ORGANIZATION DEVELOPMENT: A FRAMEWORK FOR SUCCESSFUL INFORMATION TECHNOLOGY ASSIMILATION

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INTRODUCTION

Rapidly developing technologies, a globalizing economy, changing workforce demographics, and increased competition pressure organizations to be more change-adaptive and resilient. Since computer-based technologies promise increased effectiveness and efficiency, organizations employ these technologies to assist them in handling those demands of their business environments. Organizations expect these technologies to reduce operating costs and empower their workforces. Yet, failure rates in information technology-based (IT) initiatives approach 70% (Davenport, 1995). This trend holds fast regardless the inclusion of a change management component in IT methodologies (Computer Science Corporation, 1995). However, IT change management inadequately addresses the "people" issues which are the focus of an OD change management practice.

At the same time, debate rages over whether OD comprehensively and appropriately addresses change management. Although OD has been evolving since the 1930's and Kurt Lewin is credited with the pioneering of change models, literature reviews suggest that the primary dimensions of OD do not contain a change management component (Worren, Ruddle, & Moore, 1999). In fact, some OD practitioners propose that there is need for a new profession to focus on change management because OD as a legitimate change agent is irrelevant (Quinn, 1993). However, others contend that OD can appropriately address the challenge of integrating complex organizational change (McDonagh & Coghlan, 1999).

This paper demonstrates that OD can provide a framework for organizational understanding and change management that enables a successful implementation of IT projects. When an organization uses the principles of change management embedded in an OD framework, IT performance may be enhanced. The paper describes the role of OD in Project ECOM, a technology assimilation project, in a 43,000 member international petrochemical company. The paper illustrates the positive outcomes resulting from an IT-OD partnership. In addition, the paper emphasizes the collaborative relationship between IT, executive management, and business groups

in addressing people and organizational issues through expanded role, definition, process facilitation, and knowledge management. All parties work in an integrated and synergistic manner. Most importantly, through this multi-disciplinary approach the members of these communities develop skills in managing change. This competence enables them to be more successful in future endeavors as they operate in highly turbulent conditions within a continually changing organization.

To begin this discussion, it is important to define several terms. The case presented in this paper moves forward from those definitions. It is not the intent of this paper to argue these definitions.

Definition 1: OD is the planned process of developing an organization to be more effective in accomplishing its goals. It focuses on developing the structures and systems within the organization, with primary emphasis on human resources, to improve organizational effectiveness. Optimization and maximization of human resources drive organization effectiveness, and OD integrates the individual needs and interests of organization goals thereby yielding greater organization effectiveness (Beckhard, 1969; French and Bell, 1990). In other words, OD is the art and science of accomplishing organizational transformation. OD values involving and developing people while improving organizational effectiveness. OD has models and theories, and there is behavioral science research to support some of them (Burke, 1982; Coch & French, 1948).

Definition 2: IT is the enabler for more efficient, effective, lower cost, and higher quality business goods and services (Hammer & Champy, 1993).

Definition 3: Change management is the process of managing change—reducing resistance to the change and increasing support/ commitment for it, whether that be a change in process, structure, technology, reward system, management practice, culture, etc (Connor, 1984). Change management makes that change, whatever it is, happen.

This paper presents OD as a framework for change management within the context of an IT assimilation.

This paper presents OD as a framework for change management within the context of an IT assimilation. The authors create an architecture for change management to enable individuals associated with the change process to reduce resistance problems significantly and increase support for the major change. The change management methodology helps to ensure that the organizational dimensions of the IT solution enable business processes to achieve their stated objectives. These organizational dimensions include culture, organization and workforce structure, competencies, information, and human resource and management practices.

BACKGROUND

In 1997, while preparing for the execution of business processes in the third millennium, the petrochemical company determined that its current electronic communications products were no longer up to the business challenges. The products' deficiencies severely limited the efficiency and effectiveness of the company's work force, and as such, hindered the achievement of business goals and objectives. Customers believed that the past products were difficult to use and learn; worked together poorly, requiring the input of information multiple times; and lacked needed flexibility and functionality, such as support for mobile users.

Therefore, the company decided to implement a new set of electronic communications products under the umbrella named Project ECOM. (ECOM stood for electronic communications.) The company determined that ECOM was NOT a long-term solution. Rather, it was part of a process of continuous change driven by the rapid adaptation of technological tools.

At the highest level, the objectives of the ECOM Project provided seamless, easy-to-use electronic communications, and preserved customers' investments in existing technology. In addition, the past e-mail client was not Y2K compliant. Therefore, replacing the cc:Mail client was non-discretionary. The new ECOM environment was easy-to-use to maximize user efficiency and effectiveness. It used a minimal number of vendors to achieve stronger integration and low cost, enhanced knowledge management, and met the needs of mobile and remote users. Product offerings included e-mail, the office productivity suite (word processing, spreadsheet, and presentation software), directory services, groupware, intranet/ internet, and data conferencing. This product line provided competitive, high quality, high reliability, electronic communications through the year 2000 and beyond. Moreover, the quick assimilation, described in this paper, was an indicator of competitive advantage.

Top executive leadership charged the IT department, part of a complex shared services structure[1] , with the responsibility for Project ECOM, and they billed its cost to the company's 17 business groups. Cost varied from one business group to another. Overall, cost was to be zero net retained. Beginning in the 4Q1998 and continuing through the 1Q99, ECOM affected each of the 43,000 computers, making them Y2K compliant and increasing capability of the users, enabling them to deliver more fully on business goals.

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[1] Shared Service is a business model. It is a term used to describe the combination of support functions of separate and distinct business units of an organization into one entity. These support functions include Environment, Health and Safety; Analytical Lab Services; Engineering and Construction; Tax; Auditing; Law Services; Government Relations; Public and Government Affairs; Human Resources Services; Information Technology; Purchasing and Materials Management Services; Facilities and Services; and Business Services. The purpose of this combination is to capture synergies and economies of scale. In this way the shared service business model can enable the enterprise to achieve cost minimization, operational excellence, greater customer satisfaction, and innovation.

the company aligned financial incentives to the achievement of scorecard measures. Since variable pay, a component of every IT employee's compensation package, was tied to the accomplishment of financial measures, these incentives impacted the 2200 members of the IT organization. Therefore, it was important to have a successful project. Success of the project meant that migration was on time and within budget, and that the products produced the intended business results. In other words, ECOM improved efficiency, effectiveness, and innovation by providing teams an easy way to collaborate and manage knowledge, by enabling better and faster decision making through an easy access and sharing of unstructured information, and by reducing the time spent on ECOM activities. ECOM benefits also included providing a stable communications infrastructure for business process applications, reducing legal discovery and litigation costs, and reducing some computing infrastructure costs.

OD partnered with IT to deliver the aforementioned business results of the ECOM Project.

To ensure success in Project ECOM, IT requested the assistance of the company's internal consulting arm, the OD Group. The IT organization openly declared to have little understanding of the people and organizational issues involved in IT change projects. However, they expressed a willingness to accept responsibility for addressing those issues in the ECOM project. IT knew the project's success depended on the satisfactory treatment of those issues.

OD partnered with IT to deliver the aforementioned business results of the ECOM Project. The partnership emphasized a collaborative consulting approach which enabled the IT organization to combine their functional and technical expertise with the OD consultants' analytic and behavioral skills to design a new vision of the organization, and then to engineer and implement business systems to meet that vision. A coaching strategy, focused on the business results and transfer of capabilities, intended to embed a change leadership practice in the IT organization. The coaching strategy itself was an example of both an OD and change management intervention. A coaching relationship occurred first between the OD consultant and the ECOM Project Director; secondly, between the OD consultant and the ECOM Project Director and his Transition Committee; and thirdly, between the OD consultant and the sub-teams of the Transition Committee. Coaching focused on their roles and the execution of their responsibilities as related to the Project ECOM Change Management Plan. The ECOM Project Team folded this Change Management Plan into the ECOM Project Master Plan. The significance of this proposal was its simplicity of service— there were no specific deliverables associated with this consulting contract.

In addition, OD committed to IT's success as measured by the IT scorecard. OD believed that the

client's success was their success. The OD scorecard reflected that type of client satisfaction measure. As part of the partnership, OD wrote measures for Project ECOM aligned to those of the IT scorecard. As process owner of the Post-Project Appraisal Process, OD demonstrated having its "skin in the game" alongside its IT partner. Together, Project ECOM team members and the OD practitioner served as change agents. The change management component of the ECOM Project assumed primary importance.

IT knew that DISRUPTION was the key measure about which the enterprise as a whole discussed when it came to technology assimilations. Although there were other important measures, (e.g., cost, time, etc.), the enterprise, as in many technology-based change efforts, concerned itself with dialogue about the "disruptive" nature of the change caused by Project ECOM. Therefore, understanding the DISRUPTION and its components was critical to overall project success. This was the foremost quality-based measure.

The IT-OD partnership described disruption, based in part on the results from the stakeholder analysis, as being comprised of three components: technological, work process, and human. The Transition Committee defined each of these three components. They described technological disruption as the time from turning off the old system to turning on the new system, e.g., new imaging appeared on the computer, necessary hardware was replaced, software applications installed and working, etc. They defined work process disruption as the ability to use the technology at the same proficiency level or better as when using the old system in order to achieve a task. Examples of such work processes included the use of the new system to procure supplies, complete a time and expense report, schedule meetings, etc. They measured human disruption as the time from the onset of talking about the DISRUPTION to the point where the DISRUPTION was no longer a topic of conversation.

Earlier, the company engaged Edgar Schein to conduct a cultural study. Results of that study were particularly important to Project ECOM. An engineering culture dominated the company. This was reflected in the technical preoccupation of their work. It was especially true of the IT organization. Schein also stated that the executive community had a financial focus. Executives were preoccupied with financial growth reflected in their emphasis on shareholder returns (Schein, 1997). Financial survival required an organization to be in a perpetual war with its competitors. Hence, IT initiatives often suffered from financial restraints reflected in restricted time and human resource allocations (Schein, 1996). OD leveraged these perspectives in their change management planning and techniques, particularly through the application of the results from the stakeholder analysis.

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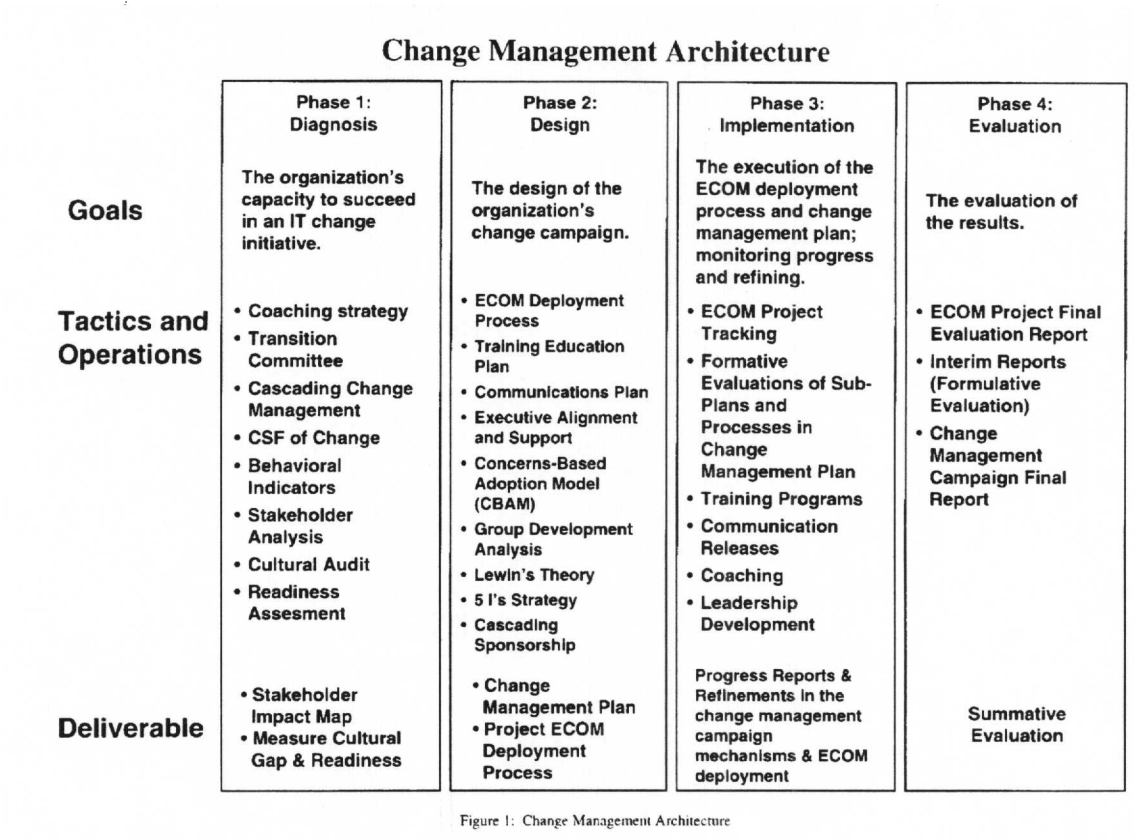

Figure 1: Change Management Architecture

APPLICATION OF CHANGE MANAGEMENT ARCHITECTURE

The OD consultants adhered to a change management architecture depicted in Figure 1 (Castle, 1996). This architecture served as a blueprint for IT transition execution and served as a roadmap for deployment. Using the change management architecture, the ECOM Project Team was able to keep focus on critical priorities and control risks, schedules, and costs. The results of the prescribed tactics and operations throughout the four phases eliminated the obstacles that impeded successful implementation.

A cross-disciplinary team

The ECOM Project Director determined need for a Transition Committee, a multi-disciplinary team. These individuals represented the key technical areas of the project (e.g., engineering, piloting, packaging, applications development, quality assurance, and architects). There were also representatives from the IT community (e.g., a business analyst, IT Program Management, IT Product Management, IT training, and IT communication), a representative from the international community, the four business sector deployment managers, and OCG consultants. Total membership included 18 persons.

As their initial action, the Transition Committee drafted a team charter. This document stipulated mission, roles and responsibilities, products and services, operating norms, and measures of success. The Transition Committee also developed a Change Management Plan for Project ECOM. The

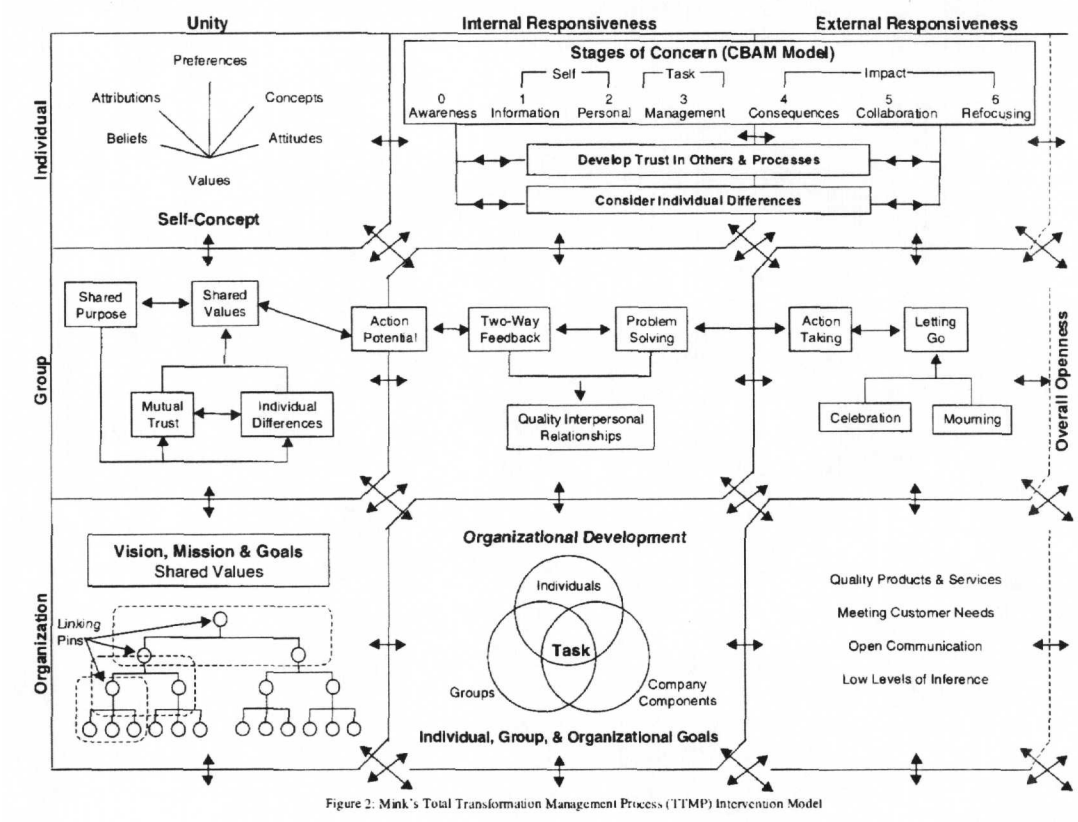

Figure 2: Mink's Total Transformation Management Process (TTMP) Intervention Model

Change Management Plan created four teams. Every team then drafted a charter and project plan for their missions. These teams included Culture Change, Technical Infrastructure, Training, and Communications. Chairpersons of these teams resided on the Transition Committee. The Transition Committee referred to these teams as the pillars of transition. Team charters mirrored that of the Transition Committee. Their project plans ensured that the teams fulfilled their particular missions, which were aligned with the mission of the Transition Committee. The Transition Committee mission was to assist the company in the assimilation of the ECOM Project through the implementation of the Change Management Plan that was aimed at reducing resistance to Project ECOM and increasing support/ commitment for it.

Interventions

Interventions at the individual, group, and organizational levels that involved the use of the five I's drove the success of all project plans, including the Change Management Plan. Incenting, involving, intervening or coaching, instructing, and informing techniques constituted the five I's. The pillars of transition sponsored the five-I interventions. The five I's overlapped and interfaced with each other within the context of the ECOM Project; they did not exist mutually exclusive of each other. Use of the five I's built knowledge, capability, and commitment throughout the company.

The Culture Change Team emphasized transition counseling which was a key component of the Change Management Plan. As

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such, this team was responsible for developing the resources individuals used to manage their emotional responses to change so they experienced a sense of personal unity and moved toward internal and external responsiveness (Mink et al. 1991). The focus of this team is depicted in Figure 2, Mink's Total Transformation Management Process (TTMP) Intervention Model. In other words, the Culture Change Team was process owner for "intervening" and "coaching" activities. Some of their products included the coaching strategy as previously described, a series of Transition Workshops; rewards for Project ECOM team members, pilot users, and other members of business groups that were used as "incenting" techniques; and discussion guides for use with line managers and their teams.

They delivered the Roadshow throughout the company using a cascading approach by first offering it to the business group VP and her Leadership Team, then their direct reports, and so on.

The Technical Infrastructure Team was responsible for the design, implementation, and evaluation of the Project ECOM deployment process. Each pillar designed a process with accompanying measures that was part of the overall deployment. These measures were aligned with the IT scorecard and served as "incenting" techniques. Each member of Project ECOM committed her monetary performance bonus to those measures. This team also tracked the technical activities of Project ECOM as they impacted the Change Management Plan.

The Training Team served as process owner for "instructing." They were responsible for the design, development of materials, delivery, and evaluation of the training for those members of the IT organization charged with deployment and the end-users. Their efforts included the design of the Training Forecast Survey that was administered to all members of the company. The ECOM Project Team used the survey results to establish Training Plans and training costs for each business group. IT training offered a portfolio of options in 14 different languages. These options included a Roadshow promotion, job aids, instructor-led programs, on-line courses, videotaped demonstrations, CD-ROM interactive training, manuals and other self-study materials, and one-on-one tutoring. These options appealed to a user's preferred training delivery system as well as a business group's training budget. The Communications Team assumed responsibility for the advertisement of this training portfolio throughout the company. IT used the Roadshow as an orientation to ECOM products. They delivered the Roadshow throughout the company using a cascading approach by first offering it to the business group VP and her Leadership Team, then their direct reports, and so on throughout the line organization. Project ECOM absorbed the costs of the Roadshow.

The Communications Team sponsored the "informing" operations. They conducted a communications audit and established a description of all communication vehicles throughout the company. They wrote the messages for those vehicles and used the Stakeholder

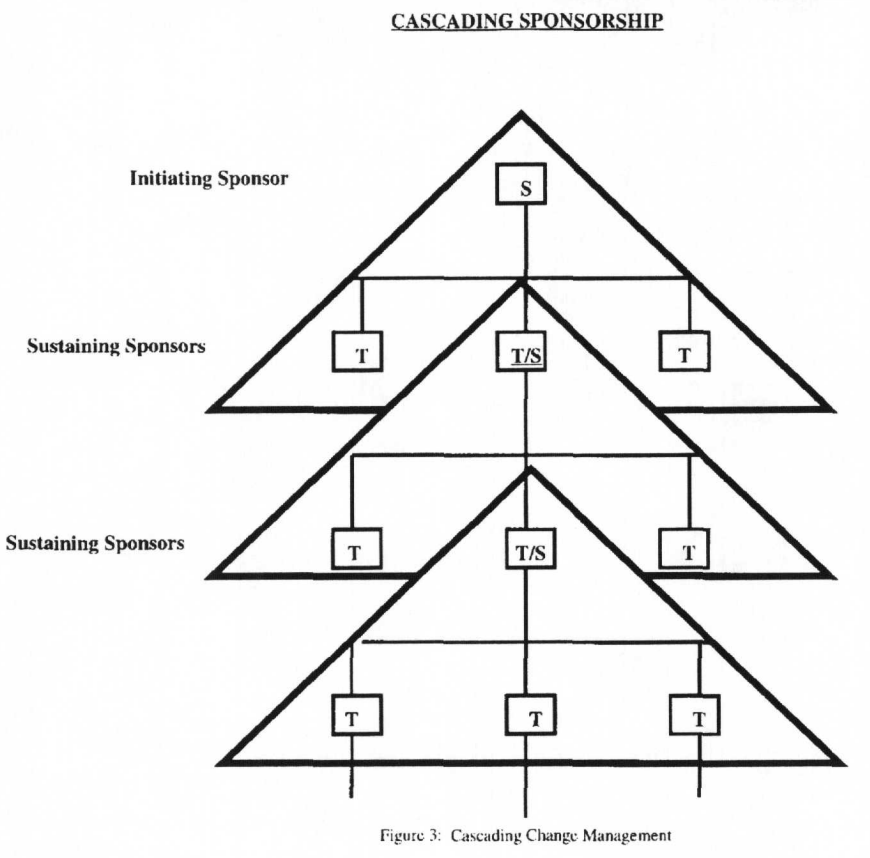

Figure 3: Cascading Change Management

Impact Map to leverage the spheres of influence. They also sponsored two-way communication events, such as on-line bulletin boards and discussion groups, koffee klatches, town hall meetings, and lunch and learn sessions.

Each of these teams "involved" individuals throughout the company regardless of organizational level. A member of the Transition Committee or a designee from the IT organization served as a single point of contact for each business group executive VP throughout the duration of Project ECOM. The member initiated that relationship at the time of the stakeholder interviews. Individuals were involved in the teams or as participants in their sponsored activities.

Measures of success

Measures of success for the Transition Committee addressed sponsorship and resistance. The selection of these measures resulted from a consultant presentation on cascading change management and critical success factors for change management as identified by Daryl Connor (1984). These measures also served as incentives to committee members. Figure 3 depicts cascading change management (Connor, 1984). (The initiating sponsor is the one who sanctions the change; he/she pays the bill. The sustaining sponsors are those in the line of the initiating sponsor who are needed to allocate the resources to the change. The target is the individual who must actually change. Everyone, including the sponsors, is at some time targets of the change. Working relationships are often complex with individuals playing more than one role and shifting

roles.) Orchestrating role assignments was important to successful IT assimilation. For example, the Communications Team often undertook this task as it decided the release of messages throughout the phases of the change management architecture. The other teams also used the Stakeholder Impact Map to plan and implement their strategy and activities.

The Transition Committee used a survey of a sample of all levels of the company to assess resistance to ECOM. The result became the baseline measure of resistance. The Committee also developed questions for interviews of each business group VP. Members of the Transition Committee conducted these interviews after receiving just-in-time training from the OD consultants. Results from the initial interview became the baseline measure for sponsorship and formed the content of the Stakeholder Impact Map. Every 90 days measures were again taken to assess movement from resistance to support on the part of the company as a whole and the business group executives. Each team also incorporated measures of success. Hence, Project ECOM used a variety of measures consisting of a mixture of short-term and long-term effects of the IT assimilation. These measures also served as a means of "incenting."

Cascading change management

Individual and personal intervention cascaded through the organization beginning with members of each business group's executive team and then their direct reports. This approach continued throughout the levels of the organization. As individuals and their groups became more informed, educated, and involved, they became change agents and possibly sustaining sponsors—depending upon their hierarchical position. This network enlisted commitment and support for Project ECOM. It constituted the critical mass in the company and motivated a discontinuation of the status quo required for the successful implementation of Project ECOM. Such participation was critical to commitment.

Transition Committee meetings, held weekly and often virtually using NetMeeting, often became forums for the five I's. OD consultants treated the Transition Committee as targets of the change and modeled behaviors that the ECOM Project Director and committee members would, in turn, use with other targets as they executed their change agent roles and responsibilities defined in the Change Management Plan.

Knowledge and how it is managed is a key source of competitive advantage in knowledge - intensive organizations.

Knowledge management

Knowledge is a primary resource in today's economy. Learning from past experiences and applying knowledge in new situations is the essence of improving future value creation for customers. Knowledge and how it is managed is a key source of competitive advantage in knowledge-intensive organizations. Knowledge is an asset enhanced with use, neither consumed when applied, nor lost when transferred (Teece, et. al, 1997; Leonard-Barton, 1995;

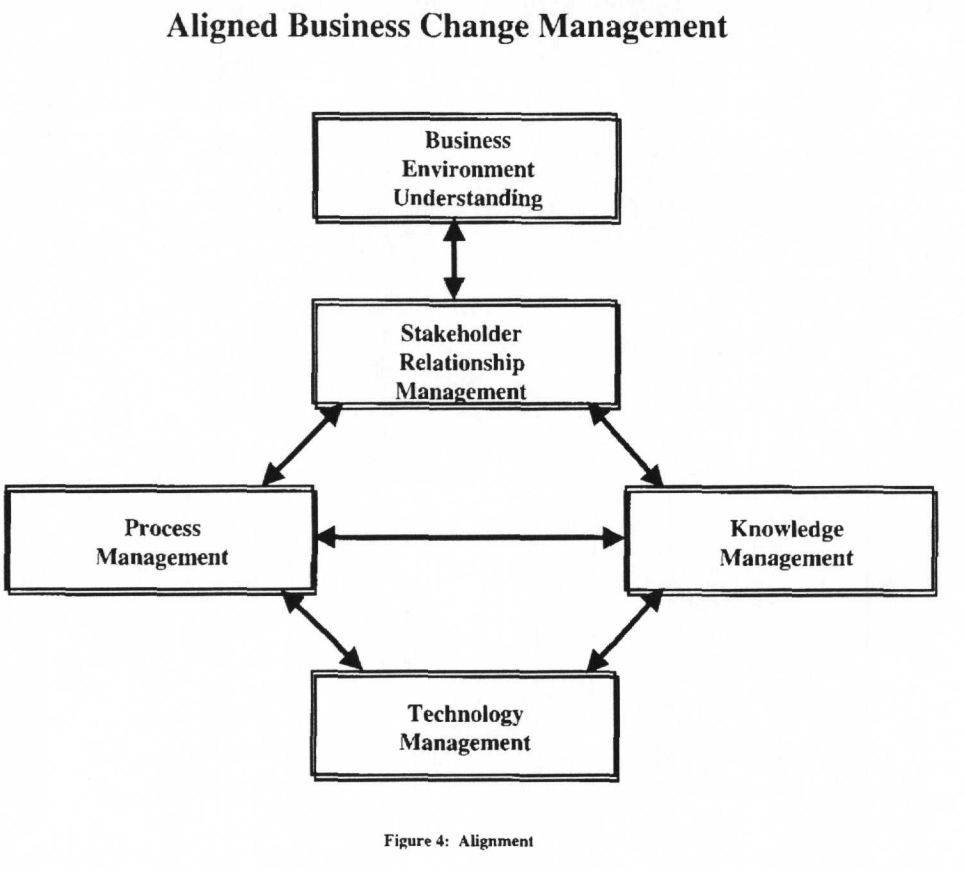

Figure 4: Alignment

Prahalad & Hamel, 1990; Winter, 1987; Burlton, 1999).

As an operating procedure, the team designed a knowledge management (KM) system. ECOM's KM system contributed to the successful deployment planning strategy and process. In addition, it enabled IT to duplicate this process for future technological assimilation throughout the company. The KM system also contributed to the Project ECOM change management architecture and methodology and enabled its duplication throughout the company regardless of the type of change imperative. Change management became a community of practice, a self-driven, discipline-specific knowledge community that reached across functional areas in which communication was enabled by Internet technology. Using Project ECOM, this case-based system illustrated the causality of decisions for both IT deployment and change management. KM was a deployment planning and change acceleration performance support tool. As a result KM accelerated the learning and performance improvement of the current community. It enabled change to occur faster, better, and smarter by learning from other people's experiences— hence, an increased rate of innovation and collaboration within the company. A knowledge sharing was growing. Simpler processes and workflows focused on the stakeholder and produced business results.

CONCLUSION

Historians characterize the 1990's as the decade of exponential change. The pace of change is continuing to accelerate. Business

product cycles are changing rapidly and each organization is required to form an individual and unique relationship with each of its customers and other stakeholders. Enabling computer technologies emerge, and organizations deploy them in hopes of finding a silver bullet. Although these technologies are only tools, when introduced and integrated into the organization appropriately, they are able to fulfill their promise of effectiveness and efficiency. Only flexible processes and maneuverable technologies can enable knowledgeable staff to make the commitments required to provide business results and continuously adapt Figure 4 illustrates this alignment (Burlton, 1999).

ROLE FOR FUTURE RESEARCH

As this paper suggests, collaboration can occur in spite of different paradigms held by practitioners and stakeholders and their various tool kits and methodologies. These solutions demand cross-discipline involvement and multi-discipline approaches, a critical success factor in the success of complex organizational change. By following the change management architecture and methodology outlined in this paper, OD consultants working with the IT organization, senior management, and business group users can ensure the success of an IT assimilation. The ECOM Project was successful because it adhered to principles of change, and these principles are embedded in the theories, models, and practices of OD.

Future research may serve to test the notion of whether or not IT performance is enhanced by managing change (i.e., reducing resistance and increasing support). Additionally, can IT performance be enhanced without change occurring (whether managed or not, is resistance to change reduced and support increased)?

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