in some activities around creating a learning organization with documented impressive results. Some of the companies include ABB, Analog Devices, Bank of America, Blue Cross Blue Shield, Caterair International, Coca-Cola, Corning, Digital, DHL, Electrolux, Ernst & Young, General Electric, Svenska Handelsbanken, Honeywell, Hewlett-Packard, Honda, Israeli-American Paper Mill, MCI, McKinsey, Motorola, Philips, Proctor & Gamble, Reno, Rover, Royal Bank of Canada, SAAB, Shell, Skandia, 3M, Volvo, and Xerox (for a comprehensive list of companies see Marquardt and Reynolds, 1996).

▶ Organizational Learning

The origin of the organizational learning conceptualization is anchored in a synthesis of contemporary theories that include systems theory, sociotechnical systems, group behavior, action research and appreciative inquiry, human development, and individual learning theories. At a very basic level, the literature on individual learning within organizations is considerable and runs

through most of the streams of educational, psychological, and organizational behavior research (Friedlander, 1983; Cowan, 1995). At the same time, the literature on organizational learning runs through the organizational sciences, sociological, economics, and organization change and development research (Antal, Lenhardt, and Rosenbrock, 2001). For a synopsis of the growing literature see chapter 2 in this book.

Organizational learning has been described and observed in myriad ways. The following are a few examples of the great variety of possible meanings that can be found in the literature:

- ". . . is a process in which members of an organization detect error or anomaly and correct it by restructuring organizational theory of action, embedding the results of their inquiry in organizational maps and images" (Argyris and Schön, 1978)

- ". . . includes both the processes by which organizations adjust themselves defensively to reality and the processes by which knowledge is used offensively to improve the fits between organizations and their environments" (Hedberg, 1981)

- ". . . organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspirations are set free, and where people are continually learning how to learn together" (Senge, 1990)

- ". . . the intentional use of learning processes at the individual, group and system level to continuously transform the organization in a direction that is increasingly satisfying to its stakeholders" (Dixon, 1999)

- ". . . is an organization that is skilled at creating, acquiring, interpreting, transferring, and retaining knowledge" (Garvin, 2000)

- ". . . is a process of inquiry (often in response to errors or anomalies) through which members of an organization develop shared values and knowledge based on past experience of themselves and of others" (Friedman, Lipshitz, and Overmeer, 2001)

Garvin in his recent book (2000) makes a strong case that despite the fact that many organizations have jumped on the organizational learning bandwagon, the field lacks a shared definition and a coherent framework for action and thus is of limited relevance to the practical-minded manager (Garvin, 2000). The variety of theories and perspectives have resulted in few attempts to sort out the field. In chapter 2 we provide three complementary groupings of the current body of knowledge: a) according to the evolution of the stream of research that is placed on a historical timeline; b) first- and second-order learning based on impact; and c) based on level of learning.

This book addresses the challenges presented by Garvin (2000). Building on the seminal work of the founders, and integrating theory and practice, we show in this book in chapters 3 through 8 how leading-edge companies are making major advances by going beyond the different continuous improvement

methods, such as business process reengineering (BPR) and total quality management (TQM), to create learning organizations. This book presents in-depth examples from six different companies in different industries and continents that *by design* created organizations that focus on learning. Furthermore, we illustrate how alternative organization design mechanisms can be applied to facilitate learning and to create breakthrough strategies and innovative and sustainable work. Chapter 2 provides a comprehensive articulation and description of learning mechanisms.

▶ Managing Learning: The Place of Design

The basic premise of the book is that organizations that prioritize the development and full utilization of their personnel and simultaneously aim to achieve optimal and sustainable business performance (economic results) must explore alternative design configurations. As such, organizations make purposeful choices about the design and implementation of specific learning mechanisms that fit their goals, culture, and business context. The basic assumption behind the organizational learning mechanisms and methods are that: 1) the development and utilization of human capital requires exploring and thinking through specific organizational design choices of structures and processes; 2) the most effective business strategies and work designs are developed and implemented when employees are involved directly in the redesign process; and 3) achieving sustainability – of continuous competitive economic performance and continuous development of human potential – requires ongoing investment in both the full utilization and the regeneration of human resources.

From an organization design perspective, the learning organization results in a flexible structural alternative to bureaucratic organization, and its power lies in the simplicity of the mechanisms that enable ordinary people to create systemic, fundamental, and sustainable learning processes and actions. The "Design Process-Focus" provides a vehicle for experiential and conceptual learning about the genotypical features of the learning organization alternatives. It is only from people pooling their various knowledge that a learning organization can evolve. When the people involved work out their own designs, they are highly committed and motivated to carry out sustainable and effective implementation.

How do we relate learning to learning mechanisms? Marsick and Watkins (1990) make the distinction between formal and informal learning. Formal learning is typically institutionally sponsored, classroom based and highly structured. Informal learning is not usually classroom based or highly structured and the control of the learning rests primarily in the hands of the learner and is usually deliberately encouraged by an organization (the employer in a workplace context). Company strategies for promoting informal or experiential learning are planning for learning, creating mechanisms for learning, and, as mentioned previously, developing an environment conducive to learning.

Planning makes learning more conscious, better focuses effort, and increases measures of accountability, as long as learning does not become an end in itself with only loose coupling to the work processes. Planning allows people to nurture learning strategically and to take advantage of a wider range of learning strategies that might otherwise be overlooked.

Marsick and Watkins (1997) indicate several difficulties that may hinder informal learning, namely: organizations do not always let people follow their natural inclinations to learn in different ways; people differ in their capacity to seek needed information and skills; there is disagreement as to what learning to learn means and therefore as to how to help people to better learn how to learn; the topic of learning might require the assistance of outside experts. Organizations may not provide clear guidance regarding what people must know and how this will assist them in their career paths.

Learning mechanisms are formalized strategies, policies, guidelines, management and reward systems, methods, tools and routines, systems, information and communications technology (ICT) applications, work organizations, allocations of resources, authority and responsibility, and even the design of physical workspaces that have been designed, formulated, and ratified in order to promote and facilitate learning in the organization. Learning mechanisms may concern formal or informal learning at an individual, group, or organizational level. Learning mechanisms, as we will see later in this book, can be routinized only up to a point. Since learning demands ongoing questioning and inquiry into current and future practices, it can be viewed as a continuous disturbance of existing routines that were developed for the purpose of stability, predictability, and efficiency. Faced with the decision to focus on learning, many managers continue to view the energy, time, and effort spent on learning as wasteful and unproductive (Garvin, 2000; Schein, 2002). Chapters 3 through 8 demonstrate and document the relationship between the different learning mechanisms that were created (by design) and bottom-line results reported on a longitudinal dimension ranging from three to twenty years.

Learning: A necessity or a threat

The work of two social scientists, Fred Emery and Eric Trist, pioneered the movement toward experimentation with alternative work redesigns, different forms of employee involvement, varied degrees of autonomy and responsibility in work teams, participative management orientations, and the development of learning systems, all with deep concerns regarding economic performance (Emery and Trist, 1969). Based at the Tavistock Institute in London, in the early 1950s they introduced a method known as sociotechnical systems design to British industry. Their work is a landmark in the field of organization design, change, and development as it represented the first attempt to introduce flexible learning forms of organization into the world of work.

Recent developments in business and working life have been characterized by the shift from the industrial to the finance economy, by rapid advances in ICT with new technology generations every few years, marked deregulation, and the introduction of management models and methods to "heighten efficiency and effectiveness," such as lean production, time-based management, business process reengineering, outsourcing, downsizing, and contingent labor. For companies the goals have been rationalization and increased flexibility. For personnel the consequences have often been increased work intensity, worse working environments, and decreased personal security (of employment) (Wickham, 2000). Sustained competitiveness at the company level requires competence or capabilities "on the cutting edge," which, in its turn, requires continuous learning. However, the opportunity to learn is not received by many workers as an offer of a generous fringe benefit, but rather as the threat of a "last straw that breaks the workers' back" (to paraphrase a well-known expression). To make things worse, it is not simply that the demands for learning are increasing (for example, manufacturing companies report that in 2001 they have 80 percent of the personnel they will have in 2010, but only 20 percent of the technology), but that the conditions for learning are less favorable. In a study of about 60 companies, Lundgren (1999) found that the demands on the speed of learning had tripled, i.e., time to proficiency had been cut to a third. An important aspect of planning and designing learning mechanisms is that it restores the critical and sensitive balance between company flexibility and employee security – a security that is being established through the development of the concept of "employability."

This book fills a void because there is currently no existing book available that focuses on the design of learning organization mechanisms, experience, and theory. A number of articles and book chapters on learning organization mechanisms have appeared recently. This book uses as a point of departure the recent work by Docherty et al. (2002), Friedman et al. (2001), Garvin (2000), Lipshitz et al. (1996), and Shani and Mitki (2000). We have chosen to study companies that implemented learning mechanisms by design, following a strategic decision to influence the status quo of their companies in their respective competitive markets. Furthermore, while chapter 3 focuses on learning mechanisms at the individual level, chapter 4 focuses on learning mechanisms at the team level, chapters 5, 6, and 7 focus on learning mechanisms at the organizational level, and chapter 8 focuses on learning mechanisms at the network level. As we shall see, in all six companies the efforts were driven by managers, practitioners, and employees and yielded impressive and documented results.

Yet, despite all the energy, time, and money that companies spend on attempts to transform organizations through a variety of change programs, the reality is that few succeed in sustaining the reinventing process (Beer, 2001). Mastering the art of learning in such contexts is not a "quick fix." Our contention is that one of the main reasons for the failure is that most companies do not manage to develop and nurture learning mechanisms that allow them to challenge the basic assumptions about the key/core business processes and as a result are not able to alter their mental models and actions. Developing this

kind of managerial and organizational capability requires time, and strong convictions are needed in order to overcome what Schein calls "survival anxiety" and "learning anxiety" (Schein, 2002).

The situation is further complicated for management by the disturbing number of paradoxes relating to learning. Examples of such paradoxes concern the relations between learning, knowledge, and action. Several researchers have taken up the different types of learning that individuals experience at work, which have been termed first-order or second-order learning or single-loop or double-loop learning, or, nearer the worker, learning for production or learning for development (Argyris and Schön, 1978; Ellström, 2001). The production situation requires reaction, using SOP (Standard Operating Procedures), selecting from a repertoire, and valuing stability and safety. The development situation requires reflection, experimentation, new alternatives, and tolerance of risk and uncertainty. Learning requires balancing routine and reflection, the logic of production and design.

In a review of lean production from a learning perspective Berggren and Bengtsson (2001) raise a number of issues coupled to this: is lean production resulting in lean cliques or the generation of knowledge (first- or second-order learning)? Is flexible staffing leading to competence drainage or new knowledge combinations? Is outsourcing leading to less or more competence vulnerability? Is knowledge management usually an example of knowledge retrieval or learning, or exploiting or investing in knowledge (Stymne, 2001)? Other paradoxes are: How are individual and collective learning related to each other? A "chicken and egg" question where knowledge is created in the ongoing joint work commitments and dialogues in, for example, teams (Döös et al., 2001).

The inherent challenge fosters the need for managers and practitioners to have access to, and develop basic understanding of, the ideas and theory behind the learning organization mechanisms, including an understanding of their origins and evolution. Appreciation of the realization that many choices need to be studied and that many design alternatives can be created can help overcome some of the anxiety that seems to hinder successful implementation. The chapters in this book provide a snapshot of the large variety of choices made by executives which resulted in many learning mechanisms that were designed and successfully implemented by companies in Europe, the USA, and the Middle East.

▶ Plan of the Book

The book provides an easily accessible volume for scholarly practitioners that features examples of learning organization mechanisms in six companies. The primary purposes of the book are educative and instructive in nature. As such, each chapter centers on a specific learning theme and a case that illustrates learning mechanisms that were designed and implemented to facilitate and

manage learning. Each chapter starts with a few *silver bullets* and theoretical framing of the learning issue. Next, the companies and their stakeholders, strategy, design, resources, and capabilities as well as the learning mechanisms that were chosen and developed in order to help the companies achieve specific strategic goals in a specific business context are presented. Each chapter concludes with *some reflections and key lessons. Chapter 1* provides a broad framing of the relevancy and the need to focus on learning and learning mechanisms if organizations are to sustain competitiveness. As such, the chapter provides the reasons and focus for the book.

Chapter 2 lays out the theoretical foundation. It provides the conceptual framing for the book. Based on the theoretical underpinnings of behavioral, social, and organizational science knowledge, a conceptual organizational framework that links strategy, learning, and sustainability is presented. The position advanced in this book is that the development of learning mechanisms as a business strategy and design choice sets the stage for achieving competitive advantage and sustaining it over time. Next, we provide a brief overview of the field, theories and different perspectives on learning and organizational learning. For the purpose of this book we utilize three complementary groupings of the literature: a) according to the evolutions of the stream of research that is placed on a historical timeline; b) first- and second-order learning based on impact; and c) based on level of learning. Next, we discuss the core concepts of organizational learning mechanisms. Organizations that develop learning mechanisms by design seem to have a central focus of facilitating and managing learning at different levels. As such, in chapters 3 through 8, we provide specific examples of learning mechanisms that were developed within different organizations, each of which focused on designing learning mechanisms at a different system level.

Chapter 3 is built around the Merchant Bank in Sweden. The case provides an illustration of learning mechanisms that were developed for the purpose of facilitating systematic learning at the individual level. The Merchant Bank case illustrates how formal strategies and policies as well as the design choices that were made around learning, work organization, and the management system can promote learning and development for the broad majority of the workforce in order to benefit the competitive and sustainable performance of the organization. The case is of special interest as the company not only made a 180-degree turnaround in its business performance nearly thirty years ago, but managed to continuously improve its position and sustain its competitive advantage.

Chapter 4 is developed around the Automobile Manufacturing Company in Northern Europe. The case illustrates how business strategy and the design choices that were crafted around team learning, work organization, and management systems influenced the competitive performance of the company. The integrated production teams were designed for competence development, learning, and business development. *Chapter 5* is centered around the Telecommunication Services Company in Northern Europe. The company struggled with its transformation from a public utility to a privately owned company.

The turnaround was achieved by integrating business strategy with design choices that were made around structures and processes that will facilitate learning at the individual, team, and organizational levels. For example, learning mechanisms were created to re-skill and outplace people made redundant due to technological advancement (i.e., from electro-mechanical to electronic to digital technology).

Chapter 6 is developed around the Paper Mills Corporation in Israel. The case provides an illustration around learning mechanisms that were developed for the purpose of enhancing development processes within the firm. The Paper Mills case illustrates how the strategic decision to focus on improving the capabilities of key development processes, identified as crucial to the long-term survival and success of the firm, coupled with decisions on and implementation of specific learning mechanisms, influences the competitive and sustainable performance of the firm. The case is of special interest as the firm has managed to continuously improve its performance and sustain its competitive position in its market segment for the past fifteen years.

Chapter 7 focuses on knowledge management processes at a software development firm in North America. In the context of knowledge management processes, organizational learning mechanisms refer to the formal and informal configurations that are created within the firm for the purpose of continuously improving the way the organization creates, transfers, exploits, and manages knowledge. The case illustrates how business strategy and design choices made around mechanisms that can facilitate learning in the context of an intense information technology workplace resulted in the sustainability of the firm in a very competitive environmental context.

Chapter 8 is built around the Medical Services Provider Network in North America. The case involves a company turnaround program that was system-wide, with multiple initiatives. The initiatives were integrated through two different structural learning mechanisms and through the use of external and internal change agents. Thus, the case illustrates design choices and implementations of learning mechanisms in a multi-stakeholder network environment that fostered major improvements in the network's competitiveness and sustainability in a complex regulatory environment.

Chapter 9 provides a focus on integration across the cases and learning themes. Thus, it explores the conditions, structures, and processes for sustainable learning organizations across the cases; it identifies patterns of relationships between strategy, learning, and sustainable performance; it examines the relationships between learning requirements, learning dimensions, and learning mechanisms; and it investigates the relationship between sustainability and the learning mechanisms that were implemented. Some lessons about our model, the sustainability and competitiveness of learning mechanisms, and paradoxes and issues are identified and discussed.

Chapter 10 focuses on implications and issues for practice and suggested directions for future research. As such, the first section proposes a possible roadmap/generic intervention process model that can be used to guide a planned change effort. The second section is devoted to the identification and

discussion of some unanswered questions that require further scientific study. The last part of the chapter provides a retrospective conclusion.

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