Virtual Organizing as a Strategic Learning Approach to Organization Transformation

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ABSTRACT

This paper investigates the idea of organization transformation through the perspective of strategic learning. Specifically, we incorporate the idea of virtual organizing to direct the electronic transformation efforts meeting today's Internet challenge. Our underlying premise of organization transformation is based on several important observations. First, the rise of individuals possessing knowledge is materializing such that their values and requirements will have to be reconciled with those of the organization. Second, the knowledge era will continue the contextual shift that knowledge has become the contract around which people and organizations form relationships. There will be growing and continued integration of business processes, information, people and knowledge. The idea of a learning organization, operationalized by virtual organizing, compels us to view an organization not as a soul-less machine, but as the organic organization complete with its unique character developed through a combination of choice and environmental influences. Also, its ability to learn strategically is a significant source of competitive advantage. Accordingly, the successful organization is one that can assimilate new ideas and transfer those ideas into action, and the lessons learned must benefit the rest of the organization. Clearly, the processes of learning from experience and making such learning actionable for other organizational members should be strategically driven. The challenge for management is to orchestrate the simultaneous transformation of all its constituents in a unified pursuit of common goals. We believe organizational design by architecture is the key to meet the challenge. And we will see organizations taking responsibility for the renewal of individuals, helping them to acquire new skills, redefining the boundary of their responsibility, accepting accountability for the way they use resources and contribute to the environment.

Keywords: organization transformation, learning organization, virtual organizing, strategic learning

1. INTRODUCTION

The textbook definition of 'organization' given by [24] states the following: "An organization is a consciously coordinated social entity, with a relatively identifiable boundary, that functions on a relatively continuous basis to achieve a common goal or a set of goals." In this definition, the words "consciously coordinated" imply management. The words "social entity" indicate a composition of people who interact with one another and with the outside world, both individually as well as in group. The words "relatively identifiable boundary" of the organization serve as a kind of binding in the form of either an explicit or implicit contract among the individual organizational members as well as between these members and the organization. Tellingly, in many of today's organizations, activities and functions are grouped, responsibilities are allocated, and patterns of relationships are specified with a view to achieving some set of aims. Historically, the majority of organizational design have been hierarchical, intended to permit direction, coordination and control of the activities of most of the members by a few; this design is often captured in the familiar kind of pyramidal organizational chart. Over the years, however, dissatisfaction with some aspects of the way hierarchies function, particularly with how well they are adapted to the environments of today's knowledge economy [21], had led to greater experimentation in organizational structures. The idea of a learning organization [25] has emerged in the past decade, with the aim to continuously transform an organization by developing the skills of all her people and by achieving what Chris Argyris [1] has called double-loop learning. This is the questioning and rebuilding of the organization's existing perspectives, interpretation frameworks, or decision-making premises on a daily basis through a continuous process of knowledge creation [20, 2]. Indeed, such ideas imply some mechanisms which could transfer learning from individuals to a group, provide for organizational renewal, keep an open attitude to the outside world, and support a commitment to knowledge. The key structural element in these mechanisms is the use of organizational networks, clusters, projects, teams and taskforces, where the underlying assumption is the arrangement among different organizational units, which leverage their separate competencies and capabilities. In this paper, we shall discuss how virtual organizing as a concept, could be employed to operationalize an organization in the Internet era, whose design is based on an organic view of organizational transformation [4], including such aspects as reframing, restructuring, revitalizing, and renewal. The paper will also discuss how double-loop learning could be implemented from the perspective of strategic learning at the various levels of the individual, the team, the community and the organization.

2. THE CONTEXT OF VIRTUAL ORGANIZING

The idea of *virtual organizing*, attributed to Venkatraman and Henderson [33], can be considered as a method of operationalizing a learning organization, dynamically assembling and disassembling nodes on a network of people or groups of people, to meet the demands of a particular business context. This term emerged in response to the concept of *virtual organization*, which

appeared in the literature around the late twentieth century [5, 6, 7, 10, 12]. There are two main assertions associated with virtual organizing. First, virtual organization should not be considered as a distinct structure such as a network organization in an extreme and far-reaching form [13], but virtuality is a strategic characteristic applicable to every organization. Second, information technology (IT) is a powerful enabler of the critical requirements for effective virtual organizing. In this view, virtual organization should not be thought of as having a distinct structure, but as a degree of virtualness. To emphasize the ongoing process nature of the organization, virtual organizing presents a framework of achieving virtuality in terms of three distinct yet interdependent vectors: virtual encounter for organization-wide interactions, virtual sourcing for asset configuration, and virtual expertise for knowledge leverage. The challenge of virtual organizing is to integrate the three hitherto separate vectors into an interoperable IT platform that supports and shapes the new organizational initiative, paying attention to the internal consistency across the three vectors.

3. THE THREE-VECTOR FRAMEWORK

The three vectors of virtual organizing respectively include the vectors of virtual encounter, virtual sourcing, and virtual expertise. The first deals with the new challenges and opportunities for interacting with the organization. The second focuses on the organization's requirements to be virtually integrated in a business network, so as to manage a dynamic portfolio of relationships to assemble and coordinate the necessary assets for delivering value to customers. The third is concerned with the opportunities for leveraging diverse sources of expertise within and across organizational boundaries to become drivers of value creation and organizational effectiveness.

3.1 Virtual Encounter

The idea of remotely providing interaction with the organization is not new, but has indeed been redefined since the introduction of the Internet, and particularly, the World Wide Web. Every organization should assess how its products and services can be experienced virtually in the new medium of the Internet. The issue of customization based on such principles as modularity, intelligence and organizational design is important. Modularity is an approach for organizing complex products and services efficiently in independent units. Intelligence through continuous information exchange with consumers allows organizations to create products and processes using the best possible modules. More importantly, dynamic customization of products and services requires an organizational design that is fundamentally committed to operating in this new way. In other words, organizations need to change from an inside-out perspective to an outside-in perspective. This is often characterized by the emergence of electronic customer communities, the information-gathering and information-disseminating conduits, with a distinctive focus, and the capacity to post content for access to the wider community. It is believed that as virtual organizing becomes more widespread, organizations must recognize communities as part of the value delivery system and respond appropriately in their strategies.

3.2 Virtual Sourcing

This vector focuses on creating and deploying intellectual and intangible assets for the organization in the form of critical capabilities assembled through different relationships in the business network. The first job is to source standard modules based on a specific product or service architecture, to build a complex product or service. Yet, the sourcing logic is of paramount importance: What assets can we obtain from outside without loss of competitive advantage? The second is to create process inter-dependence by outsourcing business processes to external specialists who then own, manage, and administer the selected processes based on measurable metrics. The third is to set up a resource network, in which the organization is part of a vibrant, dynamic network of complementary capabilities. The strategic leadership challenge is to orchestrate an organization's position in a dynamic, fast-changing resource network where the organization can carefully analyze her relative dependence on other players in the resource coalition and ensure her unique capabilities.

3.3 Virtual Expertise

This vector focuses on the possibilities and mechanisms for leveraging expertise at different levels of the organization. In today's organizations, more tasks are being redefined and decomposed so that they can be done at different locations and time periods. However, the real challenge in maximizing work-unit expertise often lies not in designing the technological platform to support group work but in designing the organization structure and processes. Many organizations are experimenting with various structures, processes, and technologies that could maximize work-unit expertise as they move away from the functionally based organization to a process-driven approach. The message is clear: knowledge should be treated as an organization-wide asset and be systematically managed. Organizations are increasingly leveraging the expertise not only from the domain of a local organization, but from the extended network of broader professional community. Nonetheless, as companies identify and integrate expertise from multiple sources, they face the challenge of how best to compensate and motivate employees with expertise.

4. GROUNDING TRANSFORMATION ON THE 4-R PHILOSOPHY

The need for organization transformation through virtual organizing represents a fundamental shift in the relationship of the organization to individuals and to society as a whole. Simply put, organizations need to reconnect with the people that comprise them. Born in the industrial age, our model of organization has been a

mechanistic one. Caught now in the Internet era, we have stretched this same model to the limits of implosion. It is time to replace this largely mechanistic view of organization with a more organic one that recognizes the sanctity of individual human life and has compassion for individuals characterizing the knowledge economy [21]. We believe we will see organizations taking responsibility for the renewal of individuals, helping them to acquire new skills. We will also see organizations redefine the boundary of their responsibility, accepting accountability for the way they use resources and contribute to the environment. More importantly, organizations should build a new pride in the people who are part of them. The attempt to define this new spirituality of organization, as the backbone for our virtual organizing efforts, is presented in terms of our 4-R philosophy for organization transformation: Reframing, Restructuring, Revitalizing, and Renewing.

4.1 Reframing

Organizations often get stuck in a certain way of thinking, and lose the ability to develop fresh mental models of what they are and what they could become. Reframing opens the organization's mind and infuses it with new visions and a new resolve. The three important constituents of reframing include achieve mobilization, create a vision, and build a measurement system. Briefly, mobilization is the process of mustering the mental energy needed to feed the transformation program. It involves expanding the realm of motivation and commitment from the level of the individual to the team, and finally to the entire organization. Whereas mobilization prepares an organization to create a better future, vision provides a shared mental framework that gives form to that future. The vision often represents a significant stretch from current reality, becoming the organization's new sense of purpose. Once the organization has been mobilized, and armed with an inspiring vision, leadership must translate the vision into a set of measures and targets, and define the actions needed to reach the targets. Therefore, the measurement system creates a sense of commitment.

4.2 Restructuring

Restructuring deals with the body of the organization, and its competitiveness – the need to be lean and fit – is the primary consideration. It is the domain where payoffs could be fastest but cultural difficulties are supposed to be greatest. Nonetheless, if the payoffs are invested to fuel longer-term transformation programs, many wounds could be healed. The three major constituents of restructuring include construct an economic model, align the physical infrastructure, and redesign the work architecture. Briefly, constructing an economic model involves the systematic, top-down dis-aggregation of an organization in financial terms, typically from stakeholder value considerations to activity-based and service-level assessment. It gives the organization a detailed view of where and how value is created (or destroyed), and like the human cardiovascular system, is supposed to transport resources to where they are most needed inside the organization. On the other hand, the redesign of an organization's physical infrastructure is one of the most visible and telling measures of the overall health and strategic direction of an organization. The physical infrastructure, like the human skeletal system, is the network of facilities and other assets upon which work processes depend. Some facilities or assets are like the spine of the human body: When they fall out of alignment, they pinch vital nerves, causing pain and partial paralysis. Others may fracture under stress, immobilizing whole sections of the corporate body and requiring mechanical realignment to allow the healing process to occur. More, in an organization, work gets done through a complex network of processes, the work architecture. Like muscles, such work processes can be considered in isolation, but are in fact so interconnected that a change in one may affect them all. Also, they must continuously adapt to the demands placed on them or fall into atrophy from lack of stimulation. If properly configured and aligned, and if properly orchestrated by an integrated set of goals and measures, they produce a symphony of value creation so fluid that process boundaries seem to disappear.

4.3 Revitalizing

Revitalizing is the ignition of growth by linking the organization body to the environment. Every organization wants to grow, but the sources of growth are often elusive, making the process of achieving growth more challenging. Revitalization provides three essential channels of growth including achieve organizational focus, invent new businesses, and change the rules through information technology. Focusing on customers is a good place to start, because providing the benefits customers seek – often new and as yet to-be-discovered benefits – is what leads to business growth. Organizational focus is to the enterprise what the senses are to the human body, connecting the organization' mind and body to its environment. On the other hand, growth also comes by starting new businesses from scratch. This requires the cross-fertilization of capabilities often scattered throughout an organization's business portfolio, and the creative assembling of them to develop new offerings. In many cases, the capabilities of other organizations are required, spawning alliances, partnerships, mergers, or acquisitions. Inventing new businesses also brings new life to the organization; it is the organizational equivalent of the human reproductive system. Often technology can provide the basis of new ways to compete. Information technology, in particular, can redefine the rules of the game in an industry. Technology is the equivalent of the human nervous system, connecting all parts of the body and allowing it to experience sensations produced by the environment.

4.4 Renewing

Renewing deals with the people side of the transformation, and with the spirit of the organization. It is about investing individuals with new skills and new purposes, thus allowing the organization to regenerate itself. It involves creating a new kind of metabolism, the

rapid dissemination of knowledge inside the organization, and it involves the cultivation of a reflex of adaptation to environmental changes. Renewal is the most subtle and difficult, the least explored, and potentially the most powerful of transformation's dimensions. The three major constituents of renewal include create a reward structure, build individual learning, and develop organizational learning. Briefly, rewards are not the only motivators of people, but they are very powerful ones. When they are mis-aligned with organizational objectives, they can be equally powerful de-motivators. The organizational compensation system should reward risk-takers, and encourage people to link their own futures to the transformation of the organization. The reward structure builds a sense of gratification among individuals in the organization. Nevertheless, there can be no organizational transformation without the transformation of a large number of individuals. Organizations must commit themselves to the development of their people by encouraging the acquisition of skills and by cultivating mutual learning. Individual learning promotes self-actualization in the individuals who make up the organization. Further, organizations need to organize themselves for learning, so that they can adapt, constantly, to their changing environments. Developing organizational learning fosters a sense of community among individuals.

5. CONCEPTUAL LINKAGES TO STRATEGIC LEARNING

In today's business environment, most people agree that an organization's ability to learn is a significant source of competitive advantage [18, 19, 26]. This learning ability can be considered as the core characteristic of a learning organization, which is designed to assimilate new ideas and transfer those ideas into action and knowledge, which could then benefit the rest of the organization [29]. Effective learning, however, requires attention to the ways in which organizations learn at the individual, group and organizational levels. Clearly, the processes of learning from experience and making such learning actionable for other organizational members is a more complex and fragile process than we sometimes acknowledge. The basis of the organizational context for strategic learning is the process by which an organization makes sense of its environment in ways that broaden the range of objectives it can pursue or the range of resources and actions available to it for pursuing these objectives [17]. Together with the idea of a learning organization, we could proceed to create some architectural components which are intended to facilitate learning, and the creation, acquisition, plus distribution of knowledge, among organization members.

- *The IS-component.* This component operates on the information system (IS) paradigm [15, 16] of identifying relevant data, acquiring it, and incorporating it into storage devices that are designed to make it readily available to users in the form of explicit knowledge such as routine reports and responses to inquiries. Principally, IS directly relates to managing data and information rather than knowledge and learning. But the IS infrastructure, including the application programs which transform data into more valuable information relating to particular decisions, functions or activities in the organization, is of fundamental importance to implementing any of the other architectural components for strategic learning. And it is typically considered as part of the *structural capital* of the organization.

- *The IL-component.* The individual learning (IL) [14] component focuses on cultivating *human capital* of the organization. It serves to provide training and education for individuals through the institution of workshops, apprenticeship programs and the establishment of informal mentoring programs. Typically, an IL component provides free use of the IS infrastructure to access unstructured material in order to pursue an explicit educational path, and to access structured learning material purposely designed for online self-learning. The organization that adopts the IL component in pursuit of a learning organization is betting on its people; namely, enhanced individual learning will translate into improved organizational behaviors and performance.

- *The OL-component*. The organizational learning (OL) component focuses on cultivating the *social capital* [11, 23] of the organization. It is characterized by the use of communities of practice approaches, leading to the formation of collaborative groups composed of professionals who share experiences, knowledge and best practices for the purposes of collective growth. The conceptual basis is that social capital, in the form of various group and organizational competencies and capacities, can be developed, refined, and enhanced to enable the organization to adapt to changing circumstances and demands, through such processes as teamwork, empowerment, case management or development-centered career paths.

- *The IPM-component.* This component deals with the issue of intellectual property management (IPM) [27, 28, 34] underlying the activities that are involved in leveraging existing codified knowledge assets in the form of patents, brands, copyrights, research reports and other explicit intellectual property of the organization. The conceptual basis for this component is that such codified knowledge assets may be thought of as the realized human and social capital in the form of *intellectual capital* [3]. The organization that pursues the IPM component in support of a learning organization may devise a financial incentive that allows individuals and groups to be rewarded for the creation and leveraging of intellectual properties.

- *The KM-component.* The knowledge management (KM) component focuses on the acquisition, explication, and communication of mission-specific professional expertise that is largely tacit in nature to organizational participants in a manner that is focused, relevant and timely [11, 15, 30, 35]. The conceptual basis is that the organization's *knowledge capital* in the form of tacit knowledge [22] can, in part, be made explicit, and

leveraged through the operation of KM-related processes and systems developed for knowledge sharing.

6. REMARKS FOR CONTINUING CHALLENGES

Peter Drucker [8] has asserted that enterprises today are shifting from the command and control organization, the organization of departments and divisions, to the information-based organizations, the organization of knowledge specialists. The underlying premise of organization transformation is that the complexity of a modern organization defies mechanistic description, that an organization is tantamount to a living organism. The idea of a learning organization [9] compels us to view an organization not as a soul-less machine made up of discrete, replaceable parts, but as the organic organization complete with mind, body and spirit. Every organization is unique, its character is developed through a combination of choice and environmental influences. For the organic organization, we believe the secret of a fully functioning life resides in its ability to orchestrate the simultaneous transformation of all its systems in a unified pursuit of common goals. Our conception of the learning organization is based on the 4-R philosophy of reframing, restructuring, revitalizing and renewing. This philosophy includes mechanisms, which should transfer learning from individuals to a group, provide for organizational renewal, keep an open attitude to the outside world, and support a commitment to knowledge. The basis of this new form of organization lies in its organizational genome of thirteen genetic imprints respectively captured three at a time by each of the four R's. Reframing includes the imprints of achieving organizational mobilization, creating a vision, and building a measurement system. Restructuring covers the imprints of constructing an economic model, aligning physical infrastructure, and redesigning work architecture. Revitalizing comprises the imprints of achieving organizational focus, inventing new businesses, and changing the rules through IT. Finally, renewing consists of the imprints of creating a reward structure, building individual learning, and developing organizational learning. Essentially, each of the four R's represents an important constituent of a learning organization. Subsequently, the 4-R philosophy must permeate the *Learning Organization Information System* (LOIS) [31, 32], the realization of which in terms of the degree of virtualness achieved for the organization, represents a huge challenge in the analysis, design, and construction of information systems. The framework of virtual organizing help guide our architectural design effort in realizing the LOIS services along the three vectors of virtual encounter, virtual sourcing, and virtual expertise. These LOIS services could also be extended to include the architectural components of strategic learning, comprising the essential IS infrastructure, the IL, the OL, the IPM, and the KM components. Our idea of LOIS represents the conglomeration of different information systems respectively dedicated to achieve some peculiar services of knowledge development and transfer in the daily execution of a learning organization. In fact, virtual organizing, carrying the connotation that virtuality be considered as an organizational dimension, is a strategic characteristic applicable to every organization. This is also a challenge to both the organizational architect and the software architect, who have to cooperate with each other in the architectural design of the organizational model for transformation towards a digital learning organization.

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