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**MANAGING THE TRANSFORMATION
PROCESS: PLANNING FOR A PERILOUS
JOURNEY**

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"MANAGING THE TRANSFORMATION PROCESS; PLANNING FOR A PERILOUS JOURNEY"

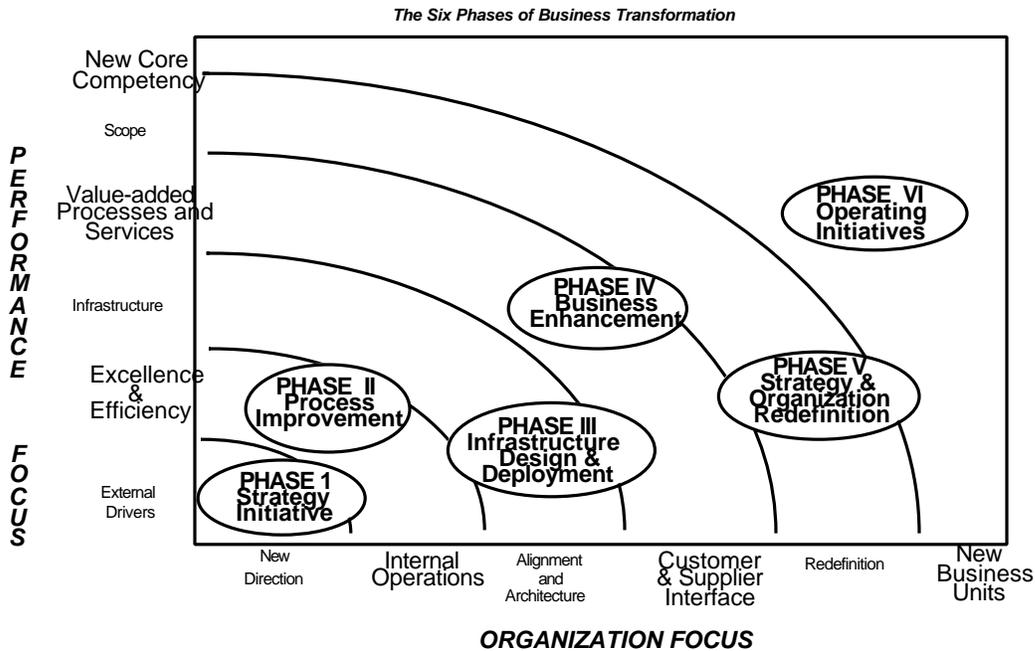
Successful transformation produces spectacular results, but the process can be prolonged and painful. Transformation occurs over a period of years in even the most agile and nimble organization. It is a complex process involving a series of stages. Each stage of the transformation cycle contains critical tasks and unique issues that must be addressed in order to follow the path through to a successful conclusion. Each stage exhibits unique leadership requirements and barriers that must be overcome. It is a complex production that without proper orchestration can not achieve its desired ends.

Why then do organizations embark on the path to transformation? A motivating crisis typically triggers the process. A competitor's initiative can lead firms to pursue a radical change program. American Hospital Supply's success with its on-line hospital procurement system triggered significant change at Johnson and Johnson, for example. Or, demands by key customers may be the catalyst. Toyota and Wal-Mart have driven the adoption of new EDI-based business practices within their supplier communities. Regulatory change can unleash creative programs. Deregulation of airlines and interstate trucking around 1980 fueled innovative transformation efforts in both industries.

Each of these forces feed the most powerful catalyst for transformation - financial crisis. Most enterprises embark on transformation programs only when they are forced to do so. Such programs are hazardous and require hard work. Yet, transformation is not entirely unexplored territory. The experience of dozens of firms suggest that the costs and risks of such efforts can be dramatically reduced by approaching transformation as a planned journey. In this chapter, we will present a generic framework that addresses the issues, tasks, barriers and pitfalls found in all transformation efforts. It is intended to serve as a travel guide for transformation.

The experience of some sixty firms observed in transformation programs suggest there are six generic phases in this process. The six stages are: (1) strategy initiative, (2) operations improvement and innovation, (3) infrastructure design and deployment (4) business enhancement, (5) strategy and organization redefinition, and (6) operating initiative. Transformation programs can stall or fail in any of these phases if critical tasks are not performed. Leadership roles in each stage are also unique. Failure to fill these roles at the proper time leaves a vacuum that is difficult or impossible to

overcome. Each stage also exhibits critical relationships that are essential to progress on the transformation path.



Phase One - Strategy Initiative

In the first stage of transformation, the critical role is played by the chief executive officer. The CEO's principal task in this stage is to call the organization to action around a compelling vision. An effective vision utilizes external threats and opportunities to rally the organization around new operating performance goals. At one extreme, the CEO may only sound the general alarm, establish general performance themes and targets and exhort the organization to increase its efforts to improve performance. In general, specific operating improvements would be developed in the next stage of the exercise. In some instances, however, program specifics are communicated to the organization within the broader strategy initiative. The CEO may design and launch a full-fledged program for operating improvement and transformation.

At American Standard, CEO Mano Kampouris initiated an operating improvement program designed to address a compelling financial crisis. American Standard's management team, with an outside partner and an employee stock ownership plan (ESOP),

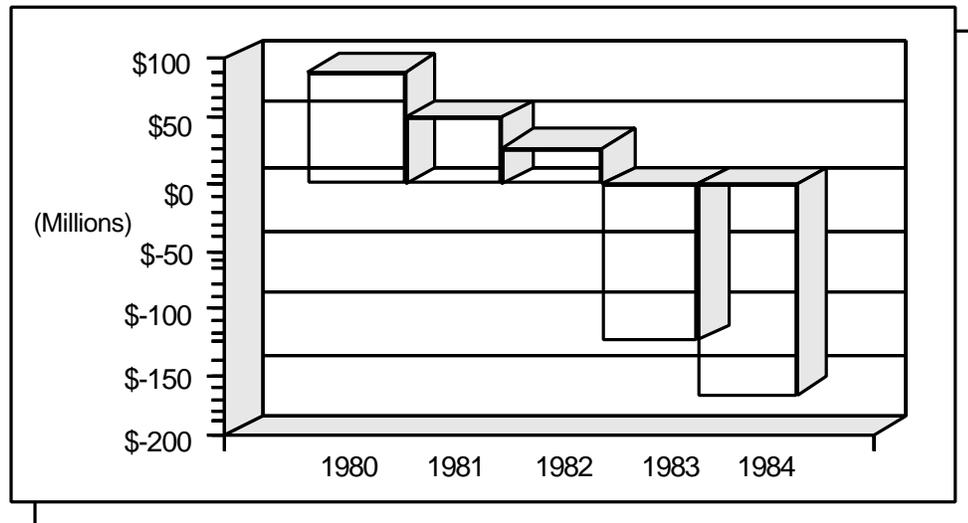
acquired the firm in 1988. The acquisition entailed the assumption of some 3 billion dollars in debt by the new owners. With recession in the early 1990s, the company faced severe financial pressure to service its existing debt load. Because of the highly leveraged nature of the acquisition, much of this debt carried fixed interest rates of 12 to 14 percent, and the terms of these bond issues prohibited debt refinancing. Kampouris focused on the financial crisis and identified the need to improve cash flow by reducing working capital requirements as the central target for operating performance gains. He assigned Gary Biddle, Corporate VP of MIS, to do a global search for methodologies to improve American Standard's working capital and cash flow performance. After a thorough search, a methodology was identified that offered significant benefits to American Standard. Mr. Kampouris and several of his senior officers attended a one week seminar to learn the methods, and came away convinced that they had discovered a solution to the company's immediate operating crisis.

Kampouris then announced a formal program called TNT, for Twice the Turns Now, designed to dramatically reduce working capital ratios. This program involved training over thirty thousand employees in new management techniques. In addition, the firm engaged a team of Japanese process planning engineers to implement on-demand production techniques in American Standard facilities. This involved a shift from a traditional "push" model, involving forecast-based production scheduling and inventory management, to a "pull" model that called for production only in response to specific customer orders. The new model fully incorporated many of the Kanban and just in time (JIT) techniques used widely in Japan. While these new techniques were being introduced in American Standard production facilities, Kampouris and his management team were actively promoting the program through speeches, communications and personal intervention in the organization.

In this instance, the CEO not only launched a strategy initiative designed to respond to an emerging financial crisis, but was actively involved in the planning, design and implementation of a highly technical reengineering program that transformed the company's manufacturing and financial profile. This high level of personal involvement, and extraordinary focus on a single program initiative, allowed the company to implement this program quickly, relative to the experiences of other large industrial concerns. The TNT program did successfully double inventory turns for the enterprise over a period of 3 years, and turns almost doubled again in the 4th year of the program. The program's momentum is such that it now appears to hold the potential to cut working capital by as much as 90%.

At Levi's Strauss, the CEO's role was quite different than the hands-on approach in American Standard. Levi's Strauss suffered a series of unprecedented financial losses in the early 1980s. The company had been profitable for a century before experiencing significant losses in 1983 and 1984

Levi Strauss & Co.'s Plummeting Profitability



The crisis at Levi's did result in a strategy initiative, but one that was developed in a very different manner than at American Standard. The principal response to this crisis was the formation of a senior management strategy group by the chief executive officer. The group's mandate was to address the causes of the operating and financial crises, with a clean slate for reviewing different program alternatives. This group, The First Information Resources Strategy Team (FIRST), consisted of twelve senior executives who focused on potential applications of information technology in the business. One of the options identified by this group was the use of bar coding technology. A junior executive was assigned responsibility for exploring potential applications of this technology in the apparel sector. This individual, Paul Benchener, was given a limited budget and staff, but was allowed to explore potential applications of this technology with few if any constraints.

At the time, bar coding was in its infancy in the retail sector and industry standards had not yet been established. Paul was one of the initial participants in a retail industry

consortium to define technology standards for bar coding. He then led an internal effort to attach bar codes to Levi's apparel. This program did not involve any substantial change in Levi's manufacturing or distribution operations. Tags were simply added to garments prior to shipment out of Levi's distribution centers. The use of bar codes permitted retailers with point of sale scanners to realize a series of benefits. Bar coding increased the efficiency and flexibility of garment pricing. It allowed apparel to move directly to the retail shop floor without the delays of adding price tags. Data capture at the point of sale supports more efficient inventory management. Paul's group began to develop a series of services to retailers. The services were largely developed on an autonomous basis. The model stock management program designed to predict sales levels and stocking requirements for retailers was written by a salesman's teenage son on a home computer, for example.

Over time these services grew into a package called Levi-Link, a set of enhanced services available to Levi's retailers, including:

- Electronic Purchase Orders
- Electronic Invoices
- Electronic Funds Transfer
- Vendor Marking
- Advance Shipping Notice
- Model Stock Management
- Sales Analysis and Reporting

Due to the decentralized nature of the program, it took much longer to reach critical scale than might have been the case if it had been driven directly by the chief executive officer. However, over time Levi-Link has moved into the mainstream of the transformation path at Levi's. Where the Levi-Link program initially had no impact on core operations, Levi's now faces considerable pressure from its customers to further build on these capabilities. Customer pressure is resulting in a broader reengineering of production and distribution at Levi's. In 1990, Levi's launched its Customer Service Supply Chain (CSSC) program to align internal operations with retailer needs and expectations. In turn, a new infrastructure plan called LABS (Levi's Advanced Business Systems) is being developed in conjunction with the CSSC program to create a platform for transformation of the business.

The LABS program represents the third phase of transformation at Levi's. This infrastructure design and deployment effort is being led by Bill Eaton, Levi's Chief Information Officer. The LABS infrastructure program is intimately linked to a series of formal process reengineering projects being guided by a senior management team.

The Levi's example shows a very different approach to transformation. It was triggered by a senior executive officer call to action, but the strategy initiative was left undefined by the CEO. The organization's response to the strategy initiative included a series of programs, and only after some years has the initiative involved into a focused transformation program.

Results to date at Levi's have been impressive. Retailers utilizing the Levi-Link system report a return on sales more than 50 percent greater than those retailers who continue to do business in the traditional manner. With Levi-Link, retailers are able to restock in as little as 6 days compared to a traditional cycle of 6 weeks. In 1993 the Levi-Link system was installed in retailers accounting for about one third of total sales. The Levi-Link model has moved into the mainstream of Levi's business, and is now pushing in from the outside; from customers to the core of Levi's operations and organization.

The typical enterprise will fall somewhere in-between these two extremes. It is rare for a CEO to be as involved in the specifics of operational planning and implementation as Emmanuel Kampouris of American Standard. In contrast the management style and culture of Levi's permits an extraordinary level of autonomy and empowerment in establishing the strategic direction of the enterprise. Such a decentralized model may require a longer time to achieve critical mass behind a focused program, but it is likely to provide exposure to a broader range of ideas and alternatives in the early phases of transformation.

Creating a Crisis

Of the firms we've studied, a significant number exhibited extremely strong CEO leadership early in the transformation cycle. At Automated Data Processing's Automotive Claims Services Division, new CEO John Gaulding took advantage of negative trends in the marketplace to create a crisis environment. The Automotive Claims Services Group provides information services to support automobile insurance claims processing. The division has a dominant position in its industry and an extraordinary record of financial

success. Like the division, the parent corporation enjoys a sterling record of business performance. It has reported double digit quarterly earnings increases for over 36 consecutive years. Its record of financial success is unmatched and enviable. With such a track record, efforts to dismantle an existing business model seem unlikely to succeed. Yet that is exactly what has occurred in ADP's automated claims processing division.

Gaulding emphasized negative trends in the marketplace that were leading to declining auto insurance claims. He projected a 25% decline in the total number of automobile claims over a five year period. Clear trends in several areas supported this projection. Fewer accidents, higher deductibles and more uninsured motorists all contributed to the decline. He then emphasized the impact of new competitors in the business. In a single week, two significant ADP customers shifted their business to these competitors. Gaulding seized the opportunity to declare an official crisis. He launched a series of electronic town hall meetings to communicate the scope of the problem to his organization and to solicit input regarding responses to these concerns. At the same time he assigned two key executives to reengineer claims processing operations. ADP's Senior V.P. of Marketing assumed the responsibility of chief operating officer to oversee design and implementation of a new claims processing service. Gaulding and the divisions Chief Technology Executive also initiated a complete overhaul of information systems infrastructure at ADP during this time period as well. The overhaul of ADP's infrastructure and business processes occurred within only a 24 month period.

Gaulding not only identified and escalated an emerging crisis; he provided a vision for how the division could respond to new market realities. His vision emphasizes a new model for claims processing, utilizing information and communication technologies to revolutionize the process. ADP's new Audatex service is dramatically improving the efficiency and quality of auto claims processing. The company has established an extraordinary data base that contains detailed, multi-layered engineering diagrams for over thirteen hundred models of car by year . This system includes artificial intelligence to calculate repair requirements based on the surface image of the damage. It also includes data on over three and half million auto parts, and standard labor times for every repair job on every vehicle. This system also provides on-line linkages to twelve hundred auto parts distributors and eleven hundred junk yards to facilitate parts location and delivery at the lowest cost to the appropriate auto repair shop.

ADP is at the forefront of development and utilization of pen-based portable computers. These portable computers provide wireless access to the central data base so that adjusters in the field can access necessary information to facilitate claims processing. This service eliminates the need for a central estimation unit as all the appropriate information and support services are delivered instantly to the field.

With this new system ADP is expanding in several directions. Its Parts Exchange service facilitates the location and delivery of lowest cost parts to auto repair shops. It is providing data on specific models to auto insurers so they can adjust their pricing to reflect the different repair costs of specific vehicles. And it is moving into a central role in overseeing auto repair shop activity. Based on the detailed information available from the millions of auto claims ADP processes each year, it will be able to monitor auto repair shop efficiency and quality so effectively that the claims adjuster role can be eliminated. In this vision, the vehicle will be delivered directly to the repair shop. The repair shop itself will access the Audatex system to calculate repair cost and locate parts. ADP will monitor labor charges to ensure that costs are within prescribed ranges. It will monitor parts usage to ensure that lowest cost parts are secured, and it will monitor quality as well based on re-work, customer complaints and other inputs. Through this system, ADP will be able to manage an auto repair network in exactly the same way that the Clinton administration is seeking to manage health care.

ADP's transformation program has opened up a series of new growth vistas. Key aspects of the CEO's role in this case were identification of a pending crisis; the creation and communication of a positive vision; engaging key executives in specific roles and responsibilities; initiating upgrading of infrastructure and ensuring these strategic initiatives receive the resources and support for effective implementation. These tasks are central to the CEO's role in successful transformation programs.

Customer Focus

Progressive Insurance is a highly profitable automobile insurance company that has thrived in an otherwise dismal business. The automobile insurance industry as a whole has lost money in each of the last 13 years. Yet, Progressive has reported an average return on equity of approximately 25% during that time period. In the late 1980's, two key events caused CEO Peter Lewis to take drastic action. AllState Insurance, a unit of Sears, launched a new insurance unit to imitate Progressive's strategy in auto insurance niche

markets. That unit has grown rapidly since its formation. Second, the passage of Proposition 103 in California, which mandates 20% rate rollbacks for auto insurance companies, not only created a financial crisis but signaled a consumer revolt against auto insurance companies. Peter Lewis concluded that customers felt that auto insurance companies were not providing adequate service and value for their premiums. He resolved to address customer dissatisfaction by focusing on improving customer service through innovative operating initiatives.

The focal point for these operating improvements was claims settlement. Lewis believed that claims settlement was too lengthy and adversarial, and set about to address both issues. Progressive created a new claims settlement system called PACMAN, Progressive Automated Claims Management, to automate and expedite the claims settlement process. Progressive created an 800 number that can be accessed 24 hours every day to insure that customers could initiate claims at any time. In addition, all claims processing personnel were sent through a one week empathy training course to shift their orientation towards a customer service perspective. This program resulted in significant operating improvements, reducing the claims settlement cycle time to an average of 6 days, versus an industry average of more than 40. Customer satisfaction measures also increased dramatically.

Progressive is now moving on to a second stage in its customer service improvement effort. A new service called the Immediate Response Service was launched in 1992. This service allows customers to call from the scene of the accident or other preferred location, and a mobile van will proceed to the scene, where claims estimation can be accomplished by a remote communication links to a central estimation unit. Checks are prepared in the van and offered to the customer within as little as an hour of the accident itself. The agent's task, however, is not to give the customer a check and wish them good luck. The agent offers to assist in expediting the repair and return of the vehicle. The agent will arrange to have the car towed to a repair shop in the Progressive network. These shops must commit to perform repairs for standard estimates, and to meet quality and cycle time standards. As a result, auto repair costs can be reduced by 25% or more; fraud is virtually eliminated; transaction costs associated with communication between the repair shop and the insurance company are minimized because of EDI links and common information systems; litigation costs drop sharply; and customer satisfaction rises.

The CEO's personal involvement in this program had a great deal to do with its success. Nonetheless, Lewis also played the role of architect in designing a formal management structure at Progressive to oversee reengineering of claims settlement and five other core processes. A senior executive was made responsible for each of these core processes. The Chief Operating Officer and the Chief Information Officer also played critical roles in implementing the claims settlement program and the broader program of reengineering and transformation. In this sense the CEO played not only the role of champion for a specific program, but also the role of architect in developing a framework to implement reengineering and transformation activity.

Such CEO leadership was central to a second successful transformation effort in the automobile insurance industry. At Progressive Insurance, CEO Peter Lewis personally drove his vision of customer delight through to implementation.

Phase Two: Operations Improvement and Innovation

Strong CEO's often heavily involve themselves in the design and implementation of operating improvements and innovative programs. Ideally, however, a second key executive can assume primary leadership for such activities. These responsibilities are best managed by a strong chief operating officer. However, in many enterprises, this position no longer exists, and a surrogate COO must be drawn from very senior management. Without strong CEO/COO leadership, many enterprises exhibit highly fragmented, diverse, uncoordinated, redundant and even self-destructive divisional initiatives in this stage.

At Caterpillar, operating improvement was pursued in a single large scale program that encompassed all manufacturing and logistics functions. Caterpillar's "Plant with a Future" (PWAF) program involved nothing less than the complete redesign of its manufacturing activities. Responsibility for the overall program, initiated in response to recession and severe pressure from foreign competition, was given to Pierre Guerindon, Executive Vice President. As process owner for this manufacturing revitalization program, Guerindon and his team of executives redesigned manufacturing operations from the ground up, incorporating new technologies, methods and infrastructure in the Plant With A Future program.

Guerindon, with CEO George Shaefer's support, assembled a team of sixteen program managers with backgrounds in each functional area. The group was sequestered with a mandate to formulate the PWAF vision. The group searched the globe to identify and document best practices. It produced a document referred to as Factory 2000 that outlined best manufacturing practices world-wide. These best practices serve as the foundation for Caterpillar's own efforts.

At a manufacturing manager's meeting in 1985, the PWAF plan was introduced to factory managers. Each manager was given a mandate to develop a plan for implementing PWAF in their facilities. Plant funding was tied directly to PWAF plans. The PWAF framework identified 77 specific production/assembly processes and allowed plant managers flexibility not only in selecting processes for reengineering but in methodologies and technologies as well. The sixteen program managers worked as internal consultants to assist in reengineering efforts, but external consultants could also be used. Guerindon personally reviewed and approved all PWAF projects.

Management at Caterpillar followed what might be considered classical roles in managing reengineering and transformation programs. The CEO created a compelling case for the program, identifying critical external drivers, made the case for significant operating and organization change, assigned responsibility and provided support to program leaders. The design and implementation of the program fell almost exclusively to operating executives led by Pierre Guerindon, who plays the role of Chief Operating Officer in this exercise. Implementation of reengineering efforts take place at the factory level within PWAF guidelines.

The creation of a structured program is important in this stage. If the CEO simply notes the external crisis and issues a call for action, a variety of responses and programs can be expected in the organization. While it is valuable to consider a wide range of potential paths in planning forums, it is far more difficult to manage a wide array of unique operating initiatives created in response to a broad call for action. Indeed, it appears that unstructured empowerment is a liability in phases two and three of the transformation process. Effective transformation programs create structures to prioritize process reengineering activity, focus scarce resources and attention to high priority initiatives, and create guidelines for infrastructure deployment.

The problem with unstructured empowerment can be seen in the example of a large health insurance company that operates in a highly decentralized manner. This insurance company had over 120 operating initiatives that required new information systems in 1992. Each unit within the enterprise was involved in reengineering various aspects of its operations to produce performance gains in response to a challenge from the chief executive officer. This enterprise had found via benchmarking that its overhead costs per policy were three times higher than one of its competitors, and the CEO had called for actions to reduce overhead costs. A series of divisional initiatives were launched to reduce sales, general and administrative expenses. How many such reengineering initiatives would be needed to achieve the levels of efficiency already being reported by its competitor? The answer is deceptively simple. It will take one reengineering program to achieve this goal. The greater the number of discreet reengineering initiatives this firm pursues, the less likely it will be able to achieve the higher levels of performance already reported by its competitor.

USAA has established new standards of operating performance in the insurance industry by reengineering its customer service function. USAA is a full line insurance company, offering automobile health, life, property and other insurance services to its customers. It is able to offer a full line of services with much lower overhead costs than its competitors. In the 1980's, USAA reengineered its customer service functions with a striking goal in mind. The challenge in the vision behind the reengineering effort called for the completion of all customer requests and transactions in the first point of contact. That is, the first person the customer spoke to would be able to answer all questions, address all problems and complete all transactions in the course of an initial conversation. USAA re-engineered its infrastructure and operating system so that customer service representatives could have access to all the resources, systems, processes, information and systems of each of the operating units. This enterprise-wide infrastructure, supported by training and development efforts, allowed USAA to complete over 90% of all requests and transactions in the first point of contact with its customers in 1992.¹ The common systems platform established at USAA could not have been created in a decentralized mode. It required a central vision and implementation.

¹ Teal, Thomas, "Service Comes First", Harvard Business Review, September-October 1991, pp 117-128.

The more discreet reengineering initiatives a firm pursues, the less likely they will be able to achieve the standards of performance implicit in the USAA model. Many of the 120 plus projects being pursued at the insurance firm mentioned above involved incompatible databases, communication networks, software, hardware and other infrastructure elements. Over 3600 mainframe databases were already in existence inside this organization, many of them redundant. Senior executive in this enterprise could choose from as many as a dozen different databases to secure an answer to a question about operating performance. The range of responses to such questions would provide ample latitude for misinterpretation of reality.

Examples like this point out the dangers of unstructured empowerment in the early stages of the transformation process. Empowerment can be selective and structured to reduce this problem. Its important to note that in Japanese enterprises, the most effective practitioners of continuous improvement methods, empowerment is highly structured. Most continuous improvement programs in Japan operate under the framework of a Hoshin planning focus that identifies two or three central programs and objectives. The small groups that drive continuous improvement models are managed and coordinated by a management structure that establishes focused guidelines for operations improvement activity.² Continuous improvement, Japanese style, is highly structured and focused. Similar empowerment can be applied within a process reengineering effort, where teams of executives and employees can work to redesign processes within a framework that incorporates priorities, cross-functional linkages, and common infrastructure guidelines. Process improvement and innovation thus occurs within a larger framework governing the broader transformation effort. Failure to provide this type of structure will lead to a large number of disjointed, uncoordinated operating initiatives that will never be able to achieve quantum performance gains.

Process Ownership

Another common failing in phase two of the transformation phase is the absence of effective process ownership. The CEO strategy initiative must be followed by the assignment of responsibility for process reengineering and implementation activities.

² Davidson, W. H., "Small Group Activity at Musashi Semiconductor Works", Sloan Management Review, Spring 1982, Volume 23, Number 3, pp 3-14.

Caterpillar assigned a very senior executive to this task on a full-time basis. It also tied capital allocation to the PWAF program. Without credible process ownership, implementation of critical cross-functional improvement programs is unlikely to be successful. In many enterprises, process management is assigned to an ad hoc committee of executives from throughout the company. In most cases these executives are assigned to the team on an incremental basis, with no individual accountability for the outcome of the effort. Such teams can be effective in redesigning processes, but implementation of cross-functional processes requires more substantial commitment and executive authority.

Process reengineering appears to be most effective when a single senior executive is responsible for a specific process from redesign to implementation. At Progressive Insurance, six core processes were identified and a member of the senior executive team was assigned responsibility for each process. That executive's evaluation and compensation package was tied explicitly to the success of a process reengineering initiative. In most cases the strong commitment of a senior executive will be necessary to overcome the natural resistance to enterprise-wide reengineering efforts. Successful process innovation always involves cross-functional and often cross-divisional implementation. The natural resistance to such efforts can only be overcome through the dedicated efforts of senior executives, with the active support of the CEO. Cooperation can also be insured if senior functional divisional managers are co-dependent - needing each others assistance to implement their own process initiatives. Co-dependence supports horse trading between senior executives, in that cooperation insures mutual success in process reengineering efforts. This framework will work best if the CEO actively reinforces the importance of the process reengineering initiatives.

In one large enterprise , a new CEO was having difficulty implementing a series of enterprise-wide reengineering initiatives, despite a profitability and competitiveness crisis in the business. The lack of progress was not due to middle management resistance, but to the inability of senior functional and divisional managers to work together in a highly competitive internal culture. Senior managers viewed each other as rivals and were unwilling to support each others' initiatives. They competed actively for resources, and frequently attempted to sabotage or discount their peers' programs. Team building exercises proved to have little impact on this organization's climate. Progress only occurred after the CEO terminated the senior executive bonus plan and replaced it with a program that promised to pay a year and half's salary to each senior executive if the

organization met a series of objectives in year three of its transformation program. These objectives were tied explicitly to process reengineering initiatives underway in the enterprise. These initiatives required cross-functional coordination to be successful. The new bonus plan held a provision that not a single executive would receive a penny if one of the targets was missed by one percent. This new bonus plan, along with extensive interpersonal guidance from the CEO, appears to have had the desired effect on the organization, and considerable progress has been made in implementing new processes.

The Chief Executive Officer and/or process owners become the key leaders in phase two of the transformation process, but the CEO's role remains important in this stage. The CEO must reinforce the importance of the transformation program, assure that resources are committed according to established priority, support the leaders of the reengineering efforts in their search for cooperation, and provide resources necessary to fund those efforts.

Managing Change

A fundamental tension exists in all enterprises during this stage. All organizations exhibit a tension between running and changing the business. Every enterprise has its own set of operating initiatives that are designed to meet short-term business concerns. Unless these short-term operating initiatives are aligned with the larger reengineering effort, conflict is inevitable. We have found such alignment to be rare. Reengineering programs will always compete and conflict with autonomous operating initiatives. Such operating initiatives are almost always established through some sort of bottoms-up effort that culminates in a contentious resource allocation exercise. Functional and divisional executives make tremendous personal, political investments in these operating initiatives. There will always be competition for resources that support operating initiatives, and business reengineering efforts will be seen as a rival for those resources; a rival that will in many cases attempt to supersede the short term operating efforts of unit managers. This of course applies not only to capital resources. Imagine a situation where a unit has been asked to participate in a cross-functional process initiative that requires the involvement of key unit personnel. Those personnel, especially scarce software, communications and systems staff, will also be needed on immediate operating projects. Which set of projects will take priority, and who will establish those priorities? It is very easy for operating managers to shift resources away from longer term corporate programs to immediate, local efforts.

In one enterprise undergoing a complete overhaul of its operating infrastructure as a result of a CEO strategy initiative, several dozen key software and communications personnel were pulled off of the new infrastructure program by divisional executives. They were assigned to work on upgrades to existing operating systems that were to be replaced within six months by the new infrastructure! It is imperative at this stage in the cycle to kill or integrate such upgrades and other short term operating programs that will drain resources away from broader transformation programs. Most short term operating programs promise incremental improvements that will never be able to deliver breakthrough performance gains. Yet organization and business realities will tend in almost all cases to draw resources away from transformation efforts to short term operating activities. Only with a strong governance framework can the organization ensure that resources are allocated to transformation efforts. A strong Chief Operating Officer, and an effective process ownership framework, with the active support of the CEO, are the primary vehicles for ensuring focused resource utilization.

These pressures are not easy to manage even with the active participation of the CEO. A financial services company with an aggressive transformation program recently encountered some of these pressures. The CEO called a meeting of its senior executive team to achieve consensus on priorities for the enterprise. After struggling to gain consensus about the importance of the transformation program, one senior executive asked, "if we all agree that this is the most important program underway in the company, is it more important than running the business?" The consensus seemed to be that running the business was in fact more important than implementing this transformation program. Finally one divisional executive spoke up and said, "Does this mean I may not get my new divisional accounting system this year? Because if does I'm going to do everything in my power to kill that transformation program". The CEO's response to this discussion was, "You can continue to pursue your discreet divisional initiatives, but only after you've met your commitment to these high priority programs." In the end it will be necessary in almost all cases to kill or integrate existing operating projects in order to ensure successful implementation of new processes and infrastructure.

Careful design of the reengineering effort can successfully incorporate many existing operating initiatives, or at least address the concerns and objectives of those initiatives. In many cases however, projects will need to be terminated in order to free up resources and achieve focus behind the transformation program. Failure to transcend the

tyranny of short term business and operational considerations will stall or kill transformation. The Chief Operating Officer or surrogate plays a key role in that regard.

Phase Three - Infrastructure Design and Deployment

Significant operating improvements can be achieved without the use of new technologies and operating infrastructure, but radical gains in operating performance will require investments in advanced infrastructure. The distinction posed by Tom Davenport between process improvement and process innovation is relevant here.³ Process improvement may involve simplification of existing processes to remove non-value added steps and reduce cycle times without utilizing new technologies and infrastructures. Such process improvement activity may realize significant returns with minimal investment, but the potential gains with such efforts are limited. Breakthroughs require new technologies and infrastructures. At Progressive Insurance, the distinction is clear. Progressive's first efforts to improve claims settlement involved establishment of an 800 number and retraining of employees to create a customer-service oriented culture. These steps involved little new technology or infrastructure. It was only with the development of the PACMAN system and mobile communications that the Immediate Response System became a reality.

Process innovation requires new infrastructure. The implementation of new processes can not occur until the infrastructure and support systems are deployed. However it is important that the enterprise goes through the process analysis and redesign effort prior to deployment of new infrastructure. Without the linkage between process reengineering and infrastructure design, investments in new technology and infrastructure are unlikely to realize positive returns. It has been noted by a number of authors that investments in information technology have not yielded the kinds of returns anticipated.⁴ In many enterprises this pattern can be directly linked to the absence of a bridge between process redesign and infrastructure deployment activities.

³ Davenport, Thomas, Process Innovation, Boston: Harvard Business School Press, 1992.

⁴ Morrison, C. J., and E. R. Berndt, "Assessing the Productivity of Information Technology Equipment in U.S. Manufacturing", Cambridge, Mass: National Bureau of Economic Research, Working page number 3580, 1991.

Roach, S. S., "America's Technologies Dilemma", New York: Morgan Stanley Special Economic Study, April 23, 1987.

One of the most hazardous patterns observed in the transformation journey occurs when the strategy initiative precedes from the chief executive to the chief information officer without active grounding in the operating units of the organization.⁵ The chief information officer is told to create a next generation infrastructure, without adequate regard for operating realities and requirements. While success stories are possible in this pattern, there are many examples of enterprises that have invested hundreds of millions of dollars in such programs only to see a minimal return if any on its investment.

In 1989 one of the Regional Bell Operating Companies launched a program to completely overhaul its infrastructure. The chief information officer was given a mandate to redesign the company's information systems from scratch to support improved operations. The enterprise invested many millions of dollars in developing new, integrated order entry, provisioning, billing and other systems. The design of the new systems architecture was sophisticated, but the effort failed in implementation. The new systems were rejected by operating units who resisted the operating changes enabled by new infrastructure. Infrastructure improvements are most likely to be successful when they are demanded by operating units to support new processes designed by the operating units themselves. Attempts to force feed new infrastructure (and processes) via CIO-led initiatives face severe risks of failure.

At the other extreme, even more spectacular failure may occur if the CIO does not play a central role in designing and integrating infrastructure for enterprise transformation. In the 1980's, Manufacturer's Hanover Trust Bank decentralized its information management function to four major groups, eliminating the central MIS unit.⁶ Each of the four groups aggressively pursued programs to develop new applications and services for their customers. The results were impressive. In the first year following decentralization, dozens of new applications were introduced. Soon, however, the impact of autonomy on the enterprises architecture became apparent. Each of the four groups adopted a different mainframe platform, with unique hardware and software portfolios. The enterprise utilized 27 different communication protocols and a wide variety of application software packages.

⁵ Henderson, J. and N. Venkatraman, "Strategic Alignment", IBM Systems Journal, Vol. 32 No. 1, 1993, pp 4-15.

⁶ MHT Worldwide Network, Harvard Business School Case Study Number 9-185-018

While autonomy did enable a significant increase in development of new applications, fragmentation of the information infrastructure caused severe problems for branches and customers. A typical retail branch would offer services from three of the four groups at Manufacturers Hanover Trust . In order for the branch to access those services it had to operate as many as three different hardware and software platforms, requiring redundant investment and additional personnel at the branch level. The increased costs were less significant than the customer service problems that arose for large customers purchasing services from multiple groups within the bank. MHT's customers soon found it very difficult to access services in a seamless manner. In addition, Manufacturer's Hanover found it impossible to coordinate across groups in providing portfolios of service to large customers. It also had no central depository of information about customers to assist it in providing customer service. The operating problems associated with fragmentation of information resources at MHT were one of the factors that contributed to its acquisition by Chemical Bank in 1992.

In contrast two Canadian financial institutions exhibit the power of focused infrastructure development. Canada Trust is one of the fastest growing and most profitable financial institutions in Canada. It grew from the 33rd largest financial institution in Canada to the 3rd largest in the 1980's. Its operating infrastructure exhibits a level of integration unmatched in the industry. One of Canada Trust's product offerings is the Commander account. This account allows customers to select from over 100 different services offered by Canada Trust, including savings and checking accounts, credit cards, brokerage services, insurance, accounting, tax management services, currency trading, futures, options and other financial services. Commander allows a customer to select the services they desire, and to configure individual services to their own specifications. The Commander system automates the provisioning of this portfolio of services and provides a single reporting method selected by the customer. Commander is in effect a common order entry and provisioning system that allows customers to access all of the enterprise's services in a seamless manner.

The Royal Bank of Canada possesses perhaps the most sophisticated technology infrastructure of any financial institution in the world. Its virtual corporate network (VCN) infrastructure allows any of its hundreds of retail branches to access all corporate information resources and systems instantly. Customers can access these services through dial up linkages as well. The network is used to download upgrades of all systems software to insure that the entire retail network is utilizing standardized, state of the art

systems. In the 1980's the Royal Bank invested over 30 million dollars in the development of its single reference file (SRF), a centralized customer data repository. This central data base contains all information on approximately 8 million customers. The Bank's marketing executives are able to access comprehensive customer information instantly to support target marketing for new service offerings. In the course of its SRF efforts, the Royal Bank learned that its average customer purchases three and a fraction financial services from the Bank and seventeen financial services from all vendors. It shifted its marketing focus from the acquisition of new customers to increasing the number of services provided to its existing customer base. This reorientation of marketing effort has been supported by the SRF system, in conjunction with other data resources that permit target marketing efforts to expand service offerings to existing customers.

In contrast to Manufacturers Hanover Trust, customer service levels in these institutions are seamless. This type of seamless service can only be provided if it is supported by a highly integrated infrastructure with common systems and architecture. Such infrastructure can only appear if the chief information officer plays a powerful and central role in designing the enterprise's infrastructure to support innovative operating practices.

The CIO's role is to provide the architecture that will support enterprise-wide operating improvement and innovation. But unless that architecture is closely tied to process reengineering and operating improvement initiatives it may never provide appropriate returns. At Levi Strauss, the Levi's Advanced Business Systems initiative led by Bill Eaton, Levi's CIO, appeared as a formal effort only after the Levi-Link initiative had become a central focus of operating innovation. LABS itself was not launched until after a formal process reengineering effort was initiated involving senior operating managers and the CIO in discussions to identify, analyze and redesign the eight core processes at Levi's. Following redesign of these processes, the LABS program could then be architected to provide maximum support for implementation of process innovations. Eaton himself played a key role in the process reengineering stage, greatly facilitating the job of infrastructure design and deployment because of strong linkages to the process reengineering effort.

A similar pattern is playing out at Investors Diversified Service, IDS, in Minneapolis, Minnesota. IDS is a highly successful financial services enterprise that is experiencing rapid growth in its core business. In the early 1990's IDS launched a project

to dramatically upgrade its field agents ability to access corporate information resources and operating systems. This project, called IDS 94, was designed to give its financial planners on-line access to order entry systems, service offerings and other corporate resources. The project was designed to provide better sales support and superior provisioning and customer service in the field. At the time of its initiation, IDS 94 was seen by many members of the organization as just one of many operating initiatives. The architects of the IDS 94 plan, including CEO Jeff Stiefler, viewed this as the first step in a broader program. As the IDS 94 plan coalesced and as pilot projects were initiated, IDS launched a major effort to review its information infrastructure. The resulting Strategic Technology Plan (STP) reviewed IDS's information infrastructure and created a plan for overhauling its entire technology base to support IDS 94 and related reengineering programs.

The STP resulted in an overall architecture that incorporates IDS 94 and other process reengineering initiatives in a common architecture. The CIO of the enterprise, Roger Edgar, focused his efforts on insuring that the Strategic Technology Plan, a long-term infrastructure vision for IDS, was closely linked to IDS 94 and other immediate operating initiatives. His goal was to bring the STP down from the world of visionary architecture planning to a series of immediate projects necessary to support implementation of current initiatives. Such 'projectizing" of the broad infrastructure plan supported immediate implementation of the first stages of the new infrastructure. The successful incorporation of short term initiatives into the long term infrastructure plan helps to ensure the emergence of a common, seamless infrastructure for the enterprise.

The infrastructure design and deployment stage is the most troublesome stage of the transformation cycle for many enterprises. This stage requires the first substantial commitment of resources. Many millions of dollars must be committed to upgrading and replacement of existing systems and facilities. Perhaps more importantly the infrastructure deployment stage requires extremely disciplined implementation. Autonomy or decentralized design and deployment of infrastructure will not work against the cross-functional and cross-divisional systems needed to promote transformation. In organizations with long history of autonomy, it may be difficult or impossible to achieve this level of discipline in the design and deployment of infrastructure.

These issues were central at Johnson and Johnson in their response to the American Hospital Supply's electronic distribution initiative. Johnson and Johnson had a long history

of divisional autonomy, with more than fifty independent business units pursuing their own strategies in the extended healthcare field. Each unit had its own sales force, customer service organization and operating systems. When American Hospital Supply introduced its electronic procurement and distribution system, it offered a single point of contact with the customer that allowed highly efficient procurement from a single vendor. Johnson and Johnson's corporate culture strongly resisted the deployment of a similar order entry system, citing the long history of success associated with its autonomous divisions. At Johnson and Johnson, resistance to the development of such a system required strong action by CEO James Burke, including the termination of a division head. He personally intervened to insure that divisional managers complied with the corporate initiative to create a common order entry system.

In other enterprises, divisional autonomy may successfully resist efforts to create common infrastructure. And as mentioned earlier, ongoing tensions between current operating requirements and longer term infrastructure programs can also be crippling. These and other reasons make the CIO's job one of the most difficult in corporate America. CIO mortality is higher than for any other senior corporate position. Many enterprises exhibit turnover in this job every two years or so. This job is particularly difficult if the CIO has been given a mandate from the CEO to create a modern operating infrastructure, without the active involvement of operating executives in the design and utilization of this infrastructure. Without proper grounding of the infrastructure in operating improvement and innovation initiatives; substantial resource commitment including key personnel; and active, aggressive support from the CEO in the trench warfare of the typical enterprise, it is difficult to successfully complete this stage of the transformation process.

Phase Four: Business Enhancement

Deployment of the new infrastructure permits the implementation of new processes that will yield radical performance gains. At the same time the new infrastructure provides resources that can be utilized in a variety of other initiatives. Creation of a central data base, for example, can support a series of new marketing and customer service initiatives. Common systems yield revenue by supporting joint or cross marketing among divisions. In many corporations the opportunity to bundle products and services, to share distribution channels and to cross-market offers significant revenue enhancement potential.

In order to realize some of these potential gains, cross training is an important issue at this stage in the transformation cycle. At IDS, new infrastructure permitted customer service operations for independent divisions to be consolidated in single offices. Prior to the new program, each major division within IDS had its own customer service unit. Mutual funds, life insurance, and other units all processed customer requests and transactions independently. With the new infrastructure, a single customer service representative could process any or all of these transactions. Cross training of personnel was impossible prior to the implementation of new infrastructure because of the extreme complexity and incompatibility of existing systems. With new infrastructure utilizing common modules, utilities, languages and software, cross-training of personnel could be accomplished quickly and efficiently, supporting dramatic gains in operating efficiency and customer service.

Even greater gains can be realized if the new infrastructure provides a series of application development tools and utilities to operating units. This type of opportunity is the focus of a new infrastructure being deployed at TRW Information Systems and Services. TRW ISS is one of the largest information services providers in the consumer credit field. It possesses the largest commercial data base in the world with consumer credit histories for over 150 million Americans. This data base can now be accessed online by large customers, but the information infrastructure is approximately 20 years old with a patchwork of disjointed operating systems. In 1992, the new CEO, Van Skilling, launched a program to simultaneously improve existing operations and to build a new infrastructure for new business development. The Copernicus program is designed to completely replace the business unit existing infrastructure; to facilitate widespread access to the data base; to permit sharing of resources across the three business units in the group; to allow IS&S data to be readily combined with other data resources; and to permit customized utilization of data resources. Copernicus will facilitate sharing of information between TRW's consumer credit business unit and its business credit unit, for example. This permits the files for a business owner to be merged with those for a small business itself, opening up opportunities for more sophisticated credit analysis and target marketing activity.

The Copernicus infrastructure is also designed to allow integration of TRW's data bases with data from other sources both inside and outside the enterprise. This capability will permit the introduction of a series of new service offerings that will generate incremental revenue for the enterprise. At the same time that the Copernicus infrastructure

simplifies access to data resources, it provides a series of enabling tools to support development of services and applications. It contains a series of utilities such as a "merge/purge" tool that compares entries in data bases to eliminate redundant entries and duplication of mailings, for example. These and other utilities will be used by applications developers both inside and outside the enterprise to facilitate the introduction of new services and marketing initiatives. The infrastructure contains an application module library so that generic elements can be extracted and incorporated into new applications, speeding the development and introduction of new services. This enabling infrastructure provides a platform for business enhancement and expansion.

In order for such an infrastructure to be effective, substantial investment in training is essential. At TRW, training was provided through extensive joint training sessions between the information systems unit that was developing the infrastructure and the operating personnel that would use them. The transition from infrastructure design and deployment and operating utilization was also facilitated by senior personnel assignments. The Copernicus effort was headed by Ann Delligatta, whose previous assignment had been in marketing. Her operating experience helped to ensure that the Copernicus system was practical and accessible for marketing applications. The head of Information Systems at this time was Dennis Benner, whose previous jobs had included Business Development and line experience. Following the successful launch of Copernicus, he assumed responsibility for new business development. Extensive training and effective personal moves of this sort will help to ensure success in the next stage of transformation at TRW.

Financial Justification

Financial justification is often a significant barrier to successful transformation. The creation of the initial enabling infrastructure is often difficult to justify in terms of immediate financial returns. If the infrastructure deployment can be linked to immediate operating improvements, the burden of financial justification can be reduced. However it is important to consider the potential benefits that can be developed on top of the base infrastructure. At Blue Cross of Missouri, Ed Tenholder, CIO, built a network to support a new service called Health Care Interchange. This service connected health care providers to insurance claims payers for claims processing settlement. The service uses software in personal computers at healthcare providers facilities to allow claims to be entered in a standard format. Claims are then converted to the format of the payer, removing an administrative burden from the healthcare provider, and expediting processing and

settlement. This new service has been adopted by over one thousand healthcare providers in the Missouri area. The initial investment in infrastructure will see payback in less than three years. However, once the infrastructure is in place, a series of new services can be offered, creating additional revenue opportunities.

The linkages to healthcare providers can be used to provide pre-certification services. In today's healthcare market, many insurance carriers require that treatment be certified prior to delivery in order for payment to be assured. Pre-certification can be provided and automated over the Healthcare Interchange network. The determination of deductible and co-payment requirements on the part of the patients can also be determined in real time insuring that proper credit and billing procedures have been established prior to delivery of service. The network can also be used to provide diagnostic support, medical records transfer, pharmacy and prescription support and a series of other new business opportunities. The existence of the base infrastructure will support a series of new business opportunities at Blue Cross.

Similar opportunities exist in all enterprises that deploy state-of-the-art infrastructures. Enterprises facilitate the development of new service offerings by designing an infrastructure with: (1) *rapid applications development tools, such as CASE methodologies, application modules and data utilities*, (2) *a natural language service creation environment*, (3) *seamless information mobility*, (4) *electronic linkages to third party resources in addition to traditional suppliers and customers*, (5) *multimedia capabilities*, (6) *and user and customer-friendly interfaces*. With characteristics of this sort, reasonable security and compliance procedures, and extensive training of potential users, enterprises may unleash ground swells of service and revenue enhancement initiatives.

At Royal Bank, field marketing managers have access to an array of tools and resources that they can use to develop local marketing initiatives. Royal Bank provides an electronic tool kit to its field marketing managers. This tool kit is accessed through a personal computer with on-line linkages to Bank resources. Marketing managers may access the company's comprehensive customer data base to identify specific customers for promoting a new product. They may identify a set of customers in their region who exhibit characteristics found in other regions to react positively to specific types of market initiatives, for example. Marketing managers around the country are able to share their experiences with different marketing programs so that others can benefit.

In many enterprises business enhancement through the introduction of new services is a fairly systematic exercise. At Dassault Systems, dozens of new enhanced services are added each year to the CATIA CAD/CAM service. Dassault Systems is a prime example of how an operations improvement effort can take on a life of its own as a new business. In the 1960's, Lockheed applied computer assisted design tools in its aircraft design and development activities to both increase the efficiency and speed of aircraft design, and to improve the engineering precision of advanced aircraft. The application of these new technologies, and the reengineering of the aircraft design function, made a significant contribution to Lockheed's success in the aerospace sector. As we have seen in other examples, the new infrastructure developed to support CAD/CAM at Lockheed took on a life of its own as a stand alone business unit.⁷ Lockheed created a new business unit, CADAM, to sell these advanced engineering services to other enterprises. CADAM was later acquired by IBM, who partnered with Dassault Aerospace in France to further develop the capabilities of the system. Dassault then acquired CADAM in its entirety from IBM and established a new business unit, Dassault Systems, to exploit this product line. Dassault's principal CAD/CAM tool is called CATIA. In 1992, Dassault Systems introduced 34 new enhanced service modules on top of its existing CATIA platforms. These new service modules included: Applications such as simulation, materials selection, robotics, machine tool automation, 3D visual presentation, architecture drafting, terrain modeling and photogrammetric data conversion for turning aerial photographs into 3D CAD models. The CATIA system has become a vehicle for customer application development as well. Customers may develop custom applications on the CATIA platform and use them internally, or allow them to be sold as part of the extended services portfolio.

When a service like CATIA becomes an open platform, it permits not only internal development of new features and functions, it provides an opportunity for customers and third parties to introduce value added enhancements to the extended product family. Such enhancement not only allow the package to provide a wider range of service to existing customers, but often opens up new market segments and applications that can grow into stand-alone business in their own right. In addition the opportunity for customers to resell their own custom applications to other users enhances the value of their relationship with the primary product vendor. Such opportunities allow the customer to recoup some of their

⁷ Davidson, W.H., "Beyond Reengineering: The Three Stages of Business Transformation: IBM Systems Journal, Vol. 32, No. 1, 1993, pp 65-80.

investment in custom application development and in turn, permit them to accomplish more with a fixed development budget.

Creative use of existing infrastructure can lead to substantial new business opportunities. Von's Grocery Store was one of the earlier adopters of point of sale scanning technology in its Southern California grocery chain. Scanning technologies were introduced principally to reduce labor cost. Scanning significantly reduces cashier and bagger labor requirements, and reduces the cost of pricing items on shelves as well. Scanning offers a series of other operating advantages, such as more efficient inventory management, optimization of shelf space usage, greater accuracy, more timely information and more sophisticated marketing and promotion activities. Von's realized a series of such operating gains from the introduction of its point of sales scanning technology.

At about the same time, in order to facilitate check out and provide differentiated customer service, Von's created a second key infrastructure called VonsCheck. This service provides validation for check cashing. A card reader ascertains the customers ID and provides approval for check cashing privileges at the counter, radically reducing the traditional check approval process that required managerial approval for individual checks.

The combination of point of sale scanning and on line customer identification technologies provided an unintended platform for the development of a powerful new service. In the late 1980's Von's introduced its Von's Club service. Customers complete an application and receive a plastic card identifying them as member of the Von's Club. At the check out counter, customers slide their card through the card reader and are given automatic price discounts on selected merchandise promoted throughout the store. Von's Club members also enjoy a frequent buyer program that allows them to accumulate points toward free prizes. The cashiers' receipt highlights the amount of money the customer saved on that days transaction and year to date.

Von's Club has been a significant marketing success, allowing Von's to differentiate itself relative to its competitors. It also provides a vehicle for target marketing activity. Von's can utilize the data generated by the Von's Clubs system to support sophisticated micro-marketing activities at the level of individual customers. The use of these capabilities by Von's marketing and business development personnel can dramatically enhance its retail business, and lead to the creation of new business units. It will allow

Von's to deepen and strengthen ties with existing customers by better understand their buying patterns and needs, and it permits Von's to enter new lines of business.

Von's has long seen selling its primary POS data to market research firms. In fact, revenue from such sales have totaled a quarter or more of the company's IS budget. Now, with customer identity in addition to product sales data, Von's has established a new subsidiary, Von's Direct Marketing, to provide support to market research and consumer product companies. This unit will account for a significant portion of Von's total profit in 1994.

In the business enhancement phase, the critical issues are creative identification and aggressive pursuit of opportunities by marketing, product management, business development and other personnel. In order for this potential to be maximized, new infrastructure must be utilized by all the operating and business development units. It is also helpful if a series of application development modules and tools are available as well. With such tools, new infrastructure enables business enhancement and innovation. In that respect, the new infrastructure supports and permits greater empowerment within the organization. Ironically such empowerment is only possible if tremendous discipline is applied to creating a common infrastructure in the earlier stages of transformation.

Phase 5: Strategy and Organization Redefinition

The successful pursuit of new service and business opportunities will lead to new service offerings, expanded scope of market coverage, new capabilities, new customers, and new relationships with existing customers. Business enhancement will broaden the firm's business profile and portfolio, altering the firm's strategic position without the direction or even the knowledge of senior management. The scope of the firm's activities and its capabilities can grow dramatically during Phase 5. At some point, expansion in these areas must be recognized and addressed in the firm's formal strategy and organization.

At Progressive Insurance, the introduction of the Immediate Response Service opened a range of new business opportunities. The firm could pursue third party claims processing, for example. The extraordinary levels of customer satisfaction achieved as a result of the Immediate Response Service could provide a platform for new strategy thrusts in several directions. Progressive could use its differentiated service to move from niche auto insurance markets into the mainstream of the auto insurance industry. During 1992, in

fact, Progressive doubled the number of standard auto insurance policies on its books. Heightened customer satisfaction could also allow Progressive to shift from being a specialty auto insurance provider to a full line provider of insurance and financial services; a pathway followed by USAA over the course of the past several decades. It migrated from being an auto insurance firm to a full provider of insurance services, based on high levels of customer satisfaction achieved with its existing customer base.

Progressive could also utilize the infrastructure deployed in support of the Immediate Response System to provide a roadside assistance service to its customers, opening up another array of new business opportunities. These and other strategy options appeared as unexpected consequences of an operating improvement and innovation exercise. Progressive must now formally identify and address those strategy options, recreate or reconfirm its strategic thrust and make appropriate organizational adjustments.

In many enterprises, the strategy and organizational adjustments result principally in the creation of new business units. At Vons, Von's Direct Marketing became the vehicle for the new services and capabilities created in the course of its transformation program. In the best known example of this phenomenon, American Airlines created a new unit, AMRIS to capitalize on the infrastructure and capabilities that developed around the SABRE system. Such new business units can grow to rival or even surpass the primary core business. Von's Direct Marketing will account for a substantial portion of Von's total profits in 1994, and AMRIS already accounts for a majority of profits and market value for American Airlines.

In some cases, this phase may involve redefinition of the core business, rather than the creation of a new business unit. At France Telecom, the Minitel initiative has led to a substantial shift in the telephone company's core business strategy. The Minitel infrastructure was introduced in the early 1980's to solve an immediate operating problem and provide a platform for business enhancement. Rapid growth in the subscriber base in the late 70's and the early 80's created substantial pressures on the directory assistance function at France Telecom. With millions of new subscribers each year, the average response time for directory assistance exceeded 15 minutes in 1980. Customer dissatisfaction was not the only problem. France Telecom operates on a local measured service billing basis; that is, each local or long distance call generates incremental revenue. A variety of solutions were attempted, but ultimately France Telecom introduced its Minitel system. Minitel is based on a national packet switching network that allows

consumers to utilize free terminals to directly access-central directory database without the assistance of human operators. In 1992, these terminals accounted for over 800 million or 80% of total directory requests. The usage of the Minitel system for directory assistance purposes results in net savings in operator staffing and directory publishing and printing costs of 80 to 90 million dollars per year. Unfortunately, the infrastructure for this system required an initial investment in excess of \$2 billion. From the beginning, however, the architects of this program envisioned it as not only a solution to an immediate operating problem, but as a platform for business enhancement. Today more than 20,000 enhanced services are available over the Minitel system.⁸ These services include a wide variety of financial, shopping, education and other information services.

France Telecom has created several new business units to capitalize on the capabilities of this system. One unit, IntelMatique, offers videotex hardware, software systems, and expertise to other carriers around the world. Another unit exports information services to foreign users, and a third is creating a global electronic directory database. The most significant impact of this program, however, may be its effect on France Telecom's core business. It no longer considers itself a provider of voice telephony, but as an information services provider. Its shift in focus from carriage to content positions it as a leader in the emerging information economy.

This phase of the transformation exercise focuses essentially on identification and capitalization of opportunities created in the course of the transformation program. Without creative activity in the business enhancement stage and visionary leadership in this phase, the latent potential of business transformation may not be realized. Many firms view services and capabilities developed in the course of these programs as proprietary assets created to support the existing core business. There is a "Cinderella" phenomenon at work here. Such systems are viewed exclusively as internal support mechanisms for the core business, and the full potential of these activities will not be realized. Formal recognition of these new opportunities, through redefinition of core business strategies or the creation of new business units, is the key task of this stage.

⁸ Housel, T. and W. Davidson, "The Development of Information Services in France: The Case of Public Videotex", International Journal of Information Management, 1991, pp 35- 54.

Phase 6: Operating Initiative

Phases 5 and 6 bring the transformation process full cycle as many of the issues addressed in these stages are somewhat similar to those addressed in stages 1 and 2. The principal difference is that the initial transformation process is likely to have been triggered by threat and crisis, while this phase is triggered principally by the pursuit of opportunity. Nonetheless, it is imperative that the CEO create a second vision during this period. The new vision, in contrast to the first phase focus, is principally concerned with identifying external opportunities and the vision of a new business profile for the enterprise.

Whether the new vision involves redefinition of the core business strategy, or the creation of a new business unit, new operating infrastructure must be established to support the new strategy. That responsibility rests principally on venture management in the case of new business units. The responsibility comes full cycle to the Chief Operating Officer or his surrogate in the case of a new core business strategy.

By this stage of the exercise, it is likely that sufficient momentum has been created to overcome most barriers and uncertainties. This may also be an ideal time for senior management succession. The architects of the original strategy may wish to turn over the reins of the enterprise to a new team of executives who can carry through the new transformation cycle to its conclusion. The logic for management succession rests partially on the length of time required to implement successful transformation programs. The first three phases of this exercise alone requires at least 3 to 5 years for completion. The business enhancement stage could last a substantial term as well, especially with periodic upgrading of infrastructure elements. An appropriate question is whether any manager or management team can successfully complete two full transformation cycles.

Summary

Successful transformation requires an orchestrated program with structured roles and responsibilities that address specific tasks and issues in each stage of the process. In each stage there are distinct leadership requirements. In the first stage the CEO plays the primary role of program champion and architect. Leadership passes to the Chief Operating Officer or his surrogate in the operating improvement and innovation stage. The Chief

Information Officer plays a critical role in Phase 3. Business enhancement activity can be driven by a more diverse and distributed team of leaders, while strategy and organization redefinition returns the focus to the office of the chief executive.

In each stage, a series of key tasks must be addressed. In Phase 1, critical tasks include creating and communicating a compelling vision that addresses external thrusts while setting new performance targets in a positive vision of the future enterprise. The Chief Executive Officer must also engage key executives and create a program architecture for the transformation effort. In Phase 2 critical responsibilities include the detailed design and implementation of process improvement and innovation efforts, the integration of divisional and functional initiatives, alignment of immediate operating initiatives with the long term transformation program, appropriate resource allocation, and prioritization. The Chief Information Officer should, of course, be heavily involved in the process reengineering stage so that an information infrastructure can be created to best support new process models. The key tasks in Phase 3 include the design and implementation of an enterprise-wide infrastructure, the enforcement of architecture guidelines, training of potential users and creation of tools and utilities for business enhancement. Key tasks in Phase 4 include empowerment of creative marketing and customer service activity by a variety of personnel within the enterprise, support and reward for innovation, and maximized use of internal resources to support business and market expansion.

An overview of the key tasks and roles in each of the six stages of transformation appears below. This framework provides the first level of detail in providing a structured methodology for the successful implementation of transformation programs. Design of reengineering and transformation programs to perform these key roles and address these key tasks will insure that firms maximize their return on investment in reengineering activity. Failure to fill the different leadership roles in each stage has resulted in delay and gridlock, reinforced internal resistance and inertia, and compromised results.

Key Tasks and Role in the Transformation Cycle

Phase	I	II	III	IV	V	
VI						
Focus	Strategy Initiative	Operating Improvements & Innovation	Infrastructure Design & Deployment	Business Enhancement	Strategy and Organization Redefinition	Operating Initiative
Key Tasks	Vision Engage Exec's Set Program Architecture	Process Management Trans-functionality	Architecture Management Prioritization	Empowerment Innovation	Exploit New Competency	Launch New Ventures Restructure Core Competency
Key Roles	CEO	COO Process Owners	CIO	Business Development, Marketing	CEO	Venture Management COO

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