

Strategic Planning, Total Quality and Performance Measurement: A Quality Director's View

JAMES S. ETMANCZYK

In this paper the Wisconsin Department of Transportation Division of Highways' journey from strategic planning to total quality and performance measurement is described. The journey and reflections are presented from a quality director's point of view. The lessons learned in the journey are summarized. The focus is on improving the organization's performance—lowering costs, improving service, and increasing customer satisfaction. The private sector bottom-line focus is emphasized while transforming a governmental organization to total quality.

As the 1990s approached, the Wisconsin Department of Transportation's Division of Highways was in the midst of a series of challenges. The division chose to make some drastic changes to chart its future course.

Various challenges confronted the division. The Interstate highway building era was over. No longer would the division be building highways on new locations to any great extent. It was entering an era of preservation and system management, and the difficulties of building new highways were increasing. In the 1970s it took 5 years to develop and build a major highway project, while in the 1990s it was taking as long as 8 years. The average age of the work force was declining due to an early retirement opportunity in the 1980s. In some areas the average period of experience was less than 10 years. This less experienced work force required additional training. Lastly, competition developed for the division's core work. In the mid-1980s, \$1 out of every \$7 of program delivery costs was going to engineering consultants. In the 1990's, \$1 out of every \$2 was going to consultants.

As the division's quality director through this journey over the past few years, I have included in the Reflections sections some lessons we learned along the way.

Figure 1 illustrates the course we are following to become a successful, quality organization. The paper is organized according to the major activities on the chart.

VISIONING—DETERMINING OUR DIRECTION

The senior management team began discussing the need for formal strategic planning in 1991 to determine the division's direction over the next decade. It became apparent that transportation demands in the future would be different than they were in past years, and that the organization must be prepared to meet the challenges.

A cross section of the staff from throughout the division, in an intense 2-day session, developed a vision, mission, and set of under-

lying principles to guide the organization. A group of 100 volunteers from the central office and the district offices fine-tuned the draft versions, producing ultimately a succinct statement of lasting importance for the division as follows.

Our VISION: What we want to be.

People who care, creating quality transportation . . . today and tomorrow.

Our MISSION: What business we're in and why.

We are a team entrusted with the development and safe operation of Wisconsin's transportation systems. We strive to satisfy the diverse mobility needs of all citizens while retaining a responsible concern for the environment.

Our UNDERLYING PRINCIPLES: The organizational values we hold.

- The quality of what we do is measured by the satisfaction of those we serve;
- We will continually improve the way we do business and be responsive to the need to change;
- We build organizational strength through teamwork and organizational trust through respect for each other;
- The excellence of our team is derived from the excellence of its members;
- We will maintain the highest level of integrity;
- The opportunity for personal and professional growth is essential;
- Each member of the team has the responsibility to add value to our products;
- Diverse opinions and discussions contribute to the central goals of the team;
- Partnerships enhance the effectiveness of our team.

REFLECTIONS—Our vision started with emphasizing people who care, which pointed to our multitalented team working with a sense of concern for our customers. This differed from our traditional view of engineers building highways. We included "creating" to identify the responsibility of looking for new ways to do our business and empowering the staff to use ingenuity and innovation. The use of "transportation" instead of highways was a paradigm shift for the division. We felt our strength as an organization was in our ability to implement projects, no matter what the mode of transportation was. The last words, "today and tomorrow," stressed that we didn't want to rest on yesterday's successes, but to continue to grow and improve.

A few things became clear. Quality was a main focus in the vision and underlying principles. The volunteer group included many front-

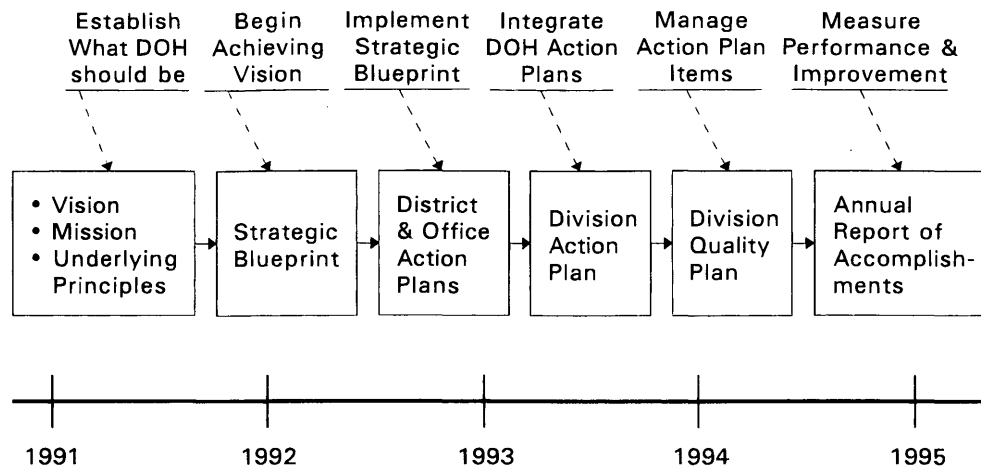


FIGURE 1 The strategic journey.

line employees in the organization who had been disenfranchised (out of the normal hierarchy) and were now being given a voice. Our challenge was to tap into this resource and still maintain the trust and confidence of the managers and supervisors.

STRATEGIC PLANNING

With the vision, mission, and underlying values in place, we took the next step in 1992 to determine what key organizational issues needed attention. This became our strategic planning effort. Six emphasis areas were identified and defined, with current and future descriptions of the division activities and their related measures. It was our first step in measuring progress.

Our volunteer group of 100 met again at a 2-day meeting to review and finalize the strategic plan that we entitled the Strategic Blueprint.

We identified six emphasis areas necessary for attaining the vision.

- Focusing on customers: Conscientiously seeking to identify and satisfy those people who have a claim on our services.
- Making good decisions: Determining the appropriate action in a particular situation and when and how to do it, and communicating the results.
- Operating by teams: Accomplishing tasks by drawing on the collective talents of diverse individuals on the basis of shared goals.
- Managing production and performance: Measuring division accomplishments in terms of generally accepted goals.
- Increasing job satisfaction: Creating an environment in which all division employees can do meaningful work and maximize their personal accomplishments in contributing to the division's goals.
- Managing our resources: Acquiring and utilizing efficiently the materials, facilities, manpower, and equipment needed to carry out the division's mission.

As part of the strategic planning process, all employees were surveyed, and some were given the opportunity to participate in focus groups or in-depth interviews as part of the division's organizational assessment in 1992. Employee perceptions of the division helped to pinpoint strengths and areas needing improvement. This was the first time the division had ever surveyed its internal cus-

tomers. The management team agreed that the results of the assessment would be shared with every employee even though some of the results did not reflect positively on management.

Each of the districts, bureaus, and offices considered the findings from the assessment while developing specific Action Plans unique to their areas. These Action Plans were to relate the Strategic Blueprint emphasis areas directly to their operations. Each office developed a plan to address their most critical issues and started teams to solve these issues.

REFLECTIONS—Certainly, if our organizational change process was linear, we would have started with an organizational assessment. The assessment was a key to uncovering problems and establishing a baseline for improvement actions. One statement from the assessment summarized the awakening for all of us in stating that "... fundamentally, the organization is run as an 'old boys' club' where power resides with tradition and the status quo."

*Through the meeting with our 100 volunteers, meetings with other employees, and the organizational assessment, it became clear much of the organization had become "entitled." Judith Bardwick describes this entitlement in her book *Danger in the Comfort Zone* as "the result of too much generosity. We give people what they expect and we don't hold them accountable for meeting criteria of excellence." (1).*

The offices created teams to work on the issues identified in their Action Plans. As teams addressed the various subjects, it became clear that they focused mainly on "warm fuzzy" solutions, including things like employee picture directories, better ways to assign fleet cars, new bulletin boards, and so forth. These sorts of things made the office a more comfortable place to work, but they didn't necessarily improve products and services for the end user or reduce the cost of delivering these products and services.

It was clear that we needed to break out of our entitlement, improve our competitive performance and address the concerns in the organizational assessment.

DIVISION ACTION PLANNING

Work began in early 1993 to create a Division Action Plan, which pulled the Strategic Blueprint activities in a clearer direction. The challenges to the division needed to be met with a clear statement of goals. The Division Action Plan contained nine goals that charted a course to improve our performance and address some of the issues raised in the organizational assessment. The nine goals were as follows.

1. Engineering costs: In-house design and construction engineering costs must be equal to or less than the costs of the same services provided by the private sector.

2. Unprogrammed costs: Unprogrammed costs must be decreased to 10 percent of the let program over time, and incremental reductions of 2 percent per year should be realized until the broad goal is achieved.

3. Performance measures: Measures and data-collection methods will be established for each major functional area for use as a monitoring tool for both organizational and individual performance.

4. Transforming to quality-based leadership: All employees will be trained in quality principles and commit to improving the quality of our products and processes.

5. Improving the way we do business: Process activities will be integrated to reduce redundancies and complexities and improve flexibility, product excellence, and customer satisfaction.

6. District-central office relationships: Foster networks, teams, and partnerships within and between all areas and functions within the division; identify and remove barriers to teamwork and cooperation.

7. Performance appraisals and action plans: Action Plans will be developed throughout the division, and leadership will take an active role in their implementation.

8. Affirmative Action and equal employment opportunities: Our work force will be diverse in terms of ethnicity, gender, and professional training.

9. Personnel reclassification backlog: Reclassification actions will be processed within a predetermined time frame and under performance standards negotiated between the Division of Highways and the Bureau of Human Resource Services.

REFLECTIONS—At this point, organizational expectations were identified, but many in the division asked how they were related to the strategic plan, action plans, quality, and improving performance. We had developed our goals but had not established tools for implementation. Nor had we related the goals to our vision for the future. We needed to merge strategic planning and the transformation to quality. It was becoming clear that our quality efforts had to form the umbrella for all of the organizational change activities. ✓

QUALITY-BASED LEADERSHIP

To blend our past strategic planning activities and the quality process, we looked to the outside for assistance. We retained 3M Quality Management Services to assist the division in successfully implementing quality. 3M was chosen because they are a recognized leader in quality innovation, products, and customer service. We called our Total Quality Management process Quality-Based Leadership because we thought the use of the term "management" was not sufficiently comprehensive. There are many leaders outside of the management ranks.

We embarked on the process of transforming the division's culture, organization, and attitude to Quality-Based Leadership. We formed a quality steering team, composed of a small group of senior managers, to guide the overall transformation. To lead the quality awareness training, 10 individuals were chosen through a self-nomination process to be Quality Leaders. These leaders instructed our 400 managers and supervisors in the basics of Quality-Based Leadership.

The impact and importance of quality in achieving our vision was a key. The quality process called for identifying our customers,

knowing their expectations, and finding ways to meet and exceed their expectations. We then needed to measure customer satisfaction and develop strategies to continuously improve our products and services.

The quality process would enhance the business side of our organization. Improving the business side would be accomplished by creating our Critical Success Factors and Evidence of Success Statements.

The Critical Success Factors are a number of accomplishments that must be present for an organization to attain its vision. The Evidence of Success Statements are measurements that enable the division to determine if the Critical Success Factors have been achieved.

We identified four critical success factors. Within each of these factors, there are several Evidence of Success statements. The target date to achieve the business goals critical to our success is 1997.

1. We must provide the quality transportation services expected by the public.
 - a. Customers have been surveyed for their perception of what constitutes quality transportation services.
 - b. Management systems have been developed that link infrastructure measurements with customer perceptions.
 - c. Our management systems indicate continuous improvement in measurements of customer satisfaction.
 - d. The quality of highway services is consistent across district and jurisdictional boundaries.
 - e. Public satisfaction with the quality of service provided is expressed through the public's willingness to provide sufficient funds for that service.
2. We must provide these quality services at an acceptable cost.
 - a. The production index, as measured by the product per dollar of delivery, has steadily increased from 3.3 in 1993 to 3.9 in 1997.
 - b. In-house design and construction engineering costs have been reduced to less than the costs of similar services provided by the private sector.
 - c. Unprogrammed costs have been reduced from 18 percent to 10 percent of project lettings within 4 years.
 - d. All projects are delivered on-time and within budget.
 - e. Performance measures are routinely used in all functional areas.
3. We must attract, develop and retain qualified people to provide these services.
 - a. All employees receive Quality-Based Leadership training.
 - b. All personnel reclassifications delegated to the department are completed within 90 days from the date the employee signs the new position description.
 - c. Our nontraditional employees are valued and respected by their fellow employees and are comfortable working here.
 - d. Employees are routinely involved in the selection and evaluation of managers.
 - e. Standard training or certification programs are in place for all employees.
 - f. Employees have been surveyed in 1995 to determine their attitudes and perceptions about working in the division and whether the above statements have been achieved.
4. We must build cooperative relationships with others to provide these services.
 - a. We have initiated innovative, cost-effective working relationships with all our partners.

- b. We aggressively pursue issues that strengthen our partnerships.
- c. Contracts are awarded on the basis of quality as well as price.

REFLECTIONS—Our effort really started to pay off at this point. Hiring 3M for assistance served notice to our organization that we were serious about this effort. We also needed an outside look at our results and how we were managing the division. 3M asked for a commitment of top management time and the appointment of a quality director to lead the quality process. We agreed to these requests.

In our overall journey, this was a pivotal point. We needed to make the transition from "warm fuzzy" activities to business improvement projects. 3M brought not only the expertise but also the push we needed to overcome some organizational inertia. They also gave us insight to our management style. We had become an organization that needed consensus on almost all issues. At virtually any time one of our managers could raise an objection and have an entire issue reviewed. Consequently, most of our time at management meetings was spent rehashing old issues and problems.

The Critical Success Factors and Evidence of Success statements were a new concept to the organization. Many were very interested to see if top management was committed to carrying them out. Recently, a district office director was selected with participation by an employee group from that district office. The group solicited questions for the candidates from other employees and interviewed the top three candidates. Their recommendation was part of the final decision-making process. This was noticed not only in this district office but throughout the organization. It showed top management's commitment to "walking the walk" as well as "talking the talk."

QUALITY IMPLEMENTATION

While the quality awareness training continued, the Quality Steering Team solicited possible quality projects of division-level significance. These projects had a clear mission, focused on problem-solving or process improvement, related to the Critical Success Factors or Evidence of Success statements, and used the concepts of quality improvement. The teams that would work on these projects would be facilitated, and both the team leader and facilitator would be trained in problem solving. We selected the following five projects to be completed by the end of 1994.

- **Improving maintenance uniformity across county lines:** Highway maintenance practices are not always uniform, and our policies appear to differ across county and district lines. This project will look for causes behind the lack of uniformity and seek solutions to ensure uniform maintenance practices. Its goal is to reduce to zero the number of comments and complaints about uniformity of maintenance service by calendar year 1996.
- **Streamlining environmental processes:** The environmental aspects of highway improvement projects have grown sporadically over the years as new federal and state laws have been enacted. This project reviews the entire environmental analysis in an effort to eliminate redundant activities and automate when practical. Its goal is to complete 100 percent of Environmental Impact Statements started after January 1, 1995, in 18 months or less.
- **Increasing improvement program stability:** The size of our highway improvement program changes throughout the life of a project. As a result, some projects are moved ahead more quickly while others are delayed. These unplanned changes can then trigger other problems. The project will review the factors that cause improvement projects to change from the original schedule. Its goal is to let all projects in the year they are originally programmed.

- **Improving the reclassification process:** Processing of employee reclassification actions is handled by both our division and the department's personnel office. The time needed to process employee reclassifications is excessive and backlogs are frequent. This project's goal is to complete reclassification processing within 90 days from the date the employee signs the new position description.

- **Reviewing construction materials process:** The division spends a great deal of time and effort in testing and accepting materials that are used in highway construction projects. This project will evaluate the current specifications and procedures, identify essential materials tests that are linked to performance, and investigate alternative methods to ensure that quality materials are used in construction. The goal of the project is to develop a more cost-effective method of accepting materials and a simplified way of documenting the quality of construction materials.

Figure 2 shows the link between the vision, critical success factors, evidence statement, and our quality projects.

REFLECTIONS—Using the 10 internal quality leaders as trainers has been universally well received. Even our harshest critics appreciated being trained by individuals who know the business. All managers have been trained and front-line employees are currently receiving similar training. These employees are testing us. They are watching to see if their supervisor and manager make a change; when they do, front-line employees notice.

We realized that our team leaders and facilitators needed special training in problem solving before starting the division's projects. It was amazing that we were very good at project implementation but didn't have good problem-solving skills. Training for this has been started and continues. Again, we are using internal trainers.

MEASURING PERFORMANCE

The organization now has a strategic direction, a set of goals, and some legitimate, bottom-line quality projects; however, management must be enticed to use the quality tools. This is when performance measurements become critical.

Performance measurements serve to focus the organization on the right direction. Measurement allows the whole organization to know it is doing good versus feeling it is doing good. In short, if performance is not measured, it is hard to tell success from failure.

What is our definition of a performance measure? It is defined as an index of the results or outcomes of a process. Performance measures are used to develop a baseline of performance and to set goals for improvement.

We chose to focus on each functional area with four general criteria: on-time, on-budget, at a reasonable cost, and of high quality. We have developed performance measures for our design and construction functions and are currently working on other areas.

Our on-time, on-budget, and quality measures have a long-term goal of 100 percent. We have set interim targets to be achieved in the next 2 years in the 80 to 85 percent range. The reasonable cost goal, which measures our engineering cost, has a 2-year goal set in the 13 to 16 percent range. For reasonable cost the long-term goal is to gradually reduce target goals. Since this is our first attempt to set reasonable targets, we tried to develop goals that would stretch the organization but could be accomplished. The performance of our competitors, the engineering consultants, will be monitored in conjunction with ours.

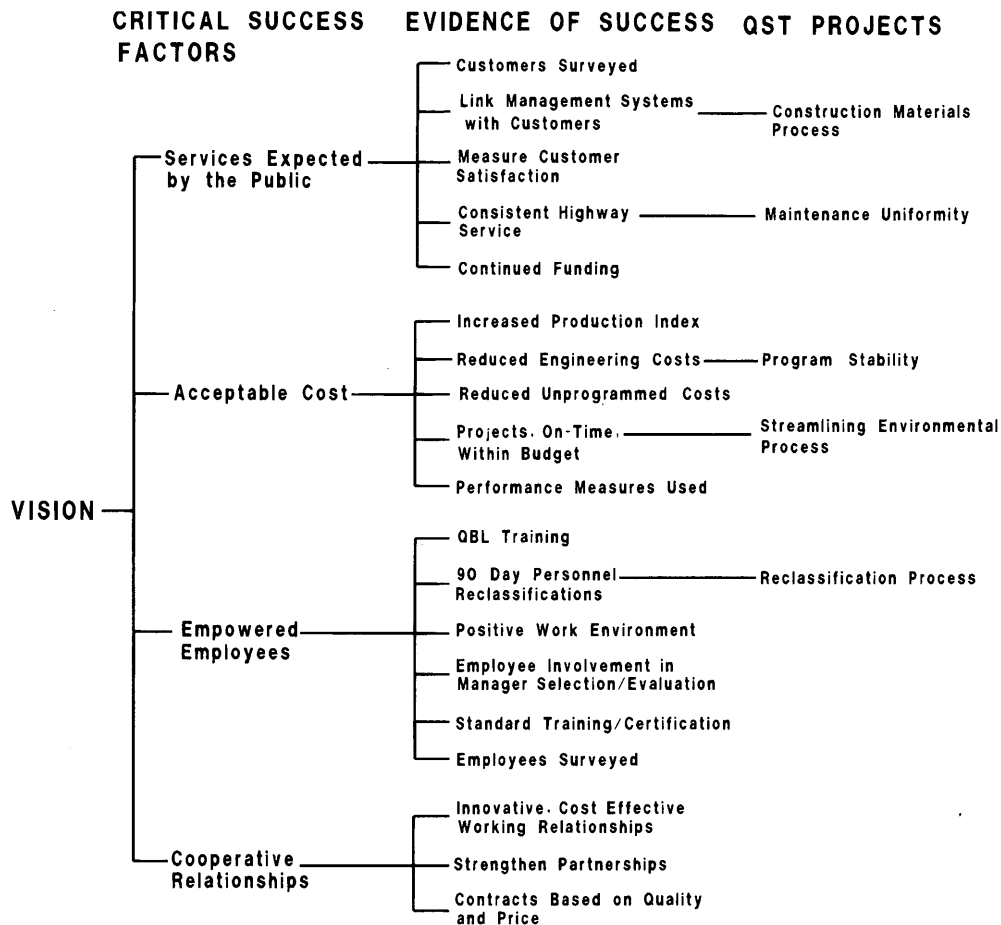


FIGURE 2 Relationship between the vision, critical success factors, evidence statement, and quality products.

These performance measures must continue to be refined as to what is measured and how it is measured. The proposed performance measures may not be perfect, but they start the measurement process. In the next few years, these measures will be improved as data are collected and tracked. In time, we will arrive at a set of measures that all will agree measures performance accurately.

REFLECTIONS—Although performance measures are common in the private sector, they are relatively unfamiliar in government. In our organization, performance measures were a foreign language. One of our folks noted that if Latin is a dead language, performance measurement is a language that hasn't been invented yet for our organization. Surprisingly, however, many in the organization actually wanted measures to document their performance and to document improvements they were making.

LESSONS LEARNED

Looking back at the overall effort, it is easy to pick out some of the keys to our success thus far. But one word of caution: every organization is different and no one recipe will fit all organizations. What worked for us may not work for another transportation agency.

1. A commitment from the top person is crucial. The division administrator is convinced we are on the right track and is willing to discuss quality with groups of employees at any time. He estimates that activities involved in extending the Quality-Based Leadership culture require at least 40 percent of his work time. Don't embark on this journey without commitment from the top or you'll only be fooling yourself. You'll be able to make some modest changes but you won't be able to transform the organization to quality.

2. You need someone to guide you on this journey. A consultant is necessary. You must have someone who can bring an unbiased view to your organization and its problems. Make sure you spend adequate time making this selection. We were unsuccessful with our first consultant. When we hired 3M, we wanted to find a firm that not only taught quality but practiced it in its business activities.

3. Someone must be dedicated to making the change happen. We appointed a quality director from our existing staff. This person must have the energy, interest, and strength to work with senior management and front-line employees. Also, the quality director should report to the top person in the organization.

4. Set 3- to 5-year goals. It takes time to accomplish a change of this magnitude. Our critical success factors have a 4-year completion time frame. You should measure your progress quarterly; progress does not happen in one day or one week.

5. Performance measures are a must. If you don't know how much your product or service costs, how long it takes to deliver, how much is being produced, and whether the end result matches the customers' expectations, what are you managing? Our philosophy is to hold tight to the performance targets but loosely to the methods our organization uses. To support this, we are providing tools that every individual performance center can use to improve its effectiveness.

6. Find champions and emphasize the positive. There are some folks who naturally deliver the quality services and products, and some who have a strong desire to make quality happen. Search out these people and make use of them wherever you can. We used self-nominated Quality Leaders as internal trainers, which was received positively throughout the organization.

7. Management must lead. As important as the top person is, you will need a top management team that is willing to stand up and be counted. Each member of our Quality Steering Team has made presentations to at least 10 groups of employees. Quality must be communicated by more than the top person and the quality director.

8. Don't waste time on the tough nuts. Developing a quality organization takes time, precious time, and you can't be sidetracked catering to those who do not want to buy in. There is just too much to accomplish when you are starting out. You can work with these people as time goes on, but get the critical mass of support moving first.

9. Balance process and people. Some in the quality business want to concentrate only on process. These people think that after employees see the changes made in the processes, they will become convinced of quality's benefits. Yet many times the process-driven people forget to communicate with those they need the most—the front-line employees. Remember, you can't satisfy customer expectations with dissatisfied employees.

10. This is hard work. Many of our employees have taken the quality awareness training and wonder why all of the organization

doesn't buy into this concept. It takes more from all concerned. Often, those who have experienced initiatives before that produced little change are skeptical. You have to work hard to conquer these skeptics. Try to recharge the key leaders in your organizational change process with seminars or quality networks to keep their enthusiasm up.

The goal of all of our efforts is to improve performance of the organization—lower costs, improve service, and increase customer satisfaction. Some have said that the process of strategic planning is as important as the products. I don't buy it! If the process does not improve your performance, ask yourself why you're doing it. It is just using resources, raising your costs, and not serving your customers better. Don't let strategic planning, quality, and visioning become ends unto themselves. Stick to the goal of improving your performance.

It's important to remember that quality is a journey. We have accomplished a great deal; however, much work remains to be done as we continue down the path of continuous improvement. W. Edwards Deming noted that we should "create constancy of purpose toward improvement of product and service, with the aim to become competitive and to stay in business, and to provide jobs" (2).

REFERENCES

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