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Administrative Quality Planning

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ADMINISTRATIVE QUALITY PLANNING

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The quality movement in American businesses is becoming increasingly popular. American businesses are now competing internationally for market and the Japanese are winning. American businesses have adopted various quality systems to help them become customer driven, assisting in the regaining of lost market share. Some companies have been successful in implementing a quality system, but most have fallen short of acheiving the desired a quality operation.

Most of the successful quality programs have come in manufacturing plants, but quality in the support services of the administrative levels have fallen short. Many manufacturing organizations approach quality implementation for the plant and products, and ignore support service departments. In some cases, they try to apply the same techniques for both plants and service. As a result, quality problems that exist at the administrative level are not addressed and resolved.

A business does not become successful in today's increasingly competitive environment by limiting continuous improvement to its manufacturing components. Techniques exist that can be used in service industries. They can apply to internal services to work towards continuous improvement. To help move quality practices through a company's administrative services,

a business should separate the needs of support services from those of the plant operations, by addressing those needs in a separate quality plan. It is this customization that will help businesses tackle the barriers that exist for implementing administrative quality.

This project develops the idea stated above and provides a model of such a plan.

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TABLE OF CONTENTS

CHAPTER 1

Total Quality Management has become a major topic of discussion in American businesses. American businesses have been losing market share to foreign competitors over the past two decades. For instance, the auto and electronic industries are two industries that have rapidly declined in the United States. Although we preach "Buy American," when it comes down to it, consumers go overseas to get their money's worth. Today, consumers want quality products, and if American industries want to stay competitive, they have to deliver quality goods.

In a 1989 American Society for Quality Control (ASQC) survey, 54 percent of executives rated service quality as extremely critical, and 51% gave U.S. products less than 8 on a 10-point scale. A panel of Fortune 500 executives agreed that U.S. products deserved no better than a grade of C+ (Ross, p.1).

American businesses are beginning to understand that organizations need to become quality driven in order to survive in a competitive market. Better quality means better profitability and higher market share. The Strategic Planning Institute of Cambridge Massachusetts concluded that "One factor above all others– quality – drives market share. And when superior quality and large market share are both present, profitability is virtually guaranteed" (Ross, p.3).

Even though the TQM concept seems fairly new, quality concepts for business have been around for over 200 years, although some may not recognize it. For instance, before the industrial revolution, most people earned income as a producer and seller of a product or service (such as a blacksmith). The seller knew his reputation of making a quality product was directly related to his income, family security and status in the community. The growth of cities and inner-city trade reduced the face-to-face relationship of customer and producer. New quality problems arose. Material and product specifications, testing and warranties were developed to tackle quality problems.

During the industrial revolution, quality took a back seat to the emphasis on rapid production. Because the processes were complex, inspection after fabrication was not enough. Two quality pioneers, W. Edwards Deming and Joseph M. Juran, introduced quality control. Deming, who is credited with bringing quality control to Japan in the early 1950s, is best known for statistical quality control. Deming developed a 14 point system and said corporations should adopt his quality system at all organizational levels.

Juran was also invited to Japan, shortly after Deming, where he instructed managers on the secrets of quality management. Juran's concept included the managerial dimensions of planning, organizing and

controlling, and focused on the responsibility of management to achieve quality and set goals.

Phillip Crosby, though not a pioneer, founded the Quality College in Winter Park, Florida. Crosby defines quality as conformance to requirements, prevention, and zero-defects. His book, entitled *Quality is Free*, made Crosby a reputable name in quality management. Crosby, Deming and Juran believe management and the system (not the workers) are responsible for poor quality. The work of these three individuals helped shape the current theory and practice of Total Quality Management (TQM).

TQM incorporates all functions of the business. It integrates these functions and related processes into the product life cycle such as design, planning, marketing, production, distribution, and field service. Customer satisfaction is the measurement of success and the way to achieve customer satisfaction is through continuous process improvement.

TQM is a way of company life. The ability of company leaders to "walk their talk" will determine if the layers of management and employees beneath them will adapt the philosophy. TQM programs have panned out to be very expensive to implement. While increased profitability is the payback if the program is successful, failure is costly and can damage the well-being of the company. Implementation of TQM varies, but the goals are the same: to create a cultural change. The

change typically involves shifting from being a market-driven company to a customer-driven company. While a market driven company focuses on market needs by customer wants, a customer-driven company focuses on exceeding the expectations of customers via involving every aspect of the organization. A high customer satisfaction level is achieved through committed leadership, employee empowerment, and training and managing quality in our processes, products and services. Management By Fact (MBF), a offspring of Management by Objectives (MBO), is used for making decisions, measuring performance based on reliable facts. The ultimate objective is quality achievement through prevention, empowerment and leadership.

The American Quality Foundation (AQF) researched 584 companies implementing TQM to build an "empirical framework" of understanding around TQM practices and their effects on organizational competitiveness. The AQF determined that most companies implementing TQM set a goal to completely overhaul corporate culture. Company leaders reason that if they can weave the quality mind-set into the way people think about doing business, then quality practices will become a way of life. As a rule of thumb, quality managers preach that it takes "three to five years to see initial stirrings and five to seven years to realize significant results" (Benson, qtd.in 68).

However, a 1992 survey by the International Quality Study (IQS) reveals that it does not take as long to implement quality as first believed. According to the IQS, the problem is that organizations are implementing TQM backwards. IQS determined that involving everyone in the starting phases of TQM is a financial strain on the company. Companies focus on the "low-hanging fruit" where a change would reap "significant results tomorrow" (Benson, qtd.in 8). According to the IQS, as quality practices result in performance gains, the quality mind-set and culture will follow.

Even when the quality mind-set and culture become acceptable to employees, change still does not come easily. Change means breaking the paradigms of daily operations. Paradigms are examples of views influenced by experiences and behaviors which hinder the ability to look at things beyond the limits of that experience. We all have paradigms about how the operating system of our company works, making it difficult for us to accept innovative changes to the system.

The resistance to changing the operating system of a company can also be interpreted as an addictive process. Change is difficult in organizations where processes are "addictive." Employees become co-dependents to the addictive system making it easier to give in to the system than to attempt to change it. [Co-dependents are the people who help the addict live with

his or her problem, instead of the addict helping himself to deal with the problem; i.e., a daughter who takes care of her alcoholic father is a co-dependent to the addict.] This is true for the corporate environment (administrative level) where the systems and processes are not easily defined (Schaef/Fassel, 58-61, Ch.2).

Unlike the manufacturing level where mechanical processes are measured, administrative processes are more complicated for various reasons. The corporate level is made of several business units. For example, a typical Fortune 500 corporate office may include the following departments: accounting, human resources, marketing, sales, customer service, communications, engineering, and the executive staff. Each department has their own processes and procedures, as if they were separate business operations.

Several processes exist in each department. These processes are abstract and varied compared to a mechanical process. Administrative processes are considered service processes. Currently, the corporate, administrative level of the organization often make errors in measuring individual workers for quality control, instead of measuring processes. If corporate leaders believe in TQM, then they are *supposed* to believe that the **system** is responsible for poor quality, not the workers (at least according to Deming, Juran and Crosby). To interpret, if the workers do not do a job

correctly, it is mostly likely the result of system problem. System problem errors result from poor, or lack of, training; inconsistent procedures; defective processes; and improper planning, just to name a few. The cost of poor quality resulting from system related problems can be tremendous. The savings that occur from quality administrative operations are harder to detect than the savings from reducing bad widget valves. But luckily, there are quality tools that also aid service operations in tracking savings.

Evaluating a process can be done with the use of quality tools so problems can be identified and resolved continuously. In manufacturing environments, Statistical Process Control (SPC) methods can successfully measure mechanical processes. Mechanical processes are easily identifiable (compared to administrative) because the process usually follows a pre-determined number of steps and its attributes can physically be measured with tools (such as a pair of calipers). Machines are measured to help workers identify and prevent problems that hinder the production process.

When TQM is brought to an administrative process, it lives a short life. The quality tools are available to evaluate administrative processes, but few companies employ them at that level. Most detailed studies performed on the use of quality tools and quality operations are for manufacturing operations. Although

manufacturers have administrative processes in their hierarchy, there are few reports (or shallow feedback) on administrative quality issues. TQM is a foggy concept at the administrative level. Poor leadership, ignorance, poor implementation, and lack of quality tools all feed the fire that burns TQM to the ground.

Even with good leadership, administrative TQM dies because employees do not have access to, or know how to use quality tools. Leaders continue to tell employees, "You are empowered to make change," but employees are baffled because they genuinely do not know how to change the system. It is easier for an employee to return to the old system than to set out to change it. In this the employee resembles a co-dependent who chooses to take care of a drug addict, but finds that taking care of the addict's needs is easier than changing the addict's behavior.

If employees and management understood how to apply the quality tools to administrative behavior, TQM could have some positive impact on the corporate, administrative level; and then "empowerment" would be valuable to employees. An administrative quality success story could breed a cultural change at the administrative level resulting in an organization that will benefit financially, motivate employees, and create an innovative environment.

A corporate office is made of several departments with their own separate functions. Typically, the departments are treated like little businesses, separate in functions, and not interconnected. But in one way or another, one department's process affects another department, and so on. The functional layout of a manufacturing system is designed to produce the product most efficiently. However, the layout of a corporation's administrative offices may have little or no design for functionality.

For example, visualize a chain wrapped around a crate as the crate is being hoisted above ground on to a ship. One link breaks and the chain releases the crate. The crate becomes damaged and has to be repaired. The chain is then replaced as a prevention for a second mishap. If the chain was inspected beforehand, the latter would have been unnecessary.

An organization is like that chain. Each department serves as a link on the chain. The strength of each link is built upon processes. The crate is the external customer, dependent on the chain to meet its expectations. One weak link causes the system to break resulting in a damaging relationship with the customer. Action is taken to repair the error *after* the damage. The customer then goes to a competitor for satisfaction. As with a the chain, if methods were used to evaluate its strength and weaknesses, chances are the error would

have been caught and fixed prior to the damaging results.

Many corporate offices function as part of a broken chain. Departments only recognize their overall function to the company, but are unable to identify their place on the chain. A department needs to identify its place on the overall process that enables the company to deliver the products or services to the customer. If they can not identify their place in the process, then they can not identify their internal and external customers adequately. If they cannot identify their customers, then they can not begin to meet customer expectations.

According to quality experts, the ability to exceed customer expectations is directly related to growth in market share. Many companies looking to increase market share are turning to TQM as the strategy of the 1990s. The NORDYNE corporation is no different. In the past seven years NORDYNE has had its share of quality programs. All of them, were preached to be the answer to their problems, and all of them later disintegrated.

Whether TQM played a part in NORDYNE's ability to increase sales consistently for over two years is questionable. Their focus has rapidly jumped between one quality systems and another since beginning TQM in 1993. During this time they used the Malcolm Baldrige National Award criteria as a guideline, as many organizations do.

Since 1994, NORDYNE shifted their focus from Baldrige to ISO 9000. Shortly thereafter, Gainsharing was introduced and studied, but implementation plans were put on hold because the parent company, Nortek, disapproved of the measurement system involved. While Gainsharing hung in limbo for four months, the new quality system buzz word became Demand Flow Technology. Although I only have been at NORDYNE a little over a year, I managed to witness all of these shifts in quality systems.

NORDYNE is putting substantial money into the DFT system, but whether they will carry through with the plan is questionable. With so many shifts in quality systems, it seems there is a lack of patience and understanding of what makes a quality operation.

Employees at both the plant and manufacturing level perceive these programs as just another fly-by-night trend, here today-gone tomorrow. Manufacturing has experienced some improvement in TQM, but at the administrative level, there has been no effort to make process improvements. Perhaps this is due to the fact that many quality programs approach the administrative and manufacturing levels with the same technique. In other words, one company quality program is supposed to work for the whole company. Although manufacturing plants usually have a larger workforce than the administrative level, the plants have a clear goal compared to that of administrative. They know they are

supposed to make a product that exceeds customer expectations by using quality parts, etc. At the administrative level, the company mission and goals are unclear in the way that they apply.

The administrative level is full of smaller business units operating under their own processes. Administrative functions are service oriented, while manufacturing functions are product oriented.

The customer drives the end product, which could be a product or a service. The end-product drives the business plan and structure of an organization. If it does not, the organization becomes dysfunctional. Quality programs should be customer driven and structured around the internal end product. This is why one quality program will not work for both manufacturing (product) and administrative (service)—their end products are different. The approach to implementing quality must be different at the administrative level than at the manufacturing level.

The manufacturing level also is a different culture than the administrative level. Quality programs are about succeeding at bringing about a cultural change. In NORDYNE's case, two approaches are needed to create a cultural change at both the plants and the corporate office.

With the implementation of ISO 9000 and DFT it is obvious that the quality movement in the company is

driven at the manufacturing level. Regardless of the distinctions between administrative and manufacturing, there is one thing these two groups have in common– the external customer. You cannot exceed customer expectations by nurturing quality in one portion of the company and ignoring the need for quality in the other.

Past efforts of implementing quality at the administrative level have been unsuccessful. The employees "heard" a lot about quality, and some even were motivated by its potential, but lack of leadership and poor implementation forced administrative quality management into an early grave.

NORDYNE has a chance to redeem itself, with a Gainsharing program. Gainsharing is a method for tying company goals and employee goals together in order to increase both profits and quality, and reduce waste. Both manufacturing plants and the administrative level will have their own plans. Each plan sets measurable goals. When the goals are met the employees share in a portion of the profit.

The gainsharing program has great intentions. It focuses on getting employees involved to create gains. Gainsharing focuses on controllable costs. The areas of measurements are:

1. Controllable costs, general and administrative
2. Customer Invoice adjustments
3. Accounts receivable

4. Warranty Claim Processing

5. Order item fill rate

As delightful as an extra quarterly payout sounds, it is not enough to guarantee success. Implementation of the program is on hold indefinitely. Even if the program is eventually approved, chances are it will be unsuccessful. One reason for its failure will be lack of credibility due to its extended, on-hold status, and NORDYNE's history of frequent shifts in quality systems. Additionally, the past has shown that NORDYNE has not committed the proper resources to develop a support system for quality at the administrative level.

Past TQM efforts failed for several reasons: lack of leadership, employee empowerment, training, communication and customer feedback. The implementation plan for gainsharing does not address these elements which will make or break the program. It is obvious from NORDYNE's track record in quality systems these are issues that need to be addressed, especially at the administrative level where improvements are needed.

In attempt to resolve some of these issue, this paper demonstrates the need for a customized quality implementation plan at NORDYNE's administrative level. The importance of customer focus, leadership, quality tools, communications, employee involvement and customer feedback for administrative quality planning will be

discussed. The results section will outline a plan designed to address this situation.

Managers and employees alike will soon realize that quality has an important place at the administrative level, and changing the system can be motivational and rewarding for all involved. While leadership from the CEO is of the utmost importance, it still takes employee involvement to create change. The new culture has to be one that breeds innovation.

CHAPTER 2

TQM, Total Quality Management, is the corporate buzz word of the 1990s. Although the philosophy about quality operations in business has been around for decades, its popularity in America has never been at this level of enthusiasm with corporate leaders.

The first experience I had in the quality movement was unproductive. At its birth I was motivated by its potential, but implementation left me disappointed and frustrated. My first analysis of why the plans have failed was that the company was not committed to change, so failure was inevitable. I also thought that our organization was one of the few that failed. However, from my own experiences, and my conversations with employees of other organizations involved in a quality movement, I learned that there was a repeated pattern of failure, especially in an administrative environment.

Seeking out the reasons for this pattern I searched through books and magazine articles, many of which cited quality success stories. Successes were predominantly in manufacturing areas. Those few examples given for service were not detailed enough to offer any helpful hints. Fortunately, my search did not end up in a total loss. I discovered quality success is based on some simple principles. They are:

1) The customer drives the organization.

2) Leadership will determine quality success.

3)Top down communications must be omitted.

4)All employees must view work as processes. The difficulty about these principles are that they require people to change. Because the administrative level (and service organizations) predominately involve human elements to create the output (or service) change is hard to implement.

Anyone working in an office, or the administrative level of an organization, is familiar with the internal political games: bureaucracy is security; blame it on miscommunications; the CYA rules (Cover Your Ass); please the boss first; pass the buck; candy coat the crap before you pass it on to the boss; suck up-move up; do it this way because this is the way it has always been; authority bumps priority; and so on. Theoretically, these elements are non-existent in a quality organization.

Most employees do not like playing the political games, but traditional organizational systems encouraged these games. These games have one element in common: they are all manifestations of fear in the organization. The fear is driven in through unfair performance reviews, negative reinforcement, layoffs, poor management, poor or no training, failing leadership, and blaming workers for management problems.

Dr. Edwards Deming, a pioneer in quality systems, addresses the need to drive out fear in the organization

in a fourteen-point system he developed for continuous improvement. His system separately addresses many of the elements that drive fear into the organization. His teachings are highly regarded in the professional quality field, but his published writings are not easy to comprehend. Dr. Deming is best known for statistical quality control (SQC), and this becomes obvious as you read through his books. The average person wanting to learn about his 14-point system, can find his writings summarized in a less technical and more readable forms in secondary sources. Dr. Deming endorsed William W. Scherkenbach, author of The Deming Route To Quality And Productivity, which explains the 14-point system in a logical format that easily introduces the concepts of the Deming system as it applies to businesses. Deming's teachings, like many others, focus most examples on manufacturing processes, but he encourages use in service environments also.

The Deming Route To Quality And Productivity, highlights Deming's 14-point system as follows:

1. Create constancy of purpose.
2. Adopt the philosophy.
3. Cease dependence on mass inspection.
4. Constantly and forever improve the system.
5. Remove barriers.
6. Drive out fear.
7. Break down barriers between departments.

8. Eliminate numerical goals.
9. Eliminate work standards.
10. Institute modern methods of supervision.
11. Institute modern methods of training.
12. Institute a program of education and retraining.
13. End the practice of awarding business on price tag.
14. Put everybody to work to accomplish the transformation.

(Scherkenbach, p.4)

Dr. Deming's points never change, but he does improve them when necessary. Dr. Deming doesn't always list them in the same order; Scherkenbach arranged the above order in a logical format for his readers.

Deming sees organizations as systems designed to serve customers. Processes and tasks are linked together and affect one another. To excel at meeting customer needs, an organization must constantly improve these systems. United in common understanding, workers can define starting and ending points to a process, and figure out what has to happen in between to create the product or the service they want. People who view work as processes understand the quality of what comes out is largely determined by the quality of what goes in.

How well employees do their job depends on the quality of products or services they receive. Dr.

Deming and fellow quality pioneer, Dr. J.M. Juran hold this belief, although their approaches to implementation are not identical. Juran developed his own 10 step system which entails the same cry for organizational change. He approaches the change differently in some areas. His 10 steps are:

1. Build awareness of opportunity to improve.
2. Set goals for improvement.
3. Organize to reach goals.
4. Provide training.
5. Carry out projects to solve problems.
6. Report progress.
7. Give recognition.
8. Communicate results.
9. Keep score.
10. Maintain momentum by making annual improvement part of the regular systems and processes of the company.

Juran's writings are easier to read than Deming's. Juran does express the need for measurement, but does not go into detail like Deming. Juran does focus on planning in the organization for quality. His book, Juran on Planning for Quality, indirectly addresses his 10 steps to improvement. Instead of listing and defining the steps, he demonstrates the use of his methods through focusing on organizational issues that traditionally need improvement. Juran includes topics

such as customer focus, internal customers, measurement, interpreting customer communications, product design, and department quality planning. One technique he suggested is called "Lessons Learned." Lessons learned in the documentation of past quality system failures, and used to avoid repeating the same mistakes. Juran also examples his techniques, but they mainly focus on manufacturing.

Juran and Deming are considered the quality pioneers. Their efforts in quality were first recognized in the 1940s. At that time, most American businesses did not acknowledge the need for Juran and Deming's teachings. It wasn't until the late 1970s when the quality movement was reborn in to a new era, but this time it was Phillip B. Crosby who was trying to awaken America to the need for change.

His popular book Quality Is Free, made Crosby a common name in quality. In this book, Crosby introduces and explains his 14-step system for quality. The steps address most of the philosophies taught by Deming and Juran with different approaches to implementing quality. Like Deming and Juran, Crosby believes that most of the problems in today's businesses are a result of poor management, and not the result of poor workers. Crosby developed the Zero-Defects program, which is a company's performance standard in the Crosby system. Crosby strongly insists that his 14-step system must be

followed exactly to be successful. The 14-step system is:

1. Management commitment, create a quality policy.
2. Quality improvement team.
3. Quality measurement throughout company.
4. Cost of evaluation.
5. Quality awareness.
6. Corrective action.
7. Establish Ad Hoc committee for zero defects program.
8. Supervisor training.
9. Zero Defects Day.
10. Goal setting.
11. Error-Cause removal.
12. Recognition.
13. Quality councils.
14. Do it over again.

(pp.132-139)

One of the highlights of his book is the Quality Management Maturity Grid. The grid identifies stages of growth by listing the characteristics of the environment or attitude of management as they mature in the quality movement. The grid is valuable because it is the only source that profiles the human characteristics of management as it affects the success of a quality plan. Crosby's system is expensive to implement up front, but

his premise is that the payback in eliminating defects reaps more money than the cost to implement quality; that is, "Quality is Free."

Quality is free, but to acquire it is not as easy as identified in quality books. American businesses have become interested in quality because Japanese competitors are beating them in many markets. Japan began learning about quality in the later 1940's (post WWII) from Deming and Juran. American industries were thriving at the time. American businessmen felt their methods secured their future, and did not feel there was a need to adopt Deming or Juran's views on quality. The Japanese listened carefully, and have made tremendous efforts in the implementation of quality systems. Through their dedicated efforts to quality in business, the Japanese have reared a few quality experts of their own, including Dr. Kaoura Ishikawa. Ishikawa is recognized as the father of the Japanese Quality movement. Some of his accomplishments include the development of the Fishbone Diagram (a problem solving tool used in quality operations), and Next Operation As Customer.

The NOAC infrastructure sees the internal customer as prince, while the external customer as king. Keki R. Bhote, senior corporate consultant on quality and productivity at, Motorola, Inc., wrote about the NOAC system for the American Management Association. The

publication focuses on quality improvement for service operations, which is insightful since most quality authors focus extensively on manufacturing systems. The publication teaches the reader about the NOAC system, as Bhote depicts the effects of implementation at Motorola. Bhote reports the NOAC system, which depicts 10 steps to improve quality, cost and cycle time in service operations. They are:

1. Establish steering committee, process owner, and improvement teams.
2. Define the mission, service provided, objectives strategies, tactics and plans.
3. Identify outputs of the service and major customers of this outputs and prioritize their requirements.
4. Flow chart the entire process starting with the most important final customer and his most important requirement.
5. Analyze the flow chart to determine what steps contribute to the largest loss in terms of quality, cost cycle time.
6. Identify the customers of that step and their requirements. Identify the supplier and the requirements needed from them.
7. Get both the customers and suppliers agreement on how the requirements should be measured and how progress will be charted.

8. Measure conformance to customer requirements and analyze the root causes of all problems causing the loss in step 5.
9. Continuously improve the process, using NOAC improvement tools. Measure the improvement.
10. Return to step 5 select the most important process step that contributes to loss in terms of quality, and then repeat steps 6 to 9. Repeat this cycle for other losses in descending order of importance. Select the next most important customer requirement identified in step 3, and then repeat steps 4 through 9. Repeat step 10 for each other important customer.

(p.24)

NOAC strongly focuses on the relationship of internal and external customers and how they are effected by processes in a service environment. In the new economic age, the customer is the main focus for market survival. A May 1990 international meeting on Total Quality Management summarized the following key issues for defining the philosophy:

1) A cultural change based on management philosophy of meeting customer requirements through continued process improvement.
2) Management behavior includes acting as role models, use of quality process and tools,

encouraging communications, sponsoring feedback activities and a supporting environment. (Ross,p.1)

These key issues are usually interpreted as a philosophy for a whole organization to follow. The quality gurus have set the foundation for quality planning, and quality entrepreneurs have used these philosophies for developing new approaches to implementation. The quality field has developed into prospering businesses for those knowledgeable enough to consult, train and/or help other businesses plan for quality. Some companies take it upon themselves to implement quality through their own efforts, and use the Malcolm Baldrige National Quality Award guidelines for implementing quality.

Established in 1987, this award was named after Malcolm Baldrige. Baldrige served as Secretary of Commerce from 1981 until his death in 1987. His managerial excellence contributed to a long-term improvement in efficiency and effectiveness of government. Congress established the Baldrige as a result of Public Law 100-107. The rationale behind the law was of foreign competition. "No other business prize nor development in management theory can match its impact" (Ross, p.4).

The award has set a national standard for quality and hundreds of major corporations use the Baldrige criteria as a basic management guide for quality improvement programs. Under this award, many regional and state awards also have been established.

The Department of Commerce, and the National Institute of Standards and Technology (NIST) are responsible for developing the criteria and awarding the Baldrige. Under the Baldrige award criteria, a TQM program must address these seven categories: Leadership; Information and Analysis; Strategic Quality Planning; Human Resource Development and Management; Management of Process Quality; Quality and Operational Results; and Customer Focus and Satisfaction. The criteria for excellent quality management are detailed and specific. (1993 Baldrige Application)

The Baldrige criterion focuses on the elements that should exist in the company if they are to be considered world class in their market. It does not define how the company should approach the elements. For example, the guidelines require the use of SPC and quality tools to measure and analyze data. An organization must be able to prove that continued process improvement exists in the organization, and assist in financial improvement of the company. The criteria does not teach an organization how to use SPC tools for measurement, it just informs them of the need. The Baldrige criteria is a detailed,

written guideline that creates awareness in an organization of what elements must be addressed if they are to become a world class leader in their market. The quality plan (a strategic plan for implementing the Baldrige elements) is in the hands of an organization's leaders.

The Baldrige criterion does not feature an example of a quality plan for accomplishing Baldrige success. Joel E. Ross, author of Total Quality Management: Text, Cases and Readings, overviews the Baldrige Award through explanations of the award's categories, and the use of case histories. This is a textbook publication that instructs the readers on how to evaluate companies under the Baldrige guidelines. The book uses real companies, including winners and losers of the Baldrige award. The case histories enlighten readers on TQM implementation methods that were used to meet the criterion successfully.

Joseph R. Jablonski, author of Implementing TQM: Competing In The Nineties Through Total Quality Management, outlines the phases of TQM implementation in a logical format, taking the reader through step-by step structuring of a quality plan. Jablonski defines each phase to the quality plan, and comments on the importance of each phase as a part of quality planning. He strongly argues for teams and has created methods for successful team implementation. Jablonski basically

reinforces the voice of Juran, Deming and Crosby in his planning phases as does most current authors. Technical Management Consortium, Inc., publisher of Jablonski's book, specializes in the design and implementation of TQM, as well as a variety of TQM training services.

The latest quality movement, Demand Flow Technology (DFT), also blends Deming, Juran and Crosby quality systems into a program that physically redesigns the organization. DFT is a tangible program, and not just a philosophy of quality do's and don'ts. The founder of DFT, John Constanza, redesigns the manufacturing plant and the business strategy of manufacturers in the book The Quantum Leap. Constanza is the founder of the Jc-I-T Institute of Technology, Inc., Worldwide Flow College. The Jc-I-T Institute helps plan and implement DFT into an organization, and guarantees its results as long as the organization follows the complete plan.

DFT implementation time averages about two years. DFT begins on the plant floor and works its way through the administrative offices to support services. One line at a time, manufacturing equipment is rearranged to support the customer demand approach. Plant employees are trained to be flexible, and are given financial incentives for having various flexible skills. Products are built based on customer demand (sales orders), and planning changes daily based on the current demand. Having the right amount of raw materials, without having

too much or too little, is carefully planned. Through simple formulas, DFT simplifies manufacturing and reduces the largest expense in a business — inventory.

After the plant has been converted to DFT, cost accounting then is trained to use a new cost accounting method that supports the DFT strategy. The business strategy of DFT is carried throughout the organization, including the office environment. The role of support services is addressed near the end of implementation.

As DFT implementation begins, physical changes begin to force the workers into change. The positive aspect to DFT versus other quality systems is that physical changes to the plant also pushes changes throughout the system; in a philosophy approach, changes are pulled through the system so success relies on individuals willingness to change. Still, DFT, like the other systems, calls for the transformation of the traditional top-down communications system into a non-filtering system. Constanza addresses the need for eliminating top down communications, but he, like the other quality experts, does not give suggestions on how this is accomplished.

Communication channels in a corporate structure, which can have several layers of management, are traditionally top-down. The message is passed through several channels, and the impact is virtually lost or the message is taken out of context by the time it is

delivered to employees. Communications can come in many forms, although most companies rely on the obvious—the written memo, and the oral speech. Communications is often seen as a human experience that is delivered only through conversations and/or written criterion. Meanings are not in words; on the contrary, meanings are in people. People deliver an encoded message, that will be decoded by someone else. The environment or structure in which communications occurs is called a communication channel.

Implementing open door policies will help leaders reduce top down communications. Leaders encourage employees to come to them directly with suggestions and opportunities for change. Traditional organizational structure forces employees to work their way up through the system to get messages to the top; and the top send their messages down through the system. The filters along the way can distort the content, or the importance of the message.

Other communication channels include training, teams, employee empowerment programs, and suggestion systems. Most authors address these topics as elements of quality, but fail to recognize them as elements of communications. These type of communications, when supported by management, help drive out fear in the organization. They are also necessary for employees to

be able to understand the processes they work in so they can improve operations.

Failure to communicate forces departments to incorporate changes that focus on their needs and not customer needs or other departments' needs. This increases the variability in the support services work produced.

It is this variation that leads to quality problems. Methods employed to reduce the amount of variation will therefore increase quality. In SPC Simplified For Services, authors Davida M. Amsden, Howard E. Butler, and Robert T. Amsden explain the basic SPC tools and its use in an organization. The book is written to teach basic SPC, and students can check their work because the correct answers are in the back of the book. Only a few of these tools are really helpful in the office environment.

Tools to support administrative services are needed. Services are performed through a series of repetitive operations. These operations have characteristics crucial to the successful production and delivery of the service. The quality of these characteristics determines the quality of the service produced. Some variation in a process is expected in the delivery of a service, but as time passes variation increases. Tools like the process map and fishbone diagram (a.k.a. cause and effect diagram, Ishikawa

diagram) are helpful in finding the weak areas in our process, and create starting points for redesigning our internal processes. These two tools are extremely popular and show up in most quality tool books.

In addition to fishbone, there are several management tool books that teach quality tools which aid in more productive team meetings. Management tool books by Peter R. Scholtes, Michael Brassard, Howard S. Gitlow include tools helpful to departments and intradepartmental teams. The tools vary in nature, and can be separated into classifications including problem solving, decision making, innovating solutions and analyzing data. All of these classifications assist in carrying out change in an organization.

Change in an organization is not an easy task to accomplish. Anne Wilson Schaef and Diane Fassel discussed the resistance to change in the book, The Addictive Organization. While part of this book discusses addictive personalities as a possible part of an organization's problem, it also reports on how the system and processes in which we work can be addictive too. The resistance to change stems from the fact that it easier to work under a poor system than try to fix the system's problems. The system is the addict, and the employee is the co-dependent who cares for the system.

Shaef and Fassel point out that addictive organizations are troubled internally, and failure to

change can lead to the demise of the organization. Some of the characteristics of an addictive organization include: terrible communications; denial and dishonesty among management and personnel; the exclusion of outside information in organization planning; employees dread evaluations; employees have too many objectives and perfectionism is expected; there is consistently internal confusion and crisis; employees are expected to do things they really do not want to do; people are expected to take sides on issues; company media, or employees often manipulate the consumer or cover up for faulty products; and structurally, control is built into every level of the organization. (pp. 137-176) These are characteristics of a dysfunctional organization. Dysfunctional organizations have to recover, according to Shaef and Fassel, before quality improvement systems can be implemented.

The most important determining factor for change in a company is leadership. Commitment among leaders, and their ability to "walk the talk" will determine from the beginning how successful a program will be. As I recall my past experiences with quality, a lack of leadership strongly influenced the failure of those programs. Although leaders voiced their commitment to change, they failed to lead by example, and failed to commit resources that would assist employees in carrying out change. All of the elements required to make change,

such as training, measurement, teams, etc., carry no meaning until leaders are willing to example their support.

A leader should look for role models in world class quality organizations. James L. Truesdell, CEO of Baur Supply, and author of, Total Quality Management-Stories From The Front Line, lead his company into a successful implementation of quality management. His book is not another "how to" guide. Truesdell writes about his experience and demonstrates his leadership ability. Truesdell also reports on the experience of leaders from other companies. Another great book that demonstrates leadership is Harley-Davidson: An American Legend. Author Paul C. Reid depicts the turnaround success of Harley-Davidson. The book includes anecdotes of the many barriers that Harley-Davidson had to overcome in order to survive against Honda and Yamaha. The story is an outstanding demonstration of leadership and commitment to change. Reid's reenactment of Harley-Davidson's internal crisis and its inability to compete with the Japanese puts the new economic age in perspective and enables the reader to relate his own crisis experience with those of Harley-Davidson.

Many companies like Harley-Davidson are forced into change for survival. A cultural change that takes us from crisis management to quality management requires patience. Quality improvement is a continuous, never-

ending process. It requires long-term commitment, which is an abrupt change for most organizations where they survive on short-term goals. To illustrate the patience and long term commitment required, a quality engineer told me this analogy: How do you eat an elephant? One bite at a time. Implementing quality is like eating a herd of elephants.

Case studies on successful quality implementation will show that long-term commitment is required, and that there are no short-cuts. Various magazine articles focusing on quality implementation and its effectiveness can be located in most business magazines such as Business Week, Nation's Business, and Industry Week. The articles mostly feature total quality management case studies and interviews with corporate leaders involved.

Quality magazines that focus just on quality issues are rare, perhaps non-existent, in most libraries. However, becoming a member of the ASQC (or at least knowing a member) leads to many valuable resources on quality. Members get special discounts on books, tapes and videos. They are exposed to quality seminars taught by experts in the quality field. Members also become a part of a direct mail audience targeted with quality information. A leader who is committed to quality should participate as an active member of the ASQC to gain valuable insight to quality systems.

Managers are also called upon to be leaders of their departments. A natural ability to lead is not enough for the quality leadership role. The type of leadership required will be learned. Managers will have to adjust their style of management to become leaders and coaches. The Hersey-Blanchard situational leadership model, as taught in the Management of Organizational Behavior text book is ideal becomes it addresses the various relationship modes in which a leaders should operate to be effective. The model was named after the book's authors, Paul Hersey and Kenneth H. Blanchard.

Hersey, a retired telephone pioneer at Bell Laboratories, became known in his company as a developer of people. Blanchard, a highly decorated Naval Read Admiral was known for his inspirational and dedicated leadership, and ability to stand by his people during peace and war. Input for this book came from Hersey and his colleagues at the Center For Leadership; and Blanchard and the Blanchard Training and Development Group. Blanchard was also co-author of the popular series of books, The One-Minute Manager. Hersey and Blachard's work focuses on the behavior within organizations.

One of the most important aspects of this book is the Hersey-Blanchard Tri-dimensional leader effectiveness model. Task and relationship depict four

separate leadership styles. The four styles are described as:

1) Low relationship/high task- Leader provides specific instructions and closely supervises performance. Follower readiness is low; unable, unwilling or insecure to perform task.
2) High relationship/high task-Leader explains decisions and provides opportunity for clarification. Follower readiness is moderate, unable but willing or confident to perform task.
3) High relationship /low task-Leaders shares ideas and facilitates in decision making. Follower readiness is moderate, able but unwilling or insecure to perform task.
4) Low relationship/low task. Leader turns over responsibility for decisions and implementation. Follower readiness is high, able and willing or confident to perform task.(pp.173-182, Ch.8)

Each segment of the model portrays the relationship and task involved. Situational leadership moves through each segment based on job skills and psychological readiness. As staff members begin to develop (or new situations occur), situational leaders adjust their behavior relationship, beginning with 1 (e.g., training a new employee) and ending with 4

(leader turns over decisions and implementation to follower).

Some leaders have a hard time getting past the third phase because he feels the fourth phase (handing over the decision making process) jeopardizes his job security. After all, he is giving away control and power. The leader must be able to flex into the various stages as needed by a given situation. Situational leadership is ideal for managing in employee empowerment systems because it offers flexibility in style.

CHAPTER 3

The Baldrige Criteria offers an outline of elements that must exist in the company. Because the application is detailed, a company can compare it existing system to the Baldrige criteria. Some companies periodically have themselves scored by professional Baldrige auditors to see where they exist in the points system. For a company to win a Baldrige, they must score over 800 points, of 1000 possible. They must score approximately 600 points on their application just to receive a visit from the auditors. The following is a summary of the Baldrige criteria on which a company is assessed:

Leadership: Management serves as role models for quality. The management process integrates values, customer focus, plans and goals into day-to-day management goals with set goals throughout all levels of management.

Information and Analysis: Comprehensive, reliable facts and data are gathered to run the business. The company compares itself to competitors and uses world class benchmarks to accelerate improvement and breakthrough thinking. There is a process to gather and analyze customer, operational and financial data and results.

Strategic Planning Quality Planning: Long and short term quality, customer satisfaction and operational performance goals are integrated into the business plan.

Human Resource Development: Plans and practices are integrated to assist in the development of employees. Trend data and feedback are collected, and the effectiveness of the practices is evaluated. Practices include employee involvement; education and training; performance measurement, reward and recognition. The environment promotes employee growth and well-being.

Process and management of quality: A business must continually improve its processes, focusing on the design and development of products and services to meet customer expectations. This includes delivery, suppliers, business process and support services. A process to assess quality and performance of all of the above is available. Support services are activities and operations including sales, marketing, public relations, software services, information services, secretarial, research and development, and other administrative duties.

Quality and Operational Results: Overall business operational performance data, and product and service data are collected to help determine future expectations. Business and support services (including supplier quality) results are reported. All results are compared to competitors to determine leadership in the category.

Customer Focus and Satisfaction: Short and long term customer expectations are determined. Strong

customer relations are developed, and the company shows commitment to customers. Satisfaction and customer retention are determined objectively, through quantitative data, and comparison with competitors. The process in which the data is collected is continually evaluated and improved (pp.16-32).

The Baldrige award is helpful in deciding what elements should exist in a world class company, but unless you know how to design them into a workable plan, they many not be helpful to the organization. Because quality has to become part of the culture, leaders should seek professional consulting on quality planning.

Jablonski, a professional in the design and implementation of quality systems offers his advice for quality planning in an organization. The most important aspect of Jablonski's book for this paper's purposes, is the focus on Implementing quality in a service environment. Quality planning is different in the service industry than in the manufacturing industry. Jablonski points out the four main differences in a service industry:

1. There are no products with exact specifications.
2. Its services are perishable.
3. There is a strong presence between customer and client.
4. A delivery system is present.

According to Jablonski, there is a lack of attention to quality in this arena. He states that gurus typically spend hundreds of pages using case studies, examples and experiences to show how a quality system helped manufacturing companies improve. Then, the gurus point out "in a page or so" that the same tools are applicable in service, yet fail to elaborate on how the principles are applied (pp.54-57, Ch.2).

It is not that administrative service quality does not exist in a manufacturing company; many times it is just overlooked. Additionally, the orchestration of all of the manufacturing functions enables companies to produce quality — not just the shop floor functions. Quality systems for service must be implemented to meet the different needs of the service industry (i.e., the administrative environment). A separate quality plan must address the use of teams, training, communications, processes and leadership in the administrative environment.

Quality experts will say that leadership is the number one priority for success. While it is true a full-blown successful quality system cannot be implemented without leadership, it is not necessarily the foremost important characteristic of a program. Jablonski says without top management commitment, a "full-blown" TQM process will not occur, but a "grass roots movement" can occur if employees learn to use the

tools and are able to apply them to their own work (Jablonski, 83).

All people in the organization need to be trained at some point, beginning from the top with the CEO (Jablonski, 85). Because training can be the most expensive part of the program, organizations tend to shy away from training everyone. Since all employees are not trained, TQM successes can only occur in limited areas of the company.

Training begins at the top where the decision for implementing quality will come. The CEO and his executive staff need to be trained first in total quality management philosophy and thoroughly understand the concepts and know how to apply them. Beyond just being able to define quality systems and quality terminology, these leaders must be able to use the concepts if they expect others to apply them. Leaders should understand benchmarking and how to do it successfully. [Benchmarking is the act of identifying a similar process in another company to use as a model for the process being examined, or a comparative to measure against; the company being benchmarked must be considered the leader in that process.]

Leaders must be able to measure themselves to be aware of their effectiveness, and create areas for improvement. Being the CEO of a company is a lot of

work, but taking on a quality system doubles the load. In defining top management commitment, Jablonski states:

> Substantial amounts of executive time, particularly that of the CEO, are necessary to successfully implement TQM. Committing a subordinates' time and corporate funding is not enough. Both management and the workforce assess the importance of priorities in terms of where the CEO spends the majority of his or her time.
>
> Early in phase 0, management spends time defining the organization's vision statement, corporate goals, outlining policy and making that all-important decision to proceed into the planning phase. Although accomplished along with other executives, the active, hands-on participation of the senior executive is essential (p.81, Ch.4).

Jablonski basically states leadership commitment to change is vital. Since top management is human, too, corporate leaders also have fears about change.

Despite training and motivation, there are those who just refuse to change. Perhaps they need special training, or removal from their position. Managers unwilling to change become bottlenecks in the quality system. For example, managers filter the quality message

in top-down communications. Employee involvement will not work if employee ideas and suggestions are killed at the manager level, or if employees are unable to make changes to their work processes.

Jablonski reports quality moves managers away from micro-management practices. Managers traditionally respond to customer complaints by managing workers more closely (micro-management). In a quality environment the processes are examined and changed to resolve customer complaints. This type of management makes quality attainable, and workable for employees. This also affects how a manager is evaluated. If the manager is managing the processes, then his goals will be based on customer feedback, and possibly, employee evaluation of those processes. Managers who can adopt the quality philosophy and adapt to change demonstrate their commitment to quality.

In a quality environment, managers must learn to manage under an employee empowerment system. The American Society for Quality Control issued a pamphlet on empowerment which defines it as the following:

> Authorizing people at the lowest level to make decisions. Educate, enable and authorize with responsibility and flexibility. A force that energizes people. The giving of power. Practices to drive day to day decision making

at even lower levels of the organization.

Creating opportunities for action.

Empowerment is one aspect of employee participation, which is only effective if employees are trained to use quality tools, team skills, and communication skills. Quality tools, help employee innovate solutions; identify processes and problems; and measure effectiveness. Jablonski refers to teams as PATs, or Process Action Teams. Under the Baldrige criteria, employee involvement is also supported through education, recognition and reward.

The elements of a quality system promote improved communications. In addition to training and quality teams, some companies use suggestion systems and gainsharing programs to encourage employee involvement. This allows top management to receive information directly, eliminating filtering channels. As quality experts point out, the channel must also feed back information to the employees directly so they know what they are saying is also being heard.

Feedback to and from employees is important because they are the closest to the customer. Not all lower level employees have direct contact with customers, but they do know why the customer is complaining and how to fix it. Top management cannot effectively write a quality plan without input from its internal and external customers.

Recognition of internal and external customers in service is a key focus to quality improvement in the administrative environment. It is the focus on external and internal customers that will create the need for training, teams and improved communications. Bhote, who addresses Ishikawa's NOAC system (Next Operation As Customer), clearly focuses on the customer as driving the changes in service.

Including NOAC in the infrastructure will help employees identify customers. Bhote identifies the six principles of Ishikawa's NOAC system:

1. **The internal customer is prince.** Internal customer needs, requirements and future expectations determined. For example, the engineer currently considers himself as customer of the communications department. Under the NOAC system, communications is the customer because they are the next operation; in others they receive input from the engineer which determines how well communications performs the output, or input for the next customer.
2. **Process, process owner, customer, supplier.** All work is a process, regardless of level. One who gives input (the previous operation) is a supplier, and the recipient of the input is customer. "Each process has a 'process user,' who adds value to that input and converts it into an

output for the internal customer--the next operation" (qtd.in Bhote, 15).

3. **Measurement and Feedback**. The effectiveness of the process and the process user is measured by the internal customer's evaluation.
   a. Translates the internal customer expectations and requirements to internal supplier's performance.
   b. Parameters for performance must be set. The measurement method, frequency and feedback are mutually pre-determined.
4. **Consequences.** Assess the consequences for performance. Appropriate rewards and punishment must exist. Management must determine beforehand if the system (not the worker) is the culprit for failure. Most administrative problems are system related. (An average of less than 10% are the fault of the individual or group working in the system.)
5. **Continuous, never ending improvement.** Measurement provides a "baseline" for improvement. Quality, cost and cycle time is most important in NOAC. Quality tools are a main feature of NOAC's method for improvement.
6. **Employees as partners.** Quality improvement techniques will work only if there is a change in the relationship between management and employees.

In order for employee Empowerment to work, management must become motivators, helpers (not controllers), coaches, listeners, and they must mingle with the people.

Focusing on customer needs will force changes in the administrative environment. For changes to be successful, training is necessary. Training is an important aspect of a quality system because quality movement means creating a cultural change. It is easy to blame the leaders of our corporations for quality system failures, but they cannot change the system alone. It is up to everyone in the organization to change the system.

Change focuses on the relational dimension of employees and their processes as they create the service output the customer receives. "You can't teach an old dog new tricks" is a lie. Pets can be trained at any age with the right approach. Quality systems fail at the administrative level because we have not figured out the right approach. For us to change, we need to be trained in the tricks of the quality trade: quality tools, communications, customer focus and leadership. The approach must fit the needs of the trainee.

Training communicates the principles of quality, and builds an environment of support for quality. It helps employees and managers weed through the various abstract administrative processes. Administrative

systems are complex, with its bureaucracies, biases and micro-management practices.

Training must be on-going and measured for effectiveness because without an effective training plan administrative quality systems die. Jablonski, Bhote, and Baldrige all address employee education on the use of quality tools as an important aspect of successful teams. Employees use tools as individuals, interdepartmental teams, and intradepartmental teams.

NORDYNE is no different than most companies having problems implementing TQM administratively. Lower-level employees view TQM as another program that did not pan out. Employees discredited TQM because of the company's history of promoting programs that soon die after implementation. Repeated instances developed a pattern, and should prompt management's inquiry into the failures.

In inquiring about past failed programs, I discovered a common occurrence. The programs were hyped through promotions and speeches, and after the grand roll the programs soon died. After the hype, no training, or very little training occurred. Data collection methods for measuring training effectiveness did not exist. Communications were limited to posters, a periodical newsletter, and quarterly financial summaries. TQM was introduced a couple of years ago, followed by a year of introducing various quality

systems, and yet there has been no change at the administrative level. The elements of quality as understood by all quality experts do not exist in the administrative environment.

The environment is not conducive to quality: currently there is no motivation for change, no training to implement change, and no channels for employees to communicate their ideas and suggestions. Managers still practice micro-management because they do not know any different. Employee performance practices are based on questionable goals; many are measured on goals they do not control. NORDYNE is held by a parent company, and their commitment to quality is questionable. It is important for the parent company to support quality systems, because they have control of the financial support.

If we look back into the lessons learned file, we can safely predict current NORDYNE programs such as ISO 9000, DFT and gainsharing will most likely end up like the rest– another quality skeleton in the corporate closet. The consistent failure of programs is a signal for the company to review its implementation techniques. The quality problems at the administrative level of the company have been long ignored. If a company wants to implement a quality culture then it has to recognize administrative functions as a service and a significant part of continuous improvement.

The following chapter is a quality plan for the administrative level. The plan addresses the required elements for change that currently do not exist at the administrative environment. This plan assumes there is leadership commitment from senior executive level to support a quality system throughout the administrative organization. This is not a plan for the whole organization; it is a sub-plan of the corporate quality plan (which is outlined by the executive steering team). This plan is specifically designed plan to help achieve the goals in the bigger picture.

CHAPTER 4

1995 NORDYNE Administrative Quality Plan (AQP)

Three steps exist towards the quality movement at the administration level: 1) Developing the AQP; 2) Executing AQP; 3) Evaluating the AQP. This plan is step 1. It outlines the strategy for implementing a quality system at the NORDYNE administrative level.

PART I. NORDYNE MISSION

A. **NORDYNE's Vision:** To exceed customer expectations.

B. **We serve:** markets for manufactured and site built structures. We provide: heating, ventilating and air conditioning equipment, replacement parts, related products and services. We differentiate ourselves by: innovatively applying proven technology; having friendly, helpful, courteous employees; and providing superior products, flexible programs and responsive service so that our customers are eager to do business with us!

C. **Our strategic goals are:** Protect and grow the manufactured structures and electric heat businesses; grow residential and parts businesses; and continuously improve our products, processes, people and profits to help our customers prosper.

PART II. ADMINISTRATIVE QUALITY PLAN MISSION

A. **The AQP serves:** the customers of NORDYNE's corporate mission and customers, whether internal or external, affected by the processes and products developed in the administration processes. **The AQP defines** the steps necessary to implement a quality system at NORDYNE. **The AQP is designed** on proven quality techniques, and the theories of successful quality planning; it is custom-designed to eliminate weak areas of the current operational situation.

B. **The strategic goals of the plan are:**

1. Continuously improve products, processes, people and profits and meet customer expectations 100% of the time.
2. Train and educate all administrative employees and managers with the knowledge to support change; enhance their problem solving skills, leadership skills, and customer focus skills.
3. Create an environment that encourages participation, innovation, motivation and recognition through employee empowerment, employee suggestion channels, feedback channels, and reward systems.
4. Address the need for change in management styles for operating under the AQP; aid managers in developing departmental missions; and educate managers on the importance of setting departmental

goals and employee performance goals that are controllable, and measurable.

5. Employ change and training simultaneously through Cross-Functional Process Teams in order to meet customer expectations. This will include teaching employees to use new skills in real problem-solving situations; increasing effectiveness of company-wide training; and creating success stories in the organization to demonstrate, and increasing the credibility of the quality system.

C. **AQP Purpose Statement:** The AQP addresses the need for change in the administrative culture by outlining a strategy easy for the employees and managers to follow and understand; it is a preventive measure to avoid quality system failures as experienced in the past, and like all quality systems, is susceptible to measurement and change to meet changing needs.

PART III. LESSONS LEARNED

A. Quality Circle Failures (Early 1980s)

1. Quality Circles were formed to help reduce cost. Ideas that were brainstormed were presented, but not implemented.
2. Employees did not want to commit time to the team.
3. Training was in Quality circles. Only the leader and "referee" were trained.

4. There was no measurement/monitoring system provided for the group.
5. There was no substantial feedback to employees.
6. There was no reward and recognition system.

B. Cost-Busters Program Failure (Early 1990s)

1. Employees were to submit cost-savings ideas, and how they were going to save money.
2. The suggestions were routed to the person that had control over the change; it was up to him to say why the change could or could not be used.
3. No reward or recognition existed for suggestions submitted or implemented.
4. Employees were not encouraged to act as teams.
5. There were no system evaluations.
6. There was no substantial feedback to employees.

PART IV. ADMINISTRATIVE ATTITUDE SURVEY-TAKING THE TEMPERATURE

A. The following results were taken from an administrative survey held last year. The survey results are separated into "hourly" and "salaried" to compare reactions. This survey was conducted in the Spring, 1994. (NORDYNE Human Resources Dept., 1994) See Figures 1 & 2.

1. (Participants; 34 hourly employees)

	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
1. I feel management of the company is concerned about the welfare of the employee.	18%	47%	21%	15%
2. I think our benefits package is good or better than most companies in the St. Louis area.	9%	44%	26%	18%
3. The employees in our department feel free to talk to our supervisor when they have a problem.	47%	38%	9%	6%
4. I feel I am making a fair salary in comparison with employees of other similar companies in the St. Louis Area.	9%	53%	26%	9%
5. My supervisor has a good attitude toward the employees that work under him/her.	47%	32%	6%	15%
6. I have confidence in the fairness of management towards employees.	12%	47%	35%	6%
7. I think employee discipline when necessary, is handled fairly and consistently in our company.	9%	56%	24%	9%
8. Usually when I ask my supervisor a question, he/she either has the answer or gets it for me right away.	41%	35%	15%	15%
9. Most employees feel when they have a grievance it gets resolved in our company.	6%	44%	44%	3%
10. I think the employment and promotion policies in our company are fair and reasonable.	6%	24%	44%	26%

Figure 1

2. (Participants; 50 salaried employees)

	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
1. I feel management of the company is concerned about the welfare of the employee.	16%	48%	26%	10%
2. I think our benefits package is good or better than most companies in the St. Louis area.	12%	32%	44%	12%
3. The employees in our department feel free to talk to our supervisor when they have a problem.	52%	30%	10%	8%
4. I feel I am making a fair salary in comparison with employees of other similar companies in the St. Louis Area.	30%	46%	20%	2%
5. My supervisor has a good attitude toward the employees that work under him/her.	54%	28%	16%	2%
6. I have confidence in the fairness of management towards employees.	28%	34%	26%	12%
7. I think employee discipline when necessary, is handled fairly and consistently in our company.	18%	54%	18%	96%
8. Usually when I ask my supervisor a question, he/she either has the answer or gets it for me right away.	54%	30%	12%	4%
9. Most employees feel when they have a grievance it gets resolved in our company.	22%	52%	18%	0%
10. I think the employment and promotion policies in our company are fair and reasonable.	24%	48%	14%	14%

Figure 2

B. 1994 Results interpretations.

1. Management presented the survey results to the employees at a quarterly report meeting. The feedback was interpreted to the employees as:

   a. *Agree somewhat* and *agree strongly* both reflected positive response; *somewhat disagree* and *disagree strongly* were interpreted as negative responses.

      The method of interpretation distorts the outcome of the survey. For instance, if someone agrees only *somewhat*, then that means the respondent actually has some disagreement with the statement (and vice-versa). Therefore, the only unambiguous reflection of employee satisfaction is in the category, Agree Strongly.

   b. A 50% rating or above in the positive categories was considered acceptable. In a quality operation, 50% approval is not favorable. A goal of 100% satisfaction should be the target.

2. The correct way to interpret this survey would to label the *Agree Strongly* category as an *employee satisfaction* category. The remaining categories are grouped together as *unsatisfactory*, or opportunities for improvement. This interpretation results in a more accurate picture of areas of administrative operations that need improvement. This approach interprets the survey as follows:

a. (Q.1):17% believe management is concerned with their welfare. Only 14 of 84 employees give a satisfactory response. (These findings challenge management's credibility as management claims to be concerned. The issue should be addressed.)

b. (Q.2): 11% believe the benefits package is good or better than most companies. 9 of 84 employees give a satisfactory response.(This statement is inconclusive, because it calls for employee speculation.)

c. (Q.3): 50% believe they are able to talk with their supervisor if they have a problem. 42 of 84 employees give a satisfactory response..(This result is inconclusive because it doesn't determine if the boss is able to help solve problems, or the type of problems in question (personal, work, employee, etc.)

d. (Q.4): 20% believe the income is good or better than most companies. 17 of 84 responses employees give a satisfactory response.(This statement is inconclusive, because it calls for employee speculation.)

e. (Q.5): 51% believe that their supervisor has a good attitude towards their subordinates. 43 of 84 employees give a satisfactory response. As in "c", this suggests that slightly over half the

respondents are comfortable talking to their supervisor, hardly a ringing endorsement.

f. (Q.6): 20% are confident in the fairness of management towards employees. 17 of 84 employees give a satisfactory response.

g. (Q.7): 14% say discipline is employed fairly and consistently. 12 of 84 employees give a satisfactory response. (The question itself points out that the current system employs negative reinforcement to improve performance; this combined with the fact a positive reinforcement system doesn't exist can be detrimental to employee attitude and performance.)

h. (Q.8): 48% say that supervisors quickly respond to their questions. 40 of 84 employees give a satisfactory response. (This is also unreliable because the perception of "quick response" varies, as does questions that are asked of a supervisor.)

i. (Q.9): 14% feel grievances get resolved in the company. 12 of 84 employees give a satisfactory response. (6% of the hourly are satisfied compared to 22% of the salary)

j. (Q.10): 15% feel employment and promotion policies are fair and reasonable. 13 of 84 employees give a satisfactory response. (6% of

the hourly are satisfied compared to 24% of the salary)

3. In summary, this survey was seriously flawed because:
   a. The questions were ambiguous.
   b. The survey failed to ask some important questions.
   c. Management's method of interpretation tainted the results.

C. Survey Design and Content

1. Some of the important categories that were overlooked are categories where there is the most need for improvement (some overlooked because it is common knowledge that certain things do not exist in the organization):
   a. Employee rewards and recognition systems.
   b. Departmental team work
   c. Intradepartmental team work.
   d. Leadership of managers.
   e. Communications
2. In a couple of questions, employees were asked to compare characteristics of their job with similar companies in St. Louis. To answer this question correctly, one would have to have first hand knowledge of these characteristics as they exist in other companies. Since most people do not have that knowledge, answers are given based

on past experiences with former employers. The problem with using past employers as a comparison is that most people leave those companies to better their money, security or status. Therefore, the comparison would most likely be favorable.

3. Recommendations for 1995 Survey-"Organizational Climate Report (Jablonski, p.141) This survey reveals the strengths and weaknesses of the administration services.

   a. Rating system, scale of 1-6. A mean is determined from each subcategory. The category mean is averaged from the subcategory mean scores. Overall Climate mean is averaged from the category mean averages.

   b. Mean scores of less than 3.5 indicate areas of needed improvement, or lack of current productivity in the area.

3. Categories and subcategories for internal customer survey:

   a. Strategic Focus:

      - Awareness of Strategic Challenge
      - Vision for the future
      - Innovation
      - Quality policy/philosophy
      - Value System/Ethics

   b. Leadership and Management

- Leader's Involvement
- Leader's Visible Commitment to goals
- Supervisor's Role in Quality Improvement
- Supervisor's Concern for Quality Improvement
- Supervisor's Concern for Quality Improvement

c. Work Force

- Awareness of Productivity/Quality Issues
- Attitudes/Morale
- Cooperation
- Involvement
- Perceptions of Work Environment
- Social Interactions
- Task Characteristics
- Rewards/Recognition

d. Customer Orientation

e. Communications

4. Goals are set to improve weak areas. Goals are incorporated in the AQP, and DQP.
5. Use feedback to conduct employee focus groups to get ideas and suggestion on improvements.
6. This an annual survey. Implementation of processes to improve these areas should be tested and monitored more frequently.

V. GATHERING EXTERNAL CUSTOMER INFORMATION

A. The most important information about our processes and how we are doing as an organization comes from

our customer. Currently, there is no external survey at NORDYNE to get customer feedback.

B. There are three types of external customer surveys:

1. Current Customer Survey – used to identify what we are currently doing right, and what areas need improvement.
2. Former Customer Survey– find out why the customer left.
3. Potential Customer Survey– goes to competitive customers to ask them to rate their current goods and services, helping us identify our competitors advantages.

C. Customer input can also be solicited internally through those who work with customers. Some customers volunteer information through complaints and compliments.

1. Categories and subcategories for customer surveys are:

a. Attributes a customer looks for in a professional provider of services.

- Communications
- Friendliness
- Response time
- Accuracy of information

b. When a customer feels an organization is meeting his needs.

- Customer expectations

- What processes are important to them such as warranty claims, technical support, co-op advertising claims, accounts payable, etc.
- What expectations are not met

c. Company policies

- Policies that serve as roadblocks

d. A customer's desired attribute in an employee/manager.

e. Competitor

- Desirables from the competitor
- How do we measure against our competitor
- Undesirables from the competitor

f. Non-Competitors

- Desirables in services from other business that are not necessarily competitors
- How do we measure ourselves against other companies providing similar services

PART VI. GLOSSARY OF TERMS TO BE USED FOR PLAN

A. Glossary (Juran, pp.272-274)

1. **Administrative departments**- Any department with in NORDYNE providing operation and support services to either internal or external customers. Includes both hourly and salaried employees, supervisors and managers.
2. **AQP** (Administrative Quality Plan)- Annual Plan developed to implement short and long-term

corporate quality goals for the administrative departments of the company.

3. **Cross-functional Team** - A team developed to work on improving a process that is connected by more than one department.
4. **DQP** (Department Quality Plan)- Customized department plan developed to implement long and short-term goals parallel to the administrative quality goals and overall corporate goals.
6. **Employee Empowerment** - Authorizing people at the lowest possible level to make decisions. Educate, enable and authorize with responsibility and flexibility. Practice of driving the decisions down to the ever lower levels within the organization.
7. **External Customer**- anyone outside the organization impacted by a process or product (output).
8. **Feedback-** response data that is retrieved or volunteered.
9. **Goal**- an aimed at target; an achievement toward which effort is expended.
10. **Input-** all the means employed by the process to produce a product(output).
11. **Internal Customer**-anyone within the organization impacted by a process or product (output).
12. **MBF** (Management by Fact)- Using factual data to manage operations and evaluate performances.

13. **Macro Process** - A cross-functional process, spanning over more than one department.
14. **Micro Process** - Processes that are limited to one department.
15. **Process Variability**- variation of the output of a process. Administrative processes have normal variances. Finding out what are the normal variances allows us to set control limits. Once control limits are established collected data can be analyzed.
16. **Process**- method that an organizational units use to carry out assigned responsibilities. A systematic series of actions directed toward the achievement of a goal.
17. **Processor**- whoever conducts a process
18. **Product-** whatever is produced by the process is an output, or product. Sometimes it can be a physical product, sometimes it is a service.
19. **Quality Tools**- Methods used to implement quality improvement. These methods enhance the ability to communicate, make decisions, collect and analyze data.
20. **Supplier**- Anyone providing input is a supplier.
21. **TQP**- Team Quality Plan that identifies the team and process missions, quality statement, service provided, objectives, goals, strategies, etc.

PART VII. IDENTIFY PROCESSES, SELECT PROCESS OWNER, DEVELOP CROSS-FUNCTIONAL TEAM

A. Apply the principles of the NOAC system, introduced through training on customer focus awareness, and the use of flow charting.

B. Identify process owners for each major cross-functional process. The owner's responsibility is to ensure that the end customer of the process is satisfied 100% of the time. TQM coordinator selects the process owner from the departments in the cross-functional process. *Examples of Cross-Functional Processes that are important to the customer are*:

   1. Product Design-product engineering, sales, drafting, manufacturing engineering, purchasing, quality engineering, technical support
   2. Product Literature- engineering, communications, manufacturing, supplier, purchasing, technical support.
   3. Trade Show Coordination- communications, sales, engineering, supplier.
   4. Evaluation of Cross-Functional Teams- TQM coordinator, human resources, process owners.

C. Cross Functional Teams are (as exampled in "B.") led by the process owner. Responsibilities are:

   1. Identify major customers of the process and include internal customer requirements and measurements. Prioritize their requirements.

2. Flow chart entire process with the most final customer and his most important requirements. Measure current levels of satisfaction.
3. Identify process suppliers
   a. Get both supplier and customer to agree upon requirements and measurement system for process.
4. Develop and aid in move to new processes.
5. Measure conformance to requirements (100% customer satisfaction) and analyze root cause problems.(Failure to meet requirements are covered under "Consequences.")

D. Develop glossary so departments that are communicating technical terminology are talking about the same thing.

E. Develop feedback channels to collect and disseminate internal and external customer information.

F. Utilize quality tools (like those listed below and defined in the appendix) for methods of collecting and analyzing data, aid in identifying and resolving problems, and help meet customer satisfaction at 100%.

VIII. QUALITY TOOLS AND EXAMPLES

A. Utilizing quality tools to achieve quality, cost and cycle time improvement.

B. Develop an administrative process book. The book includes flow charts of various processes so there is a written identification for internal customers and internal suppliers. Make sure that processes are mutually understood by all parties involved or affected by them.

C. Quality Tools Overview

1. Tools recommended for administrative company.
   a. Decision Tools
   b. Problem Solving Tools
   c. Data Collection Tools
   d. Data Analyzation Tools

D. Issue a company Quality Tools Book for teams and departments. The handbook (see appendix) should include the definition, directions for use, and visual sample when possible of the following tools:

1. "B" vs. "C"
2. Benchmarking
3. Brainstorming
4. Brainwriting
5. Checksheet
6. Consensus
7. Cost-Benefit Analysis
8. Fishbone Diagram

9. Flow charting
10. Focus Groups
11. Force-Field Analysis
12. Histogram
13. Idea Mapping
14. Is/Is not Analysis
15. List Reduction
16. Multi-vari Chart
17. Multivoting
18. Nominal Group Technique
19. Paired Comparison
20. Pareto Analysis
21. Process mapping
22. Stratification
23. Surveying
24. User's Groups
25. Value Engineering
26. Weighted Voting

PART IX. MANAGER TRAINING

A. Department Planning

1. Define department mission and measurable goals
2. Define department service provided.
3. Identify customers and suppliers
4. Identify internal processes and look for improvement areas.

5. Institute standards to reduce variation among workers.
6. Clearly define the responsibilities and job descriptions of workers.
7. Utilize feedback methods periodically to get information from customers.

B. Topics for Manager Training

1. Situational leadership.
   a. Converting boss to coach.
   b. Preparing an employee to be empowered.
2. Performance must be measured by the customer to be managed.
3. Clarify the difference between Manage by Objectives and Manage by New Year resolutions. When used properly, MBO becomes MBF (management by fact).
   a. Encourage employees to participate in goal setting. Goals will be based on meeting customer satisfaction.
   b. Establish consistent goals among various levels of the organization.
   c. Set goals based on external customer input, and that the internal customer and internal supplier agree upon.
   d. Initial goals should be obtainable to encourage a high success rate, generate confidence and self-esteem. Goals should work towards 100% customer satisfaction.

e. Set three or four vitals goals.

f. Measure the performance of all internal suppliers and customers.

g. Establish goal measurement that is easy, simple, non-subjective, east-to-apply and mutually accepted by internal customer and supplier.

h. Design cost of measurement so that it is significantly lower than expected tangible benefits.

i. Use time comparisons to measure departments, teams, or groups against themselves. The internal customer is the scorekeeper.

k. Identify the best measurements, which are a group's quality effectiveness, cost effectiveness and cycle time effectiveness.

4. Audit the effectiveness of an operation.

5. Measure cycle time.

6. Learn and employ the use of quality tools used for service such as benchmarking, Multi-vari, pair comparison, cause and effect, focus groups, surveys.

7. Increase communication effectiveness skills.

PART X. CONSEQUENCES

A. Consequences

1. Employees/Teams/Managers meeting customer expectations should be recognized for their performance. Those not meeting expectations should also be addressed.
2. Just as people vary, so does what motivates them. While some are motivated by money or security, others are motivated by achievement and recognition. The award system should be diverse enough to motivate most employees and managers, as well as address performance that does not meet customer requirements.

B. Performing to customer requirements.

1. **Team Success Award**- given to PAT and department teams for their successes in implementing change. A large plaque bears names of successful teams. Team Names are engraved on individual brass plates; plates are added when successes are achieved.*
2. **Leadership Awards-** Managers should be recognized for their efforts made in employee empowerment. Managers are nominated by employees, and are also reviewed by the award committee. Awarded monthly, excellence in leadership is recognized with the manager's name, month and year of award.

3. **Excellence Awards–** Individuals will be recognized for their ideas/suggestions implemented into the system; and outstanding contributing efforts to quality. Employees and managers are nominated by their peers, customers or colleagues. The person nominating another individual must state the reason for the nomination. Nominations are reviewed and awarded monthly, quarterly, and annually by the award committee. The committee includes TQM coordinator and steering committee. (See Award System Plan) * These awards should be displayed in an area all customers, visitors, and employees can view.
4. **Supplier Quality Award-** nominated by NORDYNE employee(s), or customers, this award applies to internal and external suppliers. Application is reviewed by committee; winner awarded at regular NORDYNE award meetings.
5. **Merit Raises-** performance exceeding internal customer expectations is recognized with the highest, predetermined percentage raise available to the employee.
6. **Gainsharing -** if approved, are quarterly payouts given equally to the administrative group if a gain is made against the preset goals.
7. **Job Enlargement**- employee is given more authority/responsibility.

C. Non performance to customer requirements.

1. **Counseling** - help find out why they are not meeting expectation and create a plan to help them overcome stumbling blocks.
2. **Coaching** - help employee meet their goals by using the situational leadership model to adjust the task/relationship role between leader and employee. This approach can be used to rebuild the employee's confidence while retraining them to meet customer expectations.
3. **Job Redesign** - adjust the employee's responsibilities to create better performance.
4. **No Merit Raise** - do not give raise for failure.
5. **Task(s) Transferred to Another Operation** - give to another person (department) within the organization better suited to handle the responsibilities in meeting the customer's expectation.
6. **Task(s) Transferred Outside the Company** - go outside the organization and use businesses better suited to handle the responsibilities in meeting the customer's expectation.

PART XI. IMPLEMENTATION SCHEDULE

A). Phase 01 (1 month)

1. **Phase 01, One Month – Identify Cross-Functional Processes.** Request department manager to collect

input from his staff on their processes that are linked with other departments. This is a mandatory request that will be given one month to accomplish. TQM Coordinator should organize customer input on support services. Customer input comes from the internal and external customer surveys.

2. **Phase 02, One Month - Identify Cross-functional Processes Owners.** TQM owner will organize the cross-functional process data and develop teams and process owners. The TQM coordinator will prioritize the processes that are in need of correction. The TQM coordinator will present the information to the steering team with suggestions for weighing end-customer requirements as determinants for priority. However, priority will be determined by management. The steering team (with possible assistance from the TQM coordinator) will identify the Process owner and team members. Once a cross-functional team is developed and is able to carry out its responsibilities, the TQM coordinator and Steering team will move to the next priority cross-function.
3. **Phase 03, Two weeks - Manager Training.** Department directors, managers and supervisors will be trained on the principles of Next Operation As

Customer system. Managers will be trained in problem solving methods, and quality tools that will make them efficient. Departmental planning elements outlined earlier will be discussed.

4. **Phase 04, Two weeks - Team Training.** Cross-functional teams will be trained on the principles of the Next Operation As Customer system. Team members will be trained in problem solving methods, and quality tools that will make them efficient as a team.
5. **Phase 05, One to Three Months - Cross Functional Team.** The cross functional team enters into discussions to improve the process. The TQM coordinator should attend some of the meetings to evaluate the team, and offer assistance for improvement.

TQM coordinator will make himself or herself available to listen to team members. Outside suppliers can be a part of the team. The team must follow the current processes, identify disconnects, and fix or redesign the process. Before implementation techniques can be discussed, input must be received from customers and suppliers on the new process. Customers and suppliers must agree upon the design changes and

how they will effect them. Once approved, strategy for implementation will be developed.

Teams are scheduled to attend weekly meetings. It is recommended these teams meet offsite to avoid interruptions. If there is a need to bring in an outside source, it should be scheduled for the following meeting in order to accommodate that source's schedule.

5. **Phase 06, One Month - New Process Feedback.** Through surveys and focus groups, feedback on the new macro process will be assessed for continuous improvement. Immediate actions will be taken for problems effecting quality, cost or cycle time.
6. **Phase 07, 2 hours - Cross Functional Team Presentation.** At the quarterly awareness meetings, Cross-functional team members will give a presentation on the techniques they used to design the new process, including the information they gathered, the tools they used, obstacles they overcame, the measurement system employed, and the effectiveness of the new process.

XII. EVALUATIONS

A. Training techniques are evaluated for effectiveness. (At least one month after usage)

B. Cross-functional team evaluations are done after the cross-functional has resolved a problem. However, the TQM coordinator evaluates a Cross-functional team during its formation and takes action to resolving problems with the team.

C. To ensure that department managers and employees are contributing to the quality system, a combination of techniques will be used.

   1. Any problem in a department process (microproccess) will be given a deadline for feedback and response.
   2. Surveys to all employees, and focus groups will be held to assess the progress of the quality system.
   3. Participation will be included in employee and manager performance evaluations. Managers will record employee attendance at meetings. Managers will be evaluated on their ability to oversee the resolution of the problem.

D. Recall some of the focus groups to get employee feedback on system.

E. Use customer survey feedback to measure the current system.

CHAPTER 5

Researching, designing and writing this plan was not what I expected. Being that TQM is popular in many American industries, I thought I would be able to find quality systems that address the service area of a business. I knew from the start about the quality system failures that occur in the administrative environment of a facility. I came in with the assessment that failures were due to the lack of quality fundamentals such as quality tools, training, feedback, etc. While they do play a role in system failures, I have learned that a larger problem exists.

It is my interpretation that quality in administrative environments fails because most companies poorly plan quality implementation in this area. Manufacturers focus so much on their products they overlook the other elements in the business that also affect quality. Some leaders do recognize that quality has to be part of the total culture, but they approach support services and manufacturing with the same techniques. Most text book approaches to quality implementation focus on the manufacturing environment, and proclaim the same techniques will work for service. But repeated quality system failures at the administrative environment are proof that the approach to service quality has to be different.

It is rather ironic. Quality systems are designed to exceed customer expectations, but most quality implementation plans do not address, or address last, the service environment in which people deal directly with customers!

If one looks back to the teachings of Juran and Deming, it is easy to see that the current quality systems are offspring of their work. Read Deming and Juran and one also learns that most of their work is designed around manufacturing. The quality field seems to have a paradigm of its own: many consultants cannot see beyond the parameters set by Juran and Deming. Most companies fail to recognize that there are four distinct differences between manufacturing and service, as Jablonski indicates. I feel it is necessary to repeat them because they are of the utmost importance in order to realize that separate plans are need for the manufacturing and service environments. The four differences in a service environment are:

1. There are no products with specifications.
2. Services are perishable.
3. In service there is direct relationship between employee and customer.
4. A delivery system is present.

It is important to recognize these differences so that a quality implementation plan is designed to nurture these distinctions. This quality plan that I

have written is customized to support service, not manufacturing.

Because Chapter 4 is just a plan, it success focuses on implementation, and the ability to assess and revise the plan as needed. Although I stress that manufacturing and service are different there is one basic principle that applies to both areas — exceeding customer expectations.

We are all customers at some point in time. If we put ourselves in the place of the external customer, then we can improve our processes and our service. The ability to put ourselves in the customers' shoes means we must have the knowledge to substitute our own beliefs with the beliefs of the customers. To get this knowledge we must ask for input, and get feedback from the customer. The NORDYNE environment currently is not set up to support this system. The quality plan addresses the need for feedback. It sets up a system that employs the use of feedback to make change.

However, there are issues at NORDYNE, that cannot be addressed in the quality plan. These issues include commitment and leadership. The parent company, Nortek, controls NORDYNE's financial resources. Implementing a quality system is difficult for most companies because it requires commitment of resources. The resources can be financially draining, and it is hard to justify the

finances for something that it not tangible or predictable.

Nortek also owns several other companies. They focus on how well they are doing for their stockholders. For the right price, all of their businesses are on the market to sell if they can increase stockholder revenues. The amount of finances dedicated to a company will be somewhat relative to the performance of all of the parent's companies. Nortek, in my opinion, is in a business that focuses on short-term goals and short-term commitments. Quality systems require long-term goals and long-term commitments. This clash of goals keeps NORDYNE from being able to commit the resources they need to improve quality.

Nortek has voiced their commitment, as stated in their recent annual report. According to the report, Nortek is investing $8 million dollars to upgrade the technology and implement DFT at the Boonville and St. Louis facilities. The DFT plan requires at least a two year commitment, so financial resources must be committed to maintain the Jc-I-T Institute services until implementation is completed. I attended the DFT training classes for NORDYNE. The Jc-I-T trainer told the class that they carry out the plan with the company and if the company does not follow the plan as recommended then Jc-I-T will not guarantee results. The pressure is on Nortek to "walk the talk."

Leadership is another key issue that the quality plan cannot address. NORDYNE leaders have been through the DFT training courses, and it would have been wise for Nortek leaders also to attend these classes. That way, Nortek could better understand the logistics of DFT and be less likely to drop the plan in the future. Too many quality systems have dropped out of sight, making it hard for employees to get motivated each time NORDYNE a introduces new quality system. If NORDYNE loses DFT, employees will find it most difficult to believe anything NORDYNE says when it comes to improvement planning.

Unlike past programs, however, NORDYNE has moved into a higher awareness level of the need for quality. They actually hired (internally) a DFT coordinator. But efforts must reach beyond the hiring of a coordinator. NORDYNE leaders also have to recognize that all departments play a role in quality.

If NORDYNE wants to exceed customer expectations and become customer-driven, then everyone should be included in the quality plan. DFT addresses support services near the end of its planning phases. However, the approach is manufacturing oriented, not service oriented. I am supportive of DFT, but I feel it will not work at the service level based on the recent history of manufacturing plans failing to meet the needs of a service environment.

Implementing quality at the service level would be best served if NORDYNE had a TQM coordinator to address the service functions of the company. Jablonski recommends a TQM coordinator to serve as a liaison and planner for TQM. Unless leaders understand the importance of quality at the service level, and accept the fact that administration cannot be successful without a specific plan designed specifically for service, then they will never understand the need for an administrative TQM coordinator.

Promoting change is easier said than done. many employees at NORDYNE have been employed there for over 20 years. They have seen many programs come and go. They hardly take these subjects seriously because they have been conditioned to believe the quality systems never work.

The employees recognize a change is needed at the administrative level, as demonstrated in the employee survey. Since the survey responses were interpreted to make the environment look better then it really is, it can be assumed that the company is in denial about problems that exist in the administrative environment. The quality plan is a recovery plan, but recovery can only begin when the business admits it has a problem to recover from.

A co-worker, who is a quality engineer with 15 years of experience, agrees that NORDYNE is not getting

the whole picture on quality. He believes they are making efforts but there are communications and leadership issues that need improvement. He and I both agree NORDYNE has a long way ahead of them, and yet there is evidence of progress. However, due tp our distinct vantage points, we do not see eye-to-eye on everything.

As a quality engineer, his 15 years of experience has been focused on quality in manufacturing issues. My work experience has always been in the administrative environment. He says management sees service people as machines. Therefore, service employees fall under the same principles of evaluation as a manufacturing part — they have to conform to requirements. I agree that service people have to measured for quality also, but I disagree that service employees are seen as machines.

Employees who create a service, which is an input to another department, or an output that goes to a customer are susceptible to different variables than those found in manufacturing. Service people deal with other people (internally and externally). Unlike a manufacturing part, performance is not based on how well a person is built, but how well they perform. People are trained to perform. The constant, unexpected interruptions that occur in support services are predominately driven by the actions of other employees. These interruptions are often sparked by those of

higher authority. Support service people have to delicately nurture these relationships.

Service people spend a lot of time in relationships with internal and external customers. These relationships are built into the processes and effect the outputs of the processes. If people are treated as machines (and machines do not have a brain) than that type of treatment will be absorbed and projected upon external customers. It is the relationship element, and the fact that people determine the output, that makes service unique from manufacturing.

In this uniqueness, comes a requirement to create a quality plan that understands these needs. NORDYNE management needs to approach the administrative environment understanding the differences before they can make progress at this level. While NORDYNE still has to contend with Nortek's financial control, improvement can be made at the administrative level without a financial burden.

APPENDIX

DECISION TOOL

TOOL NAME: MULTIVOTING

Definition: Multivoting is a method to conduct a straw poll or vote to select the most important or popular items from a list. This is performed with limited discussion and difficulty. Multivoting is accomplished through a series of votes, each cutting a list in half. Multivoting often follows brainstorming session to identify the few items worthy of immediate attention.

The Format:

1) First, generate a list of items and number each item.
2) If two or more items seem very similar, combine them, only if the team agrees they are the same.
3) If necessary, renumber all items.
4) Have all members choose several items they would like to discuss by writing down the numbers of these items on a sheet of paper. Allow each member a number of choices equal to at least 1/3 of the total number of listed items (e.g., 48 item list=16 choices; 37 item list -13 choices).
5) After all members have silently completed their selections, tally votes. You may let members vote by a show of hands as each item number is called out. If there is a need for secrecy, conduct the vote by ballot.
6) To reduce the list, eliminate those items with the

fewest votes. Group size affects the results. A rule of thumb is: if it is a small group (5 or fewer members), cross off items with only 1 nor 2 votes. If it is a medium group (6 to 15 members), eliminate anything with 3 or fewer votes. If it is a large group (15 members or more) eliminate items with fewer than 4 votes.

7) Repeat steps 3 to 6 on remaining list with the choices reduced accordingly. Continue this until only a few items remain. If no clear favorite emerges by this point, have the group discuss which item receiving top priority, or you may take one last vote.

When to use it:

To help a team select specific items to work on , when faced with a list of possibilities generated through brainstorming, or other data collection.

Example:

1. Pick 5 students to brainstorm on preferred food selections in the work place cafeteria.
2. Generate a list of preferred foods.
3. Combine similar food items, but only if team agrees.
4. Renumber all items.
5. Have each student team member write down on a piece of paper the numbers of food items he/she prefers. Choose 1/3 of total items. (e.g., if 30 items identified, then each team member writes down their favorite 10.

6. Tally the vote by placing a slash mark next to the numbers of food items preferred by each member.
7. Cross off items with 2 or less votes.
8. Count remining number of items. If you want to continue to reduce the list, repeat steps 4 through 8.

TOOL: CONSENSUS

Definition: Reaching an acceptable decision that best reflects the thinking of all group members; all group members support the decision. Consensus is not a unanimous vote or majority vote. It requires time; active participation of group members; good communications skills; creative thinking ; and open-minded.

Format:

1) Each team member participates fully in the decision.
2) May go through several rounds of outlining a processes
3) Consensus is reached when everyone can live with the decision, although probably no one is completely satisfied.

When to use it:

Your group should decide ahead of time when consensus will be used. Perhaps decisions having a major impact on the direction of a project or conduct of the team (e.g., which problem to study, or what rules to establish). Brainstorming, multivoting, NGT methods are structured ways to reach consensus. Other less formal methods exist, & a team can explore them as members become more relaxed in working with each other.

TOOL: NOMINAL GROUP TECHNIQUE (NGT)

Definition: A structured method to help a group prioritize a list. NGT uses priorities of each member to discover the overall priority.

The Format:

1) Assign a letter to each item on list
2) Prioritize the lists. This can be done by giving each members index cards to record their priorities. Each person prioritizes the list. The highest number for the most important, and lowest number ranking least important.
3) Create a grid for tabulation (see example below), assigning a number for each each person participating in the session. (Assigning a number versus using a name, allows more privacy, and promotes more honesty of prioritization.)
4) Under each person's name, assign their priorities as they listed on the card.
5) When all data is entered, compute the totals. The highest total is the priority, the lowest total is the least priority.

When to use it:

NGT should be used after a brainstorming session, to help

organize a list of ideas into a list of priorities. This helps the group address important issues first, and alleviates them from feeling overwhelmed by the issues at hand.

example:

Problem	Person					Total	Priority
	1	2	3	4	5		
A	5	2	2	1	4	14	
B	2	1	1	3	1	8	Lowest
C	6	4	3	5	3	21	
D	1	5	4	6	2	18	
E	3	6	6	2	6	23	Highest
F	4	3	5	4	5	21	

TOOL: FORCE-FIELD ANALYSIS

Definition: A statistical tool used to strengthen the driving forces or eliminate the retraining forces.

The Format:

1) Define the goal or problem.
2) Define two lists, one which includes all forces that will promote and one to list the factors that will resist the planned improvement.
3) Rank each problem according to the impact it has on the problem or goal.
4) Maximize the forces that promote the desired outcome and minimize the forces that have the negative impact.

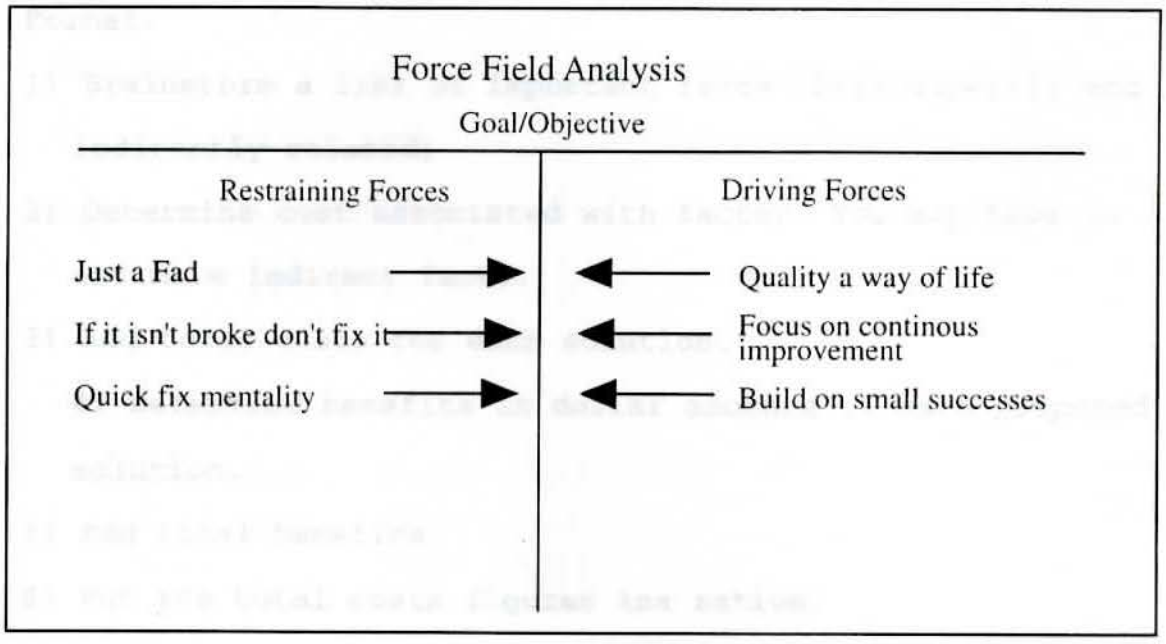
When to Use it:

This tool assists groups in quickly generating and displaying forces that have an impact on achieving a particular objective. Use Force Field Analysis to:

- Identify improvement areas.
- Identify key causes, that if altered, would have a positive impact on a solution to a problem.
- Evaluate the likelihood that a new program or proposed improvement would reap the intended benefits.
- Assist in thinking through a realistic plan that

includes measures to capitalize on driving forces.

example:



TOOL: COST/BENEFIT ANALYSIS)

Definition: A detailed examination of the cost of a proposed solution. It compares all economic costs and benefits of a proposed solution over its entire life cycle.

Format:

1) Brainstorm a list of important facts (both directly and indirectly related)
2) Determine cost associated with factor. You may have to estimate indirect facts.
3) Add total costs for each solution.
4) Determine benefits in dollar amounts of each proposed solution.
5) Add total benefits.
6) Put the total costs figures ina ration:

$$\frac{\$ \text{ Benefits}}{\$ \text{ Costs}}$$

7) Compare the benefits/cost ration for the proposed solution to determine of value may be added with the solution.

When to Use it:

To compare costs & benefits of a proposed solution or multiple solutions. For determining effective use of personnel and/or equipment.

Cost/Benefit Analysis
Solution: Install Modem in DTP

Costs		Benefits-1 Year	
9600 Modem:	$600	Reduces courier costs:	$2,000
Phone Card:	$125	Quicker delivery time:	$ 500
Phone Jack installation:	$550	Trouble shoot own film problems:	$350
4 softwares, $125 per:	$500	Total	$2,850
Total	$ 1775		

	Costs	Benefits	Profits
Year 1	$1775	$2850	$1075
Year 2	____	$2850	$2850
Total	$1775	$5700	$3925

TOOL: LIST REDUCTION

Definition: A way of processing the output of a brain-storming session. Clarifies the options to all group members so they understand them, and reduces the options into a manageable number.

Format:

1) Make sure all members understand all problems on list; leader goes through all items.
2) Use filters to determine of items should remain on list:

   (For problems)

   a) Can this problem or should this problem be solved by a group.

   b) It the problem within the teams control/influence?

   c) Is the problem worth solving?

   (For solutions)

   a) Is it likely to solve the problem?

   b) Is it feasible?

   c) Can we afford it?

2) Team members identify and rank their project goals on the following criterion;

   a) Cost effective

   b) Important to entire team.

   c) Timely to implement

d) Positive effect on quality

3) The team votes on the problem: Simple majority (half + one) keeps the item on the list, while lower items are bracketed. They are bracketed, instead of deletion, because the group may have to come back to them.

When to use:

After a brainstorming session to organize problems/ideas into a manageable list.

Example:

List Reduction

1. Lack of proofing content before publishing.
[2. Product parts change during publication]
[3. Communications typos]
[4. Information only is changed to some of the publications affected.]
5. Lack of communication between departments
6. No one person responsible for accuracy of product line publications
7. Process out-of-date
[8. Not enough time to produce publication and check thoroughly for errors]
[9. Printer can't keep up with changes]
10. No method of knowing what publications should change.

TOOL: WEIGHTED VOTING

Definition: A technique to quantify the positions and preferences of group members. No decision factors or criteria are used. Individual votes are recorded. There is no discussion or attempt to reach agreement on a single decision.

Format:

1) Set up a grid format on a flip chart
2) Members are listed vertically, alphabet letters which represent the options are listed horizontally.
3) Members are given a number of votes, which should be about 1.5 times the number of options.
4) Members decide how to distribute their votes to indicate their relative preferences.
5) Encourage members to distribute their votes about how they feel about an option, instead of lumping them in one category.
6) Have members record their votes individually before entering them on the charts.
7) Members are asked to show their votes by raising their hands and displaying the number of fingers to represent their votes.
8) Votes are asked for by

When to use:

Most useful for taking the temperature of the group as it is working towards consensus. It can also identify a

smaller group's positions and priorities when fewer than eight or ten options are under consideration.

example:

Options for saving money on Denver sales trip

A) Rent and drive a van for Denver Trip

B) Fly to Denver but take less people

C) Leave on Friday to get good weekend flight and hotel rates

D) Cancel Denver trip, and have a phone conference

E) Fly in customers to corporate

Options

	A	B	C	D	E
Jim					
Linda					
Marilyn					
Bill					

PROBLEM SOLVING TOOLS

TOOLS: BRAINSTORMING

Definition:

Brainstorming—These are brain-triggering methods used to "troubleshoot" a problem through innovative thinking. Brainstorming helps a group identify existing problems or, solutions to resolve problems. These methods require a group of at least 2.

The Format:

1) Choose leader for session
2) Choose Subject
3) Make sure everyone understands the subject
4) Everyone takes a turn contributing an idea
5) If you don't have an idea you can pass, until next turn
6) Need a recorder to write all ideas down
7) Encourage wild ideas-it may trigger someone else
8) Hold criticism until after the session
9) Allow a few hours or days for further thought if necessary. (Someone may be triggered after the session.)

When to use it:

To Generate ideas to identify causes, problems or solutions. Used in combination with other tools.

TOOL: BRAINWRITING

Definition: An idea-generating technique that combines features of various approaches to brainstorming. Participants record their own ideas, and provides the opportunity to build on others' ideas.

The Format:

1) Participants write his or her ideas down on a sheet of paper.
2) Members place paper in the center of the table to exchange their own idea with someone else's.
3) Others try to build upon the idea or come up with new approaches.

Alternatives:

1) Large index cards can be used
2) passing to the right vs. grabbing from the center
3) The galley method.The galley involves using flip chart sheets (at least 2) that are posted around the room. For 20-30 minutes, members write their ideas on the charts. Participants then walk around the room for the next 15-20 minutes reading the ideas of others. For the final 20 minutes, members return to their sheets and continue to record data, as stimulated by others.

When to use it:

When an group needs new ideas. These are usually more developed than brainstorming ideas, with fewer ideas generated.

TOOLS: IDEA MAPPING

Definition:

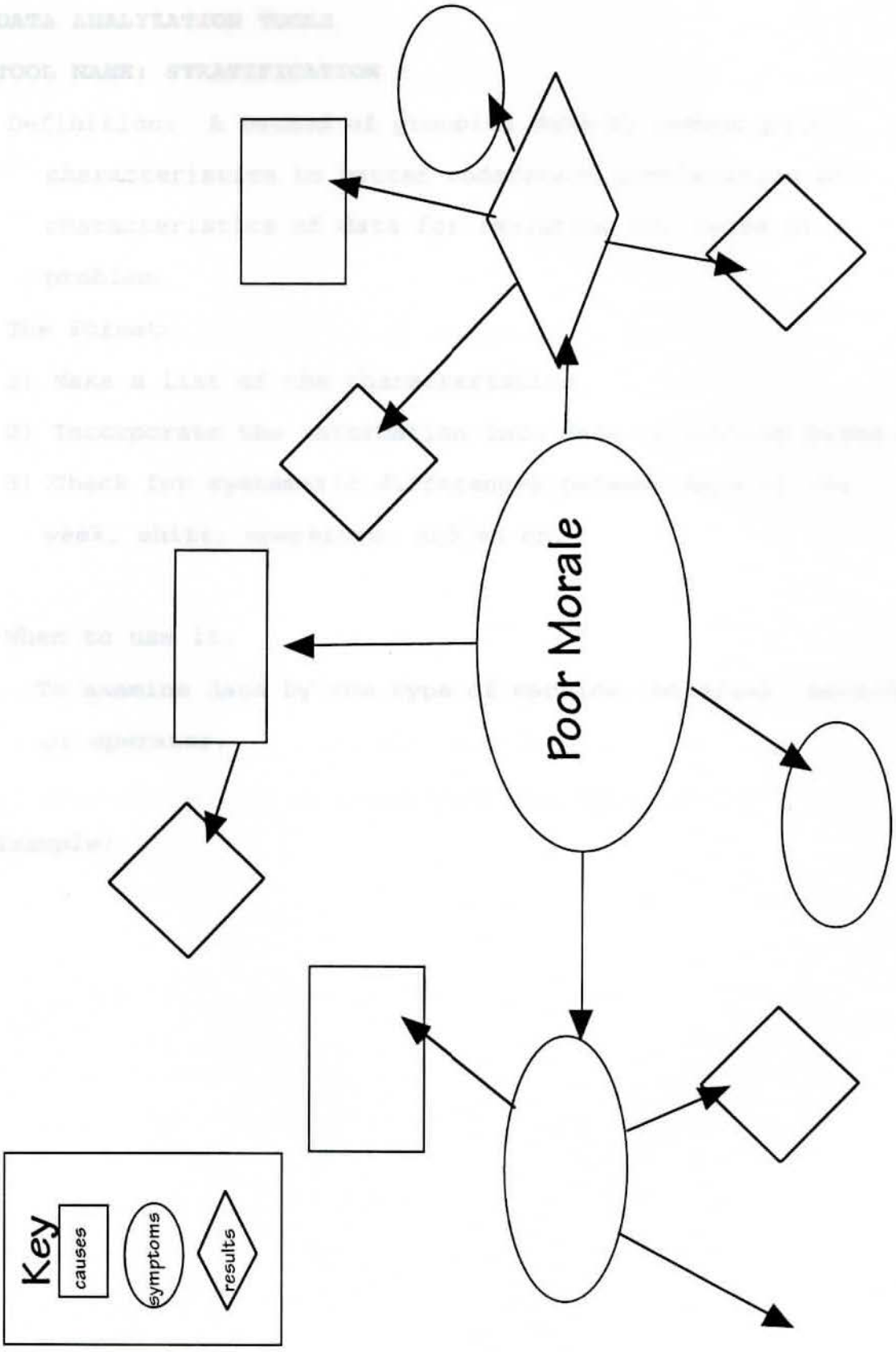
Idea Mapping—A technique to allow thoughts about a problem freely flow before beginning research or discussion. This allows your thoughts to be untainted, & builds a foundation of how you feel about a a problem. This can be used prior to brainstorming in a meeting.

The Format:

1) Use 2 sheets of paper. One is for the problem, one is for the mapping.
2) Choose a trigger word
3) record word on mapping sheet
4) Circle trigger words: Use circle for words that are related to results of the problem; Draw a triangle around words that are symptoms of the problem; draw a square around words that are causes of the problem.
5) Create an outline on the sheet that lists the problem. Transcribe information into outline.

When to use:

To promote innovative thinking; when a problem needs to be defined by causes, symptoms & results you can use idea mapping.


Poor Morale
Key
causes
symptoms
results

TOOL NAME: IS/IS NOT ANALYSIS

Definition: A tool to help pinpoint a problem by exposing where and it occurs and where it doesn't occur, ultimately saving a team time.

The Format:

1) Identify the problem or situation to analyze.
2) Use matrix to Organize the knowledge & information
3) Answers to the questions in the matrix should help you pinpoint & guide data collection so you can verify conclusions/suspicions.

When to Use it:

This analysis should be used to precede data collection so teams know what to look for; then used again to and follow up data collection so teams know what facts actually affect the results.

Example:

	Is Where, when or to what extent or regarding whom does this situation occur?	**Is Not** Where, etc. does this situation NOT occur, though it might reasonably might have?	**Therefore** What might explain the pattern of occurrence & non-occurence?
Where Physical or geographical location of the event or situation. Where it occurs or where it is noticed.			
When The hour. time of day, day of week, month, year, etc. of the event or situation. Its relationship (before , during, after) to other events.			
What kind or how much The type or category of event or situation. The extent, degree, dimensions, or duration of the occurence.			
Who What relationships do various individuals or groups have to the situation or event? To whom, by whom, near whom, etc., does this occur?			

TOOL:MULTI-VARI CHART

Definition: A technique to break down a large number of rejects or delays in support services into more manageable groups of causes to generate clues to the cause of breakdown.

The Format:

1) List the number of problems reported.
2) List the trouble data and duration.
3) Break problems into related categories and sub categories by comparing similar characteristics.
2) Look for characteristics to divide into families, such as operator, department, equipment, time, geographic location, customer type, product type.

When to use it:

Multi-vari can be used to pinpoint the culprit family and subfamily among an otherwise indigestible mass of data.

example: In-product literature with multiple revisions.

Prod.	Model	Engineer	Comm.Spc.	Eng./Dept	# of Rev.
Coils	C2BA	Jones	Baker	Heating	4
Furn	ST47	Smith	Doe	Heating	7
Furn	St45	Smith	Baker	Heating	5
A/C	V1BD	Jones	Doe	Cooling	4
Furn	ST47	Smith	Doe	Heating	7
Furn	St45	Smith	Baker	Heating	5

TOOL: CAUSE & EFFECT DIAGRAM

(AKA Fishbone, and Ishikawa diagrams)

Definition: Method of depicting the relationships between potential causes and effects.

Format:

1) A Fishbone diagram is drawn as sampled on the following page.
2) State the problem in the box at the right (head) of the diagram.
3) Decide the major categories for possible causes. In services, the five Ps are often used. People, provisions, procedures, place, patrons. Place categories in top and bottom boxes on the diagram.
4) Brainstorm possible causes within each major category. Continue to ask "why" on each answer to trace the cause back as far as possible.
5) Review diagram and prioritize possible causes according to their impact on the problem. This will determine data collection and analysis efforts.

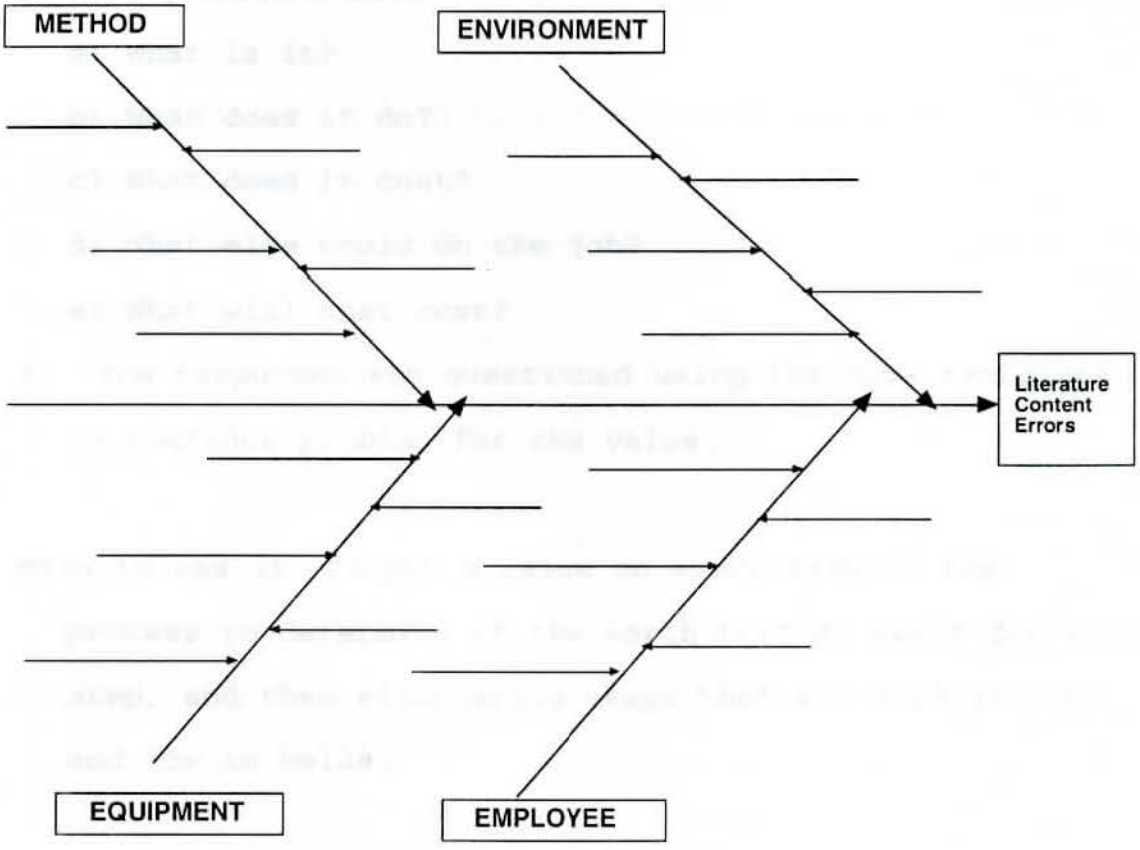
When to use it:

To help organize and focus team on specific issues directly related to the problem. Determine factors that may cause an outcome. Establish a structured approach for identifying root causes. Identify areas lacking

data.

NOTE: Possible causes become actual causes only after verification by data collection and analysis.

Example:



TOOL: VALUE ENGINEERING

Definition: A multi-discipline team approach to achieve total customer satisfaction in quality, performance, cost, service, delivery, etc.

The Format:

1) Challenge everything by questioning every rule, every procedure and every system.
2) The questions are:
   a) What is it?
   b) What does it do?
   c) What does it cost?
   d) What else would do the job?
   e) What will that cost?
3) The responses are questioned using the same techniques to continue probing for the value.

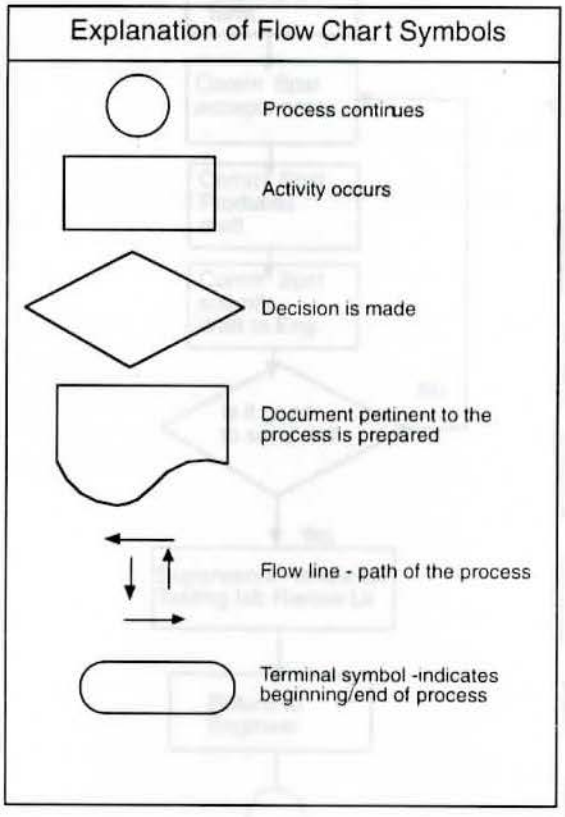
When to use it: To put a value on every step of the process to determine if the worth-to-cost ratio for each step, and then eliminating steps that are high in cost and low in value.

TOOL: FLOWCHARTING

Definition: Identifies the flow pr operations throughout a process. There are 3 types of flow charting: theoretical identified by regulations, actual identified by workers and Best, which can be developed.

The Format:

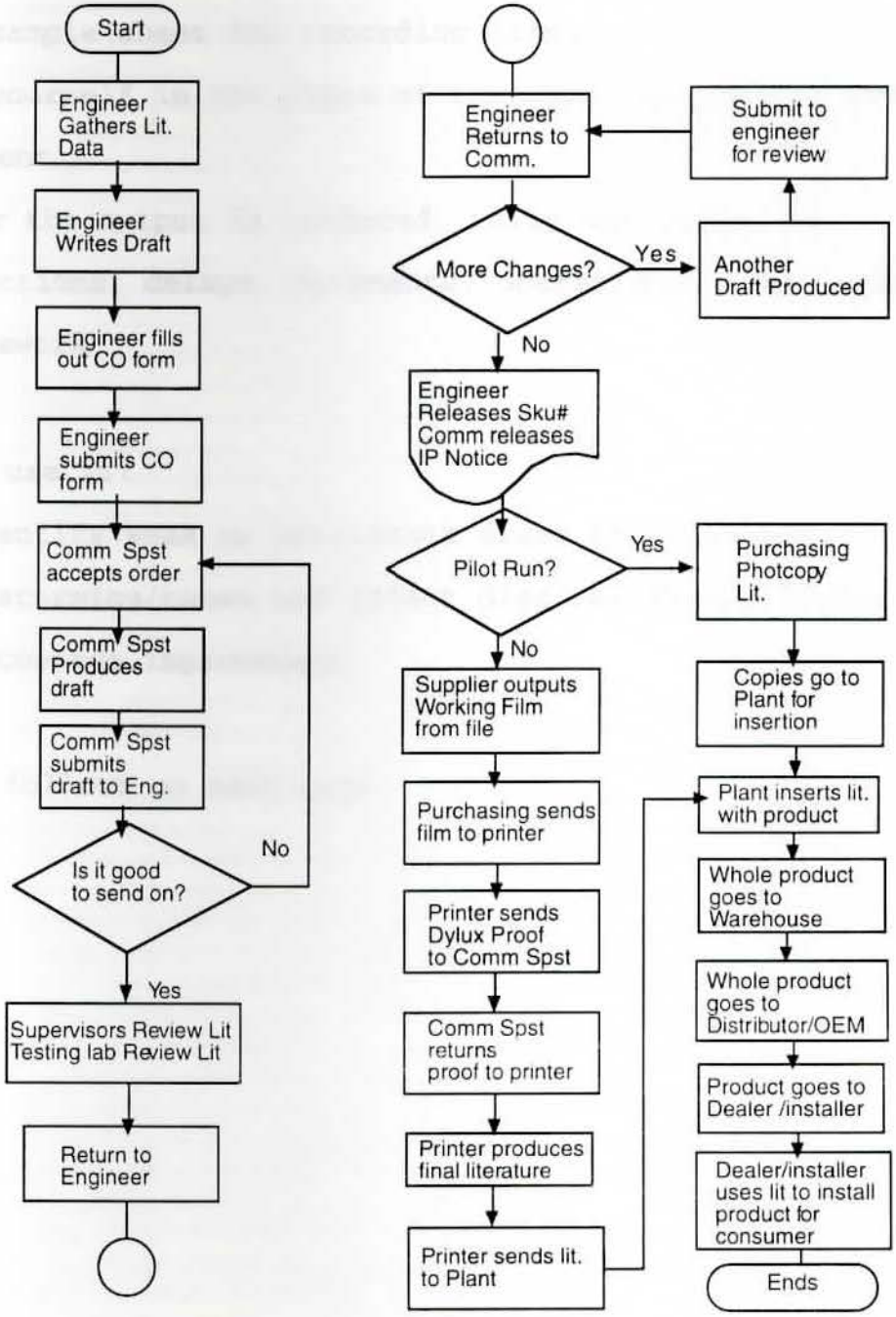
1) Identify they type of flow chart
2) Identify stop and starting points of the process.
3) Brainstorm steps of the process with all key representatives
4) Arrange steps in the proper sequence using basic flow chart symbols.
5) Review steps, verify accuracy, correct if necessary.



When to use it:

To get the big pictures how everything flows; verify or clarify work processes. Identify duplications and bottlenecks.

Example:



TOOL: PROCESS MAPPING

Definition: Similar to "actual'" flow charting, this method identifies bottlenecks, duplication, inspections, delays, hours, and travel of the input in order to produce an output.

The Format:

1) Use sample sheet for recording steps
2) Put yourself in the place of the input and record every movement
3) After the output is produced, tally the number of inspections, delays, movements, operations, time, travel and rework

When to use it:

To identify weak or bottleneck areas in a process. Brainstorming/cause and effect diagrams should follow to work towards improvement.

Example follows on next page.

▼Storage ●Operation ➡Movement ■Inspection ▮Delay ◀▶ If, If Not Decision Next StepVaries

Type of step	If..	Time	Area Trav.	Steps of Communications Literature Process
▽ ○ ⇨ □ D	◁▷			
▽ ○ ⇨ □ D	◁▷			
▽ ○ ⇨ □ D	◁▷			
▽ ○ ⇨ □ D	◁▷			
▽ ○ ⇨ □ D	◁▷			
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Totals				

TOOL: PARETO CHART

Definition: A bar chart used to separate the "vital few" with the "useful many." Based on the 80/20, which states 80% of the problems in a process are generally linked to 20% of the causes.

Format:

1) Draw lines for the X (horizontal) and (Y)vertical areas.
2) Divide the "Y" axis into increments of frequencies or occurrences of the subject being checked.
3) Label the "Y" axis at each increment point identified as well as an overall label identifying the type of increment used.
4) Rank order categories
5) Divide the X by the ranked categories. The first and highest ranked bar should be placed against the Y axis. Place remaining in descending order.
6) Label the X category with the overall category type. Label bar with its individual category name.
7) Compute the percentage of each category of data in relation to the total.
8) Draw a second Y axis to the right side of the graph. Label in percentages.

   The two Y axes must be proportional. The total number of occurrences on the Left Y axis should correspond with the 100% value on the right Y axis. The following formula can assist in determining percentage values:

9) Plot the cumulative percentages of each category using the following steps:

   a. The largest category is the first point

   b. Add percentage of the first point to the percentage of the second largest category.

   c. Continue to all are percentages have been plotted.

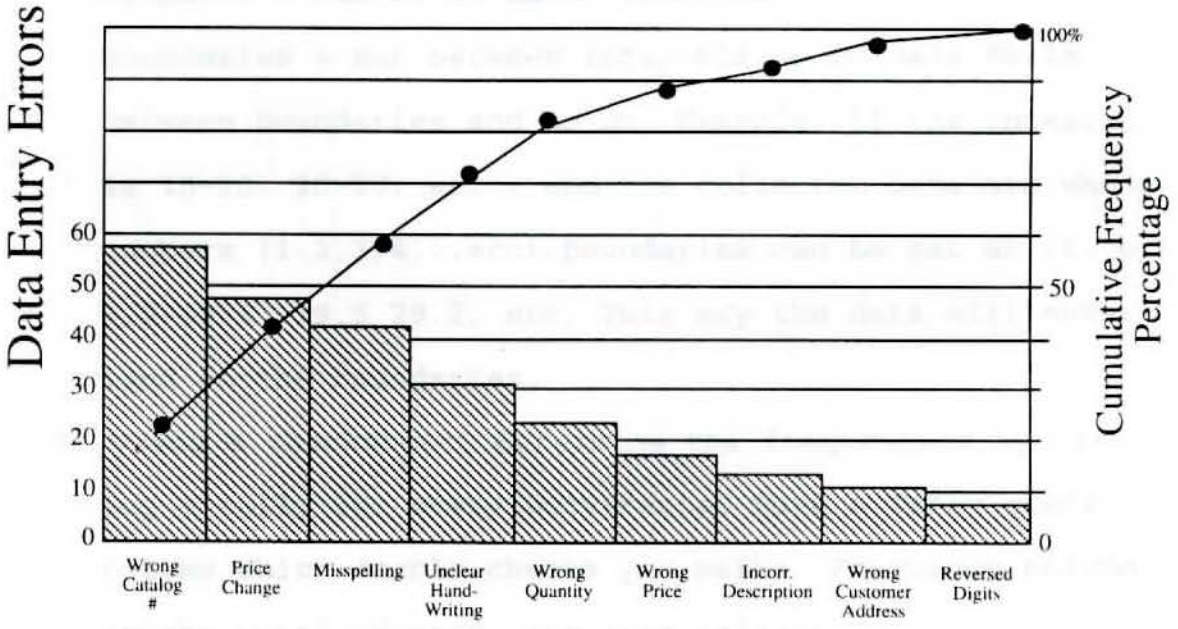
10. Draw a line left to write starting at the first point, connecting percentage dots.

11. Label the top of chart yo identify subject.

12. Fill in the data source box.

When to use it:

To distinguish the vital few from the useful many. Identify and focus on areas in which change will have greatest of impact. Avoids working multiple remedies at once.



TOOL: HISTOGRAM (WITH CHECKSHEET)

Definition: Tool to help us track variation in a process. It shows the spread of measurements and how many of each there are.

The Format:

1) Collect Data in groups
2) Mark the highest and lowest number in each group. Circle the high number, and box the low number.
3) Put another circle around the highest number of all data, and a second box around the lowest of all data.
4) Calculate the range (Highest-lowest = range)
5) Determine the amount of intervals using the interval chart for the frequency histogram.
6) Determine the intervals, boundaries and midpoints.
   Interval Units wide = Range ÷ desired number of intervals. Round off number if needed.
   Midpoint = center of each Interval
   Boundaries = set between intervals so no data falls between boundaries and no on. Example: If the interval is 10-20, 20-30, etc.; and the collected data are whole numbers (1,2,3,4...etc).Boundaries can be set at .5, or 9.5-19.5, 19.5 29.5, etc. This way the data will never land on the boundaries.
7) Using a checksheet, determine the frequencies by marking a tally for every occurrence. Have a Tally check column which double checks you marks. Frequency column is the total of each line item tallies.

Example to follow on next page

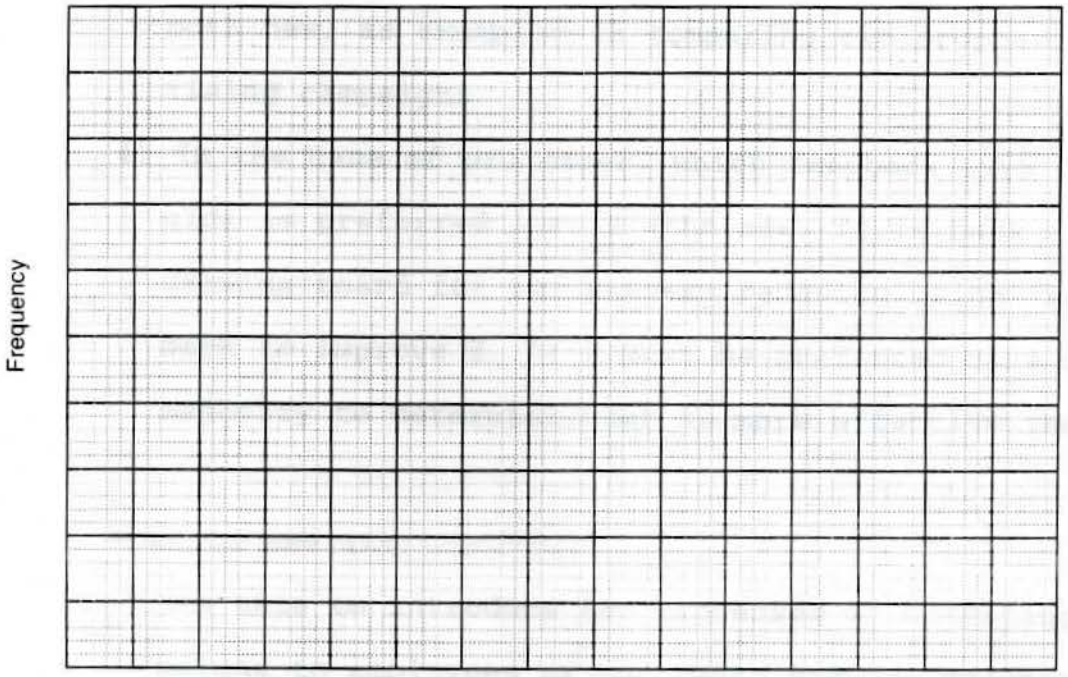
FREQUENCY HISTOGRAMS — CHECKSHEET

Title _____ Very Largest _____ Very Smallest _____

Range _____ # of intervals _____ Interval width _____

Midpoints	Interval	Boundaries	Tally	Tally Check	Frequency

Specification _____ TTL _____



_____

TOOL: "B" VS. "C"

Definition: Tool used to determine the effectiveness of a new processes, new design, or new material by comparing "C" (the old) with "B" (the new). Very useful in comparing two marketing campaigns or, an old process and new process.

Format:

1) Select employees, or customers at random.
2) Explain pros and cons of each.
3) If the feedback from the customers or employees favors by majority plan B over plan C, than it is concluded that B is more effective than C and it is recommended B is adopted instead of C. This is assuming B and C are both new, as exampled in comparing two proposed advertising campaigns.
4) In the case of processes, which feedback says C (the old) is preferred over B (the new) it is back to the drawing board for the process redesign using the feedback to improve B. If B must be preferred by a strong majority to determine that is more effective than C.

When to use it:

Use this to introduce new processes or marketing campaigns to employees or customers before implementation to avoid bad results, such as high costs and ineffec-

DATA COLLECTION TOOLS

TOOL: SURVEYING

Definition:

Written & oral tools to collect quantitative data, that helps you make a decision. Example of survey types include telephone, and mail.

The format:

1) clarify the purpose of the survey
2) Determine group you want to survey
3) Design questions that correspond with the purpose
4) Survey people who are representative of the purpose of your survey
5) Determine how you will survey the people
6) Standardize the process of surveying
7) Train the people who will be conducting the survey
8) Conduct via phone, mail, in-person, etc.

When to use it:

When you need to identify customer expectations; monitor customer satisfaction; determine if customers will be receptive to n a new concept; show customers that their concerns are important.

TOOL: FOCUS GROUPS

Definition: A method of collecting data, specifically the views of those in the focus group. Focus groups are made of small group discussions on a specific subject.

1) Find a place to conduct focus group meetings. Environment should be free of interruptions, and have chairs and a large table.Select facilitator.
2) Clarify purpose of group beforehand.
3) Prepare a guide of open-ended questions to encourage a wide range of responses.
4) Test questions on a nonparticpant, and collect feedback.
5) Introduce purpose to group, and give general introductions.
6) Establish ground rules for interaction.
8) Conduct discussion.
9) Facilitator should use reflective listening skills, and clarify questions with paraphrases. Invite other responses with cues such as "How do others see this?..." Use positive acknowledgements to encourage responses.
10) End discussion with appreciation for participation. Restate the purpose.
11) Summarize substance quickly before it fades. Write down dominant these, or use a tape recorder.

When to use it:

To identify customer expectations; reasons for process or product failures; introduce new ideas.

TOOL: USER GROUPS

Definition:

Variation of focus group; describes a focus group one department has for another department on a regular basis.

Format:

1) Group facilitator is a member of the internal group seeking internal customer data.
2) User group consist of representatives from one of each internal customer groups.
3) User groups convene monthly for an hour or so.
4) The facilitator asks the user group about performance; expectations, and suggestions.
5) Facilitator's role is to listen, not to miss the specifics.
6) Share the results with the staff to celebrate performance or redirect improvement.

When to use it:

To get feedback for setting improvement goals and to evaluate new processes.

TOOL: BENCHMARKING

Definition: A tool used to compare a company's process with another company who has similar process, but is considered best-in-class for that process.

The Format:

1) Determine the factors critical to the long-term success of the company's business and establish parameters by which progress should be measured.
2) Measure current performance.
3) Prepare questionnaire for use during visits at potential benchmark companies.
4) Conduct practice benchmark exercises with other divisions of your company.
5) Gather information on which companies are the best for the technique or process being benchmarked.
6) Visit a few leading companies and gather information from management and lower level workers.
7) Record the gap between benchmark company and your own for each parameter within the process/technique being benchmarked and determine reason for gap.
8) Act to close the gap by establishing goals, timetables and teams to achieve these goals.
9) Repeat process periodically to ensure the narrowing of the gap.
10) Scope the industry for potential threatening competitors.

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