

## Chapter 1 : Technological advances lead to organizational change

*The technology needs of a small company exist in an almost constant state of flux, adapting and changing based on business demands and advancements in the industry.*

Organizational Growth Organizational change occurs when a company makes a transition from its current state to some desired future state. Managing organizational change is the process of planning and implementing change in organizations in such a way as to minimize employee resistance and cost to the organization while simultaneously maximizing the effectiveness of the change effort. Factors such as globalization of markets and rapidly evolving technology force businesses to respond in order to survive. Such changes may be relatively minor—as in the case of installing a new software program—or quite major—as in the case of refocusing an overall marketing strategy, fighting off a hostile takeover, or transforming a company in the face of persistent foreign competition. Organizational change initiatives often arise out of problems faced by a company. In some cases, however, companies change under the impetus of enlightened leaders who first recognize and then exploit new potentials dormant in the organization or its circumstances. Some observers, more soberly, label this a "performance gap" which able management is inspired to close. But organizational change is also resisted and—in the opinion of its promoters—fails. The failure may be due to the manner in which change has been visualized, announced, and implemented or because internal resistance to it builds. Employees, in other words, sabotage those changes they view as antithetical to their own interests. Daniel Wischnevsky and Fariborz Daman, for example, writing in *Journal of Managerial Issues*, single out strategy, structure, and organizational power. Others add technology or the corporate population "people". All of these areas, of course, are related; companies often must institute changes in all areas when they attempt to make changes in one. The first area, strategic change, can take place on a large scale—for example, when a company shifts its resources to enter a new line of business—or on a small scale—for example, when a company makes productivity improvements in order to reduce costs. There are three basic stages for a company making a strategic change: Technological changes are often introduced as components of larger strategic changes, although they sometimes take place on their own. An important aspect of changing technology is determining who in the organization will be threatened by the change. Structural changes can also occur due to strategic changes—as in the case where a company decides to acquire another business and must integrate it—as well as due to operational changes or changes in managerial style. For example, a company that wished to implement more participative decision making might need to change its hierarchical structure. Almost always people changes are the most difficult and important part of the overall change process. The science of organization development was created to deal with changing people on the job through techniques such as education and training, team building, and career planning. Resistance to change is normal; people cling to habits and to the status quo. To be sure, managerial actions can minimize or arouse resistance. People must be motivated to shake off old habits. This must take place in stages rather than abruptly so that "managed change" takes on the character of "natural change. If the future after the change comes to be perceived positively, resistance will be less. Education and communication are therefore key ingredients in minimizing negative reactions. Employees can be informed about both the nature of the change and the logic behind it before it takes place through reports, memos, group presentations, or individual discussions. Another important component of overcoming resistance is inviting employee participation and involvement in both the design and implementation phases of the change effort. Organized forms of facilitation and support can be deployed. Managers can ensure that employees will have the resources to bring the change about; managers can make themselves available to provide explanations and to minimize stress arising in many scores of situations. Some companies manage to overcome resistance to change through negotiation and rewards. They offer employees concrete incentives to ensure their cooperation. Other companies resort to manipulation, or using subtle tactics such as giving a resistance leader a prominent position in the change effort. A final option is coercion, which involves punishing people who resist or using force to ensure their cooperation. Although this method can be useful when speed is of the essence, it can have lingering negative effects on the company.

Of course, no method is appropriate to every situation, and a number of different methods may be combined as needed. Key steps in that process are: Understanding the current state of the organization. This involves identifying problems the company faces, assigning a level of importance to each one, and assessing the kinds of changes needed to solve the problems. Competently envisioning and laying out the desired future state of the organization. This involves picturing the ideal situation for the company after the change is implemented, conveying this vision clearly to everyone involved in the change effort, and designing a means of transition to the new state. Implementing the change in an orderly manner. This involves managing the transition effectively. It might be helpful to draw up a plan, allocate resources, and appoint a key person to take charge of the change process. In some cases, it may be useful to try for small victories first in order to pave the way for later successes. Change is natural, of course. Proactive management of change to optimize future adaptability is invariably a more creative way of dealing with the dynamisms of industrial transformation than letting them happen willy-nilly. The Manager as Change Leader. Designing employee reward system that keep on working. Murray, Art and Kent Greenes. Schraeder, Mike, Paul M. Swamidass, and Rodger Morrison. Daniel and Fariborz Damanpour. An examination of three perspectives.

**Chapter 2 : Organizational Change Management | Cognizant Technology Solutions**

*Technological Change and Organization will be of welcomed by those interested in technological change and innovation, institutional and evolutionary economics, as well as to microeconomists interested in the theory of the firm and industrial organization.*

Why Change Can Be Difficult to Accomplish Change can be difficult for you and your client to accomplish for a variety of reasons. People are afraid of the unknown. They communicate their fear through direct means, such as complaining about the plans for change. Or, they communicate their fear indirectly, for example, coming late to meetings and not taking agreed-upon actions. People think things are just fine. This might occur if the executives in the organization have not adequately communicated the need for the change. People are inherently cynical about change. This cynicism often occurs if earlier attempts at change were unsuccessful and it was not admitted to the employees. People doubt there are effective means to accomplish successful change. They may have read publications in which writers assert that most organizational change efforts fail. There may be conflicting goals in the organizational change effort. A conflicting goal might be, for example, to significantly increase resources to accomplish change, yet substantially cut costs to remain viable. That conflict can occur, especially if employees were not involved in the plans for the change. Change often goes against values held dear by members in the organization. For example, they might disagree that the organization should maximize profits more than contribute to their community. This situation is not uncommon, particularly in nonprofit organizations. People get burned out during the change effort. Organizational change usually takes longer to achieve than most people expect. This problem can occur if the question "Is this realistic? Key leaders leave the organization. Especially in smaller organizations or organizations with very limited resources, leaders might not believe they are receiving sufficient value for what they are investing in the organization. They might conclude that it is better to just leave. Or, the change may not be going as expected, and the leaders are asked to leave. Participants do not understand the nature of planned change. Frequently, participants expect the change to be according to a well-designed, well-organized effort that has few surprises. When surprises do occur, they lose faith in the change effort and seek to abandon it. You can overcome many of those barriers if your consulting project meets the requirements for successful change listed below. Requirements for Successful Organizational Change Cummings and Worley, in their book *Organizational Change and Development* Fifth Edition, West Publishing, , describe a comprehensive, five-phase, general process for managing change, including: That process seems suitable for organizing and describing general guidelines about managing change. Whatever model you choose to use when guiding organizational change, that model should include the priorities and areas of emphasis described in the following five phases of change. General guidelines for managing this phase include enlightening members of the organization about the need for change, expressing the current status of the organization and where it needs to be in the future, and developing realistic approaches about how change might be accomplished. Next, organization leaders need to recognize that people in the organization are likely to resist making major changes for a variety of reasons, including fear of the unknown, inadequacy to deal with the change and whether the change will result in adverse effects on their jobs. People need to feel that their concerns are being heard. Leaders must widely communicate the need for the change and how the change can be accomplished successfully. Leaders must listen to the employees – people need to feel that the approach to change will include their strong input and ongoing involvement. Creating Vision Leaders in the organization must articulate a clear vision that describes what the change effort will accomplish. It should readily convey the benefits to the employees, as well. Ideally, people in the organization have strong input to the creation of the vision and how it can be achieved. It is critically important that people believe that the vision is relevant and realistic. Research indicates that cynicism is increasing in organizations in regard to change efforts. People do not want their leaders to promote an idealized vision that will completely turn the organization around and make things better for everyone all the time. They want to feel respected enough by their leaders to be involved and to work toward toward a vision that is realistic, yet promising and rewarding in the long run.

**Developing Political Support** This phase of change management is often overlooked, yet it is the phase that often stops successful change from occurring. Politics in organizations is about power. Power is important among members of the organization when striving for the resources and influence necessary to successfully carry out their jobs. Power is also important when striving to implement a plan in which everyone is involved. Power also comes from credibility, whether from strong expertise or integrity. Some people have a strong negative reaction when talking about power because power too often is associated with negative applications, for example, manipulation, abuse or harassment. However, power exists in all human interactions and is not always bad. It is how the power is used that determines how the power is perceived. A strong mechanism for ensuring political support for the change effort is to develop a network of leaders at various level who interact and count on each other to support and guide the change effort. Means to do that can include ensuring that all power-players are involved in recognizing the need for change, developing the vision and methods to achieve the vision, and maintaining organization-wide communications about the status of change. Any recommendations or concerns expressed by members to the leaders must be promptly recognized and addressed.

**Managing Transition** This phase occurs when the organization works to make the actual transition from the current state to the desired future state or vision. In consultations, this phase usually is called the implementation phase. The ways that consultants and organizations go through this phase can vary widely, ranging from clearly delineated phases and steps to a continual mutual engagement with the client from which the project activities continue to unfold. Ideally, the various interventions are detailed into associated actions that are integrated into one overall Implementation Plan. If the change is deep and extensive, then each action plan would includes specific objectives, or milestones, that must be accomplished by various deadlines, along with responsibilities for achieving each objective. Rarely are these plans implemented exactly as planned. Thus, as important as developing the plan, is making the many ongoing adjustments to the plan while keeping other members up-to-date about the changes and the reasons for them. These changes might require ongoing coaching, training and enforcement of new policies and procedures in the workplace. In addition, means of effective change management must continue, including strong, clear, ongoing communications about the need for the change and status of the change.

**Sustaining Momentum** Often, the most difficult phase in managing change is this phase when leaders work to sustain the momentum of the implementation and adjustment of plans. Change efforts can encounter a wide variety of obstacles, for example, strong resistance from members of the organization or unexpected changes in the environment outside the organization. The role of support cannot be minimized. Despite its importance during organizational change, the role of support is often forgotten. Strong, visible, ongoing support from top leadership is critically important to show overall credibility and accountabilities in the change effort. Supervisors play a critical role in effectively delegating tasks to employees and providing ongoing support in the form of feedback, coaching and training. Employee performance management plays a key role in ensuring that the required actions are being taken at the right times and are being done with high quality. At this point in a consulting project, it may be wise for the consultant to ensure he or she has ongoing support themselves for example, from other consultants who can provide ongoing objectivity, affirmation and other forms of support.

**Additional Perspectives** The following links are to articles that together provide an increasingly comprehensive and detailed orientation to change management.

*effect of organizational and technological changes on gross job and worker flows. The empirical results indicate that organizational change is skill-biased because it reduces.*

Work in the 21st Century: To name a few: Within these pressured organizations, there is a need for and opportunity for the human resource function to play a critical role in helping organizations navigate through these transitions. In order to play this role, however, HR will have to increase its real and perceived value. The role of human resources has been evolving for some time. The shift from "personnel" to "human resources," for example, was part of the movement to acknowledge the value of employees as an organizational resource, and was an attempt to remove some of the stigma that was coming to be associated with slow, bureaucratic personnel departments. This shift in label was accompanied by a call for HR to become a strategic partner with the leaders of the business-to contribute to significant business decisions, advise on critical transitions, and develop the value of the employees-in short, to have a seat at the table. He describes a multi-faceted approach to delivering HR services that meets the needs of both employees and employers, and positions HR as a significant contributor to organizational success. Ulrich presents his approach in terms of deliverables, or outcomes, for which HR should be responsible: In the course of delivering in these four areas, he describes four corresponding roles for HR to play within a business: Similarly, Johnson describes his experiences in executive search in which CEOs describe the HR leaders they want to hire. He reports that, when hiring a leader for the HR function, most CEOs ask for someone who is, "not a typical HR person," and that most of the successful candidates describe themselves that way. Making the shift to a new HR role will raise unique issues for every HR group that attempts it, but there are some common steps and activities that will increase the likelihood of success. Some of these steps and activities are: As with any major change effort, a strong leader can develop a clear vision, motivate others to share that vision, and help them work toward achieving it. One of the ways that HR can provide value is to understand how changing environmental, organizational, and workforce factors will likely influence the business, anticipate the associated HR needs, and be prepared to deliver appropriate solutions to meet those needs. For example, one movement that is likely to have significant impact on the way people are hired, managed, and valued is that of intellectual capital. A "new role" HR department is one that has learned about intellectual capital and its implications, evaluated the impact on current practice, and developed ideas and recommendations for changing HR practice and other business processes. An HR group that is successful in the future will likely be one that is responsive to the changing needs of its client organization. Responsiveness in the changing world of work will require being flexible-as the organizations change, so will their needs and priorities. In addition, traditional activities and processes may not be sufficient to meet the unique needs of the future-HR leaders will likely rely on creativity of their groups to achieve effective results. Increasing globalization of the market will create a need for both flexibility and creativity as businesses try to succeed in new locations, with a new workforce, and with new customers. Although this is not a new challenge for HR, it remains a critical one. It is important to make apparent the value provided by working with the management team to hire the right people, manage them well, pay them appropriately, and build a working environment that encourages success. Beatty and Schneier extended the concept of delivering value within the organization by arguing that HR must deliver economic value to the customers, as well as to employees. Here is a sampling of strategies that I have seen implemented as HR groups work to respond to environmental and organizational changes, become more valuable, and deliver results. Some companies are assigning HR employees to specific business units as a way of enabling them to develop a focused relationship with a small part of the business. This relationship can be enforced when the HR person has a direct reporting relationship with the leader of the business unit. In these situations, the central HR group usually provides information and services to the "distributed" HR representatives, who then deliver the service personally to the business unit. One advantage of this structure is that it fosters the flexibility and creativity mentioned above, as the local HR people can modify and tailor processes and services to meet the needs of their assigned business units. As organizations grow by merger and acquisition, they

often find themselves with multiple HR groups. These can be duplicative or complementary. When they are duplicative, they can be subject to painful downsizing and consolidation, leaving behind a department that is unable to serve all areas of the business as well as they had been accustomed, which can, in turn, undermine the credibility of HR. An effective response to this issue is to utilize the multiple HR groups differently. One approach that seems to work well is to develop "centers of excellence," where the HR groups in different parts of the company develop their expertise in a particular area and serve the needs of the larger company in that area-HR groups operating within this model can see each other as resources rather than competitors, and the company benefits from high levels of expertise in a number of areas. They view their internal customers as clients, learn consulting skills, and take their client satisfaction as a measure of their success. In one large high-technology firm, internal clients whose needs cannot be met by the internal HR group can go to external service providers directly-even for basic HR needs. One way to bring the perspective of the business into HR-and vice versa-is to rotate line managers into the HR function for periods of time. These individuals often serve as reality checks for the HR group, and then bring an increased understanding of the value of HR back to their line function when the rotation is over. This approach seems to work best when the duration of the assignment is sufficient to allow the rotated individual enough time to become proficient in some areas of HR and when he or she is working closely with experienced HR people who can help them learn. Sending HR people into other areas of the business can serve a similar purpose. This approach allows the manager to be more fully involved in the development and direction of employees, with HR as a resource; it requires, however, that those managers have the capabilities needed to work through issues with employees successfully. In the next column, I will be contributing to the special edition of TIP by interviewing one or more business leaders about their perspectives on our field. As always, I am interested in hearing from you. Please call, write, fax, or e-mail me at: *New human resource roles to impact organizational performance: From "partners" to "players.* Harvard Business School Press. A true life adventure story. All Rights Reserved Hit Counter

**Chapter 4 : Technological change - Wikipedia**

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When speaking about "modeling technological change," this often means the process of innovation. This process of continuous improvement is often modeled as a curve depicting decreasing costs over time for instance fuel cell which have become cheaper every year. TC is also often modelled using a learning curve , ex.: These days TC is more often included as an endogenous factor. This means that it is taken as something you can influence. Today, there are sectors that maintain policy can influence the speed and direction of technological change. For instance, proponents of the Induced Technological Change hypothesis state that policy makers can steer the direction of technological advances by influencing relative factor prices and this can be demonstrated in the way climate policies impact the use of fossil fuel energy, specifically how it becomes relatively more expensive. This is often included in the process of product development and relies on research. This can be demonstrated in the invention of the spreadsheet software. Newly invented technologies are conventionally patented. Diffusion[ edit ] Diffusion pertains to the spread of a technology through a society or industry. In the case of a personal computer, it has made way beyond homes and into business settings, such as office workstations and server machines to host websites. For mathematical treatment of diffusion see: Logistic function For assorted diffusion curves such as appliances, household electrification and communications see: Diffusion of innovations Diffusion data Technological change as a social process[ edit ] Underpinning the idea of technological change as a social process is general agreement on the importance of social context and communication. According to this model, technological change is seen as a social process involving producers and adopters and others such as government who are profoundly affected by cultural setting, political institutions and marketing strategies. In free market economies, the maximization of profits is a powerful driver of technological change. Generally, only those technologies that promise to maximize profits for the owners of incoming producing capital are developed and reach the market. Any technological product that fails to meet this criterion - even though they may satisfy very important societal needs - are eliminated. Therefore, technological change is a social process strongly biased in favor of the financial interests of capital. There are currently no well established democratic processes, such as voting on the social or environmental desirability of a new technology prior to development and marketing, that would allow average citizens to direct the course of technological change. These elements are derived from Everett M. Rogers Diffusion of innovations theory using a communications-type approach. Innovation[ edit ] Rogers proposed that there are five main attributes of innovative technologies which influence acceptance. Relative advantage may be economic or non-economic, and is the degree to which an innovation is seen as superior to prior innovations fulfilling the same needs. It is positively related to acceptance e. Compatibility is the degree to which an innovation appears consistent with existing values, past experiences, habits and needs to the potential adopter; a low level of compatibility will slow acceptance. Complexity is the degree to which an innovation appears difficult to understand and use; the more complex an innovation, the slower its acceptance. Trialability is the perceived degree to which an innovation may be tried on a limited basis, and is positively related to acceptance. Trialability can accelerate acceptance because small-scale testing reduces risk. Observability is the perceived degree to which results of innovating are visible to others and is positively related to acceptance. Communication channels[ edit ] Communication channels are the means by which a source conveys a message to a receiver. Information may be exchanged through two fundamentally different, yet complementary, channels of communication. Awareness is more often obtained through the mass media, while uncertainty reduction that leads to acceptance mostly results from face-to-face communication. Social system[ edit ] The social system provides a medium through which and boundaries within which, innovation is adopted. The structure of the social system affects technological change in several ways. Social norms, opinion leaders, change agents, government and the consequences of innovations are all involved. Also

involved are cultural setting, nature of political institutions, laws, policies and administrative structures. Time[ edit ] Time enters into the acceptance process in many ways. The time dimension relates to the innovativeness of an individual or other adopter, which is the relative earlyness or lateness with which an innovation is adopted. Technological change can cause the production-possibility frontier to shift outward, allowing economic growth. Technical progress In economics , technological change is a change in the set of feasible production possibilities. A technological innovation is Harrod neutral following Roy Harrod if the technology is labour-augmenting i.

### Chapter 5 : How Is Technology Impacting the Changes in the 21st Century Workplace? | calendrierdelascio

*The secret to successful IT-enabled change is the right balance between "hard" factors like planning, goals, structure and system architecture and "soft" factors like mindset, culture and.*

If HR wants to continue to play a critical role in helping businesses anticipate and manage organizational change, it must have technology at its core. With Millennials making up more than half of the current workforce -- and predicted to make up 75 percent by -- HR is going to have to embrace and build on technological advancements to meet both employee expectations and business requirements. Talent analytics and workplace analysis will become more commonplace, and companies using the data available to them will be far more competitive. Be-cause of this, HR has earned a reputation for being mired in time-consuming duties with significant amounts of paperwork. But technology has changed much of that monotony, via new HR portals and platforms that digitize much of the information HR needs to process. When combined with other technologies, Big Data provides a tremendous amount of insight and allows HR professionals to make decisions backed by concrete information and more efficient processes: Big Data gives HR a fact-based view of the current workforce, identifying emerging trends so businesses can adapt. Predictive analytics allow for better risk-management decisions. For example, they can identify employees who could benefit from additional training or highlight teams that may be struggling. Analytics also allow recruiters to assess potential employees based on real information; by bas-ing hiring decisions on facts instead of hunches, they can improve the quality and placement of new hires. Naturally, this led to inefficiencies, security issues, data loss, and chaotic office spaces. Today, all of this information can instead be stored in the cloud -- documents and other pertinent information can be easily accessed online while data can be collected through simplified forms and automated processes. Employee information -- like tax forms, payroll data, performance reviews, and contact information -- can be archived and organized in one secure location. Cloud-based systems and Big Data go hand in hand. All of this data can provide valuable insight if you know how to interpret it, which has already made a tremendous impact on HR. At the same time, cloud-based mobile platforms allow individuals to access their information more readily than ever before. Imagine if you could use the same portal to request time off, change your mailing address, or confirm contributions to your K. Mobile HR apps make it easy for employees to access this kind of information anywhere and anytime. And that makes life easier for HR workers, too. As we barrel into the future of technology in the workplace, HR has a lot to look forward to; cloud computing, easier storage, better insights, and greater transparency are only the beginning. Because of efficiencies, cost savings, employee expectations, and the power of Big Data -- for HR and organizations as a whole -- technology is just too business critical ignore.

**Chapter 6 : Work in the 21st Century: The Changing Role of Human Resources Jan 98**

*In economics, a technological change is an increase in the efficiency of a product or process that results in an increase in output, without an increase in input. In other words, someone invents.*

Designing For Technological Change: Despite their common interests in the implementation of new technologies, these groups do not often meet and talk together. There are language barriers across the groups as well as within; there is no more automatic understanding, much less consensus, among sociologists and psychologists than among managers and engineers from the same industry or even the same firm. There is tension because of conflicting goals and expectations: Nowhere were these differences more obvious than among the advisory group planning this symposium. As we struggled with the questions, recognizing our diverse backgrounds and experiences, we began to bridge these gaps by using a common perspective—the human element. This is a focus that is both narrow and broad. The focus is narrowly on the role of people in the process of implementing existing technology—not technological innovation itself or the myriad of other factors that are also important in implementation such as product mix, financing, quarterly earnings, or government regulation, although these are certainly touched on in the chapters that follow. People in the Process. People and Technology in the Workplace. The National Academies Press. To facilitate a useful exchange of information among these groups, the advisory committee developed a set of questions to guide both the development of the case studies and the discussions that followed. While each organization has its own unique elements, we found these questions see the box below helpful in thinking about common themes that could assist people who are contemplating technological changes in their organizations. They form the core of an ongoing process of planning and problem solving, which facilitates converting what we know about designing technological change into practice. This summary and the chapters that follow were guided by, and expanded on, these questions. The case studies provide concrete examples of what worked and what did not work. The overview chapters in each section place the case examples in a larger conceptual framework and enable some generalizations about the success factors within specific areas. The opening chapter expands the discussion beyond microlevel project changes to larger questions of organizational structures and interorganizational cooperation. Out of this diversity emerge some common views on what is known about people and the implementation process, enabling us to offer some ideas for organizations considering the adoption of new workplace technologies. There is also some agreement on what we do not know, thus suggesting areas of research needed to bridge gaps in conceptual and practical knowledge. This chapter provides a summary of what we, as engineers and sociologists, as well as cochairs and staff of the symposium, perceive to be part of the problem and several factors that have major effects on adoption of new technology. While we take responsibility for this summary, we also wish to acknowledge our special debt to the symposium planning committee as well as to the many other participants we consulted in this process. What is the current structure of the organization flat, hierarchical, centralized, decentralized, line of business, profit centers, etc. What areas would new technology change? What would a new structure look like? What problems or opportunity, external as well as internal to the organization, are the technological changes supposed to solve? What organizational factors are being considered size, decision making, work force characteristics? What are the key organizational changes planned? How will the technology be implemented, especially considering such organizational concerns as training, negotiation, and worker input and control? How is responsibility divided and what incentives are provided for change? Who gains and who loses during different phases of implementation? What are the likely effects on employees and on business performance? How are problems, set backs, resolved? Were there surprises and how were adjustments made by managers, technical experts, and workers? After implementation, what challenges remain? What did the organization learn from the experience that could be useful in the future? Technology enabling the flow of information and materials from homes to offices, factories, world capitals, and remote villages has transformed the way products are made and services delivered. At the same time, however, there is increasing recognition that new technologies are often underused or inefficiently used, particularly in manufacturing. These utilization problems are linked

to declining productivity in the increasingly global economy as well as to deteriorating product and service delivery at home. While clearly many businesses continue to innovate and grow, problems such as these might be avoided by learning from the experiences in the manufacturing industries. Page 4 Share Cite Suggested Citation: Although technology is often considered a product of science, mathematics, and engineering, any piece of hardware is part of a larger system, including the individual and organizations that apply the science and engineering, build and operate the machinery, ensure a smooth flow of inputs to and outputs from the system, and determine the strategic importance of the desired change to the organization, whether it be improved productivity, reduced costs, or better service delivery. Technology is fundamentally an organizational and human endeavor linking what is theoretically possible to what happens in the laboratory, in the design shop, in the operating room, in the office, or on the plant floor. Recognition of this factor, however, is relatively recent. Historically, engineers have assumed that implementing technology means that people will adapt and learn to use the new equipment. This approach has been reinforced by social scientists studying worker satisfaction, motivation, and organizational structures to better understand and improve the relationship between people, technology, work, and improved performance and productivity. The implementation of new technology most often has been explained and shaped by theories in which work was divided into small tasks with clearly defined responsibilities and standards of acceptable performance based on low levels of employee skill and motivation. Management roles were highly specialized, and authority was reinforced through sharp status hierarchies. Labor and management relations have for the most part been hostile. Emphasis on the individual fit well into large bureaucratic organizations where breaking down work into its smallest components and having strict rules and regulations were critical to turning out the mass production products. Collective action was discouraged, collaborative efforts were not rewarded, internal competition was fierce. The pyramid structure set the competitive framework for management, and a strong resistance to unions led the way for nonmanagement workers. The manufacturing model led the way for government bureaucracy and the burgeoning service sector in both public and private institutions. Today more than ever the successful introduction of technology is tied to the understanding of existing organizational struc-

Page 5 Share Cite Suggested Citation: Underlying these changes is a shift in basic assumptions about people from ones of limit and control to trust and cooperation, reflected in each of the overview chapters. This shift is complex and there are no easy answers for managers considering the use of new technologies. Together these factors form the culture of the organization, which can either facilitate or discourage technological change and the implementation process. Leadership for technological change can come from managers, executives, professionals, and union leaders. Depending on the scope of the technology and its organizational implications, the case studies provide examples of decisions that rest with office managers, unit directors, district or division managers, vice presidents, chief executive officers, or the board of directors. Even in relatively flat organizational structures a person or relatively small group of people initiate the change, commit the resources, and establish the cultural framework for implementation. The significant role of committed and involved leaders was noted in all of the cases presented at the symposium. Leaders develop the shared vision and goals and effectively communicate them throughout the organization. They provide not only the necessary financial support during the change process but also psychological support to project and middle-level managers who implement the technology and to the employees who are the ultimate users. Leaders also make or allow the organizational modifications necessary to accommodate the change and the transition process. They create the mechanisms for employee participation, training, incentive schemes, organization design and structure, as well as technology choice and development. In all the automated manufacturing cases, for example, leaders supported employee training, work process redesign and improvement, and changes in the incentive schemes so that employees would be stimulated and engaged by the process. Sometimes a change in one level of leadership is necessary to motivate, accommodate, or guide the change. In the Shearson Lehman case, new leaders were chosen to identify the main purposes and goals and methodically guide the technological changes to accomplish these goals. In this case, the new leader communicated a clear vision of a successful application of new technology and made the structural changes that made success possible: There was a high cost, however, in personnel, and many people lost their jobs.

This is in contrast to the Boeing case, where efforts were made to involve the current employees, or the United Way case, where building on the expertise of the current staff was one of the primary goals. Basically, leaders set the cultural context within which people implement technological change. If this means more shared decision making and flatter organizational structures, it also means a change in the role of the leader, perhaps requiring the leader to give up some control and authority and work in a collaborative structure that has not been common in U. There is a fine tension here between leaders initiating change and controlling the resources for implementation while at the same time delegating authority and involving people at all levels of the organization. How leaders resolve this tension, as well as the very practical ways in which they communicate goals, build trust, and delegate authority are in need of further research. Page 7 Share Cite Suggested Citation: It becomes more important as the technology advances more quickly and facilitates user feedback in what Adler calls the dynamic model of technology. Bikson and Eveland report that participative decision making in all aspects of the implementation process is a strong predictor of successful transition to new computer-based tools. This approach assumes that organizational members have ideas and skills that make them a valuable resource and they can build on and improve the technology being introduced. The case studies provide several examples of employee participation. First, in the Boeing case a major planning meeting was designed to gather employee input into the plant design from all levels, including production workers, union representatives, and supervisors. In another example, at the Los Angeles Times, editorial and production staff were assigned to the new technology project on a full-time basis and a wide-ranging and rotating advisory committee was established to provide first-hand use feedback rather than technological feedback from the computer department. Consolidated Diesel provides an example in which an entirely new organization was established. They had the opportunity to hire employees who desire to participate in decision making. A fit with the participative culture was determined by peer as well as management interviews. Research at Rochester Methodist Hospital underscored the importance of involving first-line supervisors, in this case head nurses, in the design and implementation process. The opposite of employee participation is of course resistance. Van de Ven provides a summary of why people resist change: Consequently, tensions, uncertainties, and insecurities are alleviated and replaced by commitment to realization and functionality of the project. Interestingly, Bikson and Eveland were more likely to find resistance in the organization rather than in the employees. They report "countless examples of individuals doing old tasks in new ways and doing new tasks they Page 8 Share Cite Suggested Citation: Employee resistance due to fear of job loss is a reality, however, as demonstrated in the Shearson Lehman case. Adler finds that this is often the source of union resistance to changes, and this fear was certainly the perception, if not the reality, in the United Way case. Adler and Kanter also find, however, that trust can be developed even in the face of layoffs if goals and information are honestly shared with employees, and humane efforts are made to relocate employees who must be let go. Resistance may also be related to the deskilling of jobs or decreases in the level of control and responsibility. The Neonatal Intensive Care case provides an important example. Yet there was and continues to be staff resistance to the new technology because the responsibility and control of the medical staff were shifted to other medical professionals without staff involvement in the decision. Although employee participation is generally seen as a factor contributing to successful technological implementation, there is also a fundamental problem defining what employee participation in decision making actually means and reconciling employee participation with the reality of job loss, deskilling, or reduced responsibility. More research is needed to explore the meaning of participationâ€”for example, what is the degree of control over outcomesâ€”to describe the political and psychological dimensions of participation, and to analyses of linkages among all these aspects.

## Chapter 7 : Guidelines, Methods and Resources for Organizational Change Agents

*Technological Change and Organization [Rod Coombs, Kenneth Green, Albert Richards, Vivien Walsh] on calendrierdelascience.com \*FREE\* shipping on qualifying offers. Contributing scholars discuss how the process of innovation--and even the capability for innovation--is inextricably connected to organizational factors.*

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### Chapter 9 : Technological Change and Organizational Action: 1st Edition (e-Book) - Routledge

*Because of other sweeping economy-wide changes that were occurring at the same time as technological change and the change in work organization (including globalization, deregulation, and the decline of unions), it is difficult to empirically identify the magnitude of technology's effect on the rising skill premium.*